

ANNUAL REPORT 2020



UNSW
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SYDNEY



Australian Government
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ARC CENTRE OF
EXCELLENCE IN
**POPULATION
AGEING
RESEARCH**



CEPAR would like to acknowledge the generous financial and/or in-kind support of the following organisations:



Australian Government

Department of Foreign Affairs and Trade

Department of Health

Department of Social Services

The Treasury



WillisTowersWatson 

Introducing the Centre	1
Director's Report	2
2020 Highlights	4
Chair's Message	6
Activity Plan for 2021	8
SECTION 1: GOVERNANCE AND STRUCTURE	11
Governance	12
Structure	18
Centre Personnel	20
SECTION 2: RESEARCH AND RESEARCH TRAINING	30
Research Stream 1: Macro-Demographic Dynamics and Population Ageing Policy	31
Research Stream 2: Decision Making, Expectations and Cognitive Ageing	40
Research Stream 3: Organisations and the Mature Workforce	49
Research Stream 4: Sustainable Wellbeing and Later Life	58
Research Training and Mentoring	77
SECTION 3: EXTERNAL LINKAGES	85
Industry and Government Links	86
National and International Links	89
SECTION 4: PERFORMANCE INDICATORS AND FINANCIAL STATEMENT	95
Key Performance Indicators	96
Research Outputs	97
Communications, Education and Community Outreach	108
End User Links	121
Centre Finance	124
Estimates of Future Expenditure	126
New Grants	127
Awards, Prizes and Recognition	129
CONTACT DETAILS	132

INTRODUCING THE CENTRE

THE ARC CENTRE OF EXCELLENCE IN POPULATION AGEING RESEARCH (CEPAR) IS A UNIQUE COLLABORATION BETWEEN ACADEMIA, GOVERNMENT AND INDUSTRY, COMMITTED TO DELIVERING SOLUTIONS TO ONE OF THE MAJOR ECONOMIC AND SOCIAL CHALLENGES OF THE 21ST CENTURY.

The Centre is based at the University of New South Wales (UNSW Sydney) with nodes at the Australian National University (ANU), Curtin University, the University of Melbourne and the University of Sydney, and has high quality partnerships with influential organisations drawn from academe, government and business.

It aims to establish Australia as a world leader in the field of population ageing research through a unique combination of high-level, cross-disciplinary expertise drawn from Actuarial Science, Demography, Economics, Epidemiology, Psychology, Industrial Relations, Organisational Behaviour and Sociology.

Funded primarily by an initial seven-year grant from the Australian Research Council, with generous support from the collaborating universities and partner organisations, the Centre was established in March 2011 to undertake high-impact, independent, multidisciplinary research and build research capacity in the field of population ageing.

Renewed funding awarded for an additional seven-year term from 2017-2023 is supporting an exciting new research program which will deliver comprehensive outcomes with the potential to secure Australia's future as a well-informed nation with world-best policy and practice for an ageing demographic.

VISION

OUR VISION IS TO BE A GLOBALLY LEADING RESEARCH AUTHORITY ON POPULATION AGEING.

MISSION

OUR MISSION IS TO PRODUCE AND PROMULGATE RESEARCH OF THE HIGHEST QUALITY TO OPTIMISE SOCIAL AND ECONOMIC OUTCOMES FOR AN AGEING WORLD.

OBJECTIVES

THE OBJECTIVES OF THE CENTRE ARE TO:

EXECUTE A TRANSFORMATIONAL AND MULTIDISCIPLINARY RESEARCH PROGRAM THAT

- produces original research that advances knowledge globally, published in leading international journals
- harnesses expanded research capability to generate evidence and policy analysis to address the most critical issues identified by individuals, industry, government and community groups
- anticipates and responds constructively to rapid demographic transition in Australia and internationally

EFFECTIVELY ENGAGE WITH EXTERNAL STAKEHOLDERS AS AN INTEGRAL PART OF THE CENTRE'S RESEARCH ACTIVITY TO

- develop research goals and to share in project execution
- translate research to influence economic and social policy, business practice, and community understanding

BUILD NATIONAL RESEARCH CAPABILITY AND COLLABORATION BY

- creating new researcher cohorts devoted to ageing research and trained in cross-disciplinary skills
- developing the research leadership and end-user engagement skills of early and mid-career researchers
- taking a leadership role by connecting researchers in ageing throughout Australia, ensuring that benefits from CEPAR's inclusive culture are fully realised

ELEVATE CEPAR'S, AND BY EXTENSION AUSTRALIA'S, REPUTATION AS A GLOBAL LEADER IN POPULATION AGEING RESEARCH BY

- strategically partnering with world-class institutions leading innovative research in the field
- connecting with researchers and centres focused on population ageing throughout the world.

DIRECTOR'S REPORT



PROFESSOR JOHN PIGGOTT

THE EXTRAORDINARY CIRCUMSTANCES THAT UNFOLDED THROUGH 2020 CHALLENGED MANY COUNTRIES, MANY SECTORS, MANY ORGANISATIONS, AND MANY INDIVIDUALS. CEPAR IS NO EXCEPTION.

IN AUSTRALIA, MOBILITY AND GATHERING RESTRICTIONS WERE IMPOSED TO (SUCCESSFULLY) BRING THE PANDEMIC UNDER CONTROL HERE. THESE RESTRICTIONS CUT TO THE CORE OF CEPAR'S ACTIVITIES, WHICH ARE HEAVILY RELIANT ON INTERACTIONS BETWEEN RESEARCHERS, AND BETWEEN RESEARCH AND END USERS.

To give some idea of the scale of this impact, our last conference before our borders closed was a Forum on Healthy Ageing, held at UNSW in late January; our last Roundtable focused on Housing and Ageing, in mid-March. After that, we waited until December to mount a face-to-face conference, the 28th Colloquium on Pensions and Retirement Research, which took place in 'hybrid' form, with the last two days conducted virtually, in December. Over this period and into 2021, our conferences, workshops, dialogues and roundtables have been cancelled, postponed, or delivered virtually. Many of the activities core to CEPAR's mission had to be transformed.

CEPAR responded by mobilising its personnel to come up with creative responses to these numerous challenges. For example, work from home protocols left researchers and research students with little opportunity for the spontaneous interaction which is so important in developing original research ideas. To address this the Mentoring subcommittee spearheaded a number of initiatives designed to bring emerging and mid-career researchers together on a regular basis virtually. Convened by senior researchers, these initiatives included a monthly cross-nodal seminar series, a series of interactive career development workshops and regular 'catch ups' organised for the Future Leaders in Ageing group.

The annual workshop, a centrepiece of knowledge-sharing and networking for CEPAR, was broken into two parts, with research stream reports being made in virtual mode. These not only reported on progress to date but also focused on looking forward to 2021. Each team outlined its planned program, with a view to identifying further opportunities for cross-stream and cross-disciplinary interaction.

2020 was, nevertheless, another successful year for CEPAR. Its membership was fortunate in being protected from the most serious impacts of COVID and the policy response from the university sector. Its senior researchers were therefore able to adjust their research programs to accommodate COVID better than they otherwise would. While some research activities were delayed, especially those involving survey and interview-based studies, we expect that catch-up will take place through the current term of funding.

The Chief Investigator (CI) team itself changed through 2020. Phil Clarke resigned from his CI role to focus on his role as Chair in Health Economics at the University of Oxford, and Director of the Health Economics Research Centre there; and Bob Cumming, who has been a stalwart CEPAR CI since 2011, retired. Both retain links with CEPAR. Peter McDonald has assumed control of Phil's research agenda; and we are pleased to welcome Professor Fiona Blyth, from the University of Sydney, who has taken on the leadership of Bob's research program.

The quality of our senior research team was well-documented in a recent study which comprehensively ranked academic researchers in a consistent manner across all disciplines. Six of our current Chief and Partner Investigators, as well as Clarke and Cumming, were listed in the top 2% of their disciplinary field.

Throughout the year, CEPAR continued to engage with stakeholders and translate its research with a view to influencing policy, business practice and community understanding. Early in the year, we made a comprehensive submission to the Retirement Income Review, with several of our researchers contributing, along with Advisory Board Chair Marc de Cure. Several meetings, with both Commissioners and the Secretariat, also took place. The Review's Final Report drew extensively on CEPAR work, especially the Research Briefs on Retirement and on Housing.

In other engagement activity, we made a submission to the Department of Foreign Affairs and Trade (DFAT) on Australia's new international development policy. And several CEPAR personnel were involved with the Royal Commission into Aged Care Quality and Safety, both in giving evidence and writing submissions.

The publicly available CEPAR database on population ageing futures, developed by a team led by Jeromey Temple and Tom Wilson and launched in October, created a major resource for other researchers as well as government, industry, and community stakeholders.

Additional funding was also awarded in 2020 to extend stakeholder-relevant research. This included grants for projects focused on older drivers (Anstey), on the connection between labour supply and tax structures (Keane and Woodland for commencement in 2021), and on pension reform in Indonesia (Kudrna, McDonald et al).

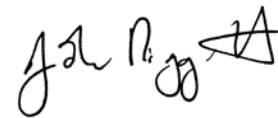
One implication of the pandemic was that CEPAR researchers pivoted to materially contribute to the knowledge base around the impacts of COVID-19 and the policy response. Many of our research team have skills which lend themselves to undertaking COVID-19 relevant research, and these were leveraged to add to knowledge in a range of initiatives. There were more than twenty research initiatives which aimed at contributing to the COVID-19 knowledge base. Publications and COVID-relevant research which directly aligned with the CEPAR mission included Peter McDonald's analysis of the impact of COVID on fertility in Australia, prepared for the Australian Treasury's Population Centre; and a new CEPAR fact sheet, prepared by Rafal Chomik, on COVID-19 and the demographic distribution of health and economic risks. Survey waves have been modified to generate comprehensive data about the impacts of COVID-19 in households over the life course, and these will in due course provide valuable

information about COVID-19 which will be able to inform recovery policy settings. And we have prepared two COVID-19 related industry reports, one on the link between COVID-19 and mature labour force experience, by Marian Baird and her colleagues, and the other, led by Hazel Bateman, focused on the link between COVID-19 and superannuation balances. A complete list is on the CEPAR website.

And we did find that there was some upside to the forced acceptance of virtual meetings. The International Pension Research Association, sponsored by CEPAR, Netspar in the Netherlands and the US Pension Research Council, with the OECD serving as the Secretariat, successfully got off the ground. It is now running several webinars a year. The October webinar attracted over 120 participants from 47 countries – the sort of international profile one could only dream of if the event were live.

CEPAR has become more heavily involved in Asia over the past 12 months. Ageing in Asia is a real challenge, both economic and humanitarian, and I am delighted to see that with UNSW support, we have been able to establish a real profile there. The Ageing Asia Research Hub is beginning to have a presence. Recent correspondence with Cai Fang, the Deputy Director of the Chinese Academy of Social Sciences and a member of the CEPAR International Scientific Advisory Committee, commented positively on these developments. Several papers and ongoing research on China are directly relevant to the recently released five-year plan for China, especially in its focus on initiatives in relation to mature labour force, population ageing social protection, health and long-term care (Paragraphs 45 and 47). I look forward to seeing further consolidation and expansion of our footprint in Asia in 2021.

CEPAR governance has had to adapt as we deal with COVID restrictions. For example, our Advisory Board has now met twice online. But CEPAR's unparalleled professional team, expertly led by Anne Gordon, and its truly engaged Advisory Board, chaired by the indefatigable Marc de Cure, ensure that the Centre cohered. I am personally indebted to them all.



John Piggott

2020 HIGHLIGHTS

28TH ANNUAL COLLOQUIUM ON PENSIONS AND RETIREMENT RESEARCH HOSTED IN COLLABORATION WITH THE UNSW SCHOOL OF RISK AND ACTUARIAL STUDIES

ROUNDTABLE ON HOUSING AND AGEING WITH CEPAR STAKEHOLDERS HELD AT UNSW SYDNEY

FORUM ON HEALTHY AGEING HOSTED IN COLLABORATION WITH THE UNSW AGEING FUTURES INSTITUTE AT UNSW SYDNEY

VIRTUAL INTERNATIONAL PENSION RESEARCH ASSOCIATION (IPRA) CONFERENCE HOSTED IN COLLABORATION WITH THE OECD AND OTHER IPRA FOUNDATION MEMBER INSTITUTIONS

LAUNCH OF PUBLICLY AVAILABLE DATA ON POPULATION AGEING FUTURES AND ESTIMATES DEVELOPED BY A CEPAR RESEARCH TEAM LED BY JEROMEY TEMPLE AND TOM WILSON

ANALYSIS BY CHIEF INVESTIGATOR PETER MCDONALD FOR THE CENTRE FOR POPULATION PUBLISHED IN THE AUSTRALIAN GOVERNMENT'S *A PROJECTION OF AUSTRALIA'S FUTURE FERTILITY RATES*

THREE CEPAR SUBMISSIONS TO THE ROYAL COMMISSION INTO AGED CARE QUALITY AND SAFETY

CEPAR SUBMISSION TO THE DEPARTMENT OF FOREIGN AFFAIRS AND TRADE CONSULTATION ON AUSTRALIA'S NEW INTERNATIONAL DEVELOPMENT POLICY

CEPAR SUBMISSION TO THE RETIREMENT INCOME REVIEW

PUBLICATION OF CEPAR REPORT ON THE DRIVERS BEHIND PEOPLE'S DECISIONS TO WITHDRAW SOME OR ALL OF THEIR SUPERANNUATION SAVINGS UNDER THE COVID-19 SUPERANNUATION EARLY RELEASE SCHEME

LAUNCH OF CEPAR FACT SHEET ON COVID-19 AND THE DEMOGRAPHIC DISTRIBUTION OF HEALTH AND ECONOMIC RISKS

CHIEF INVESTIGATORS MICHAEL KEANE AND ALAN WOODLAND AWARDED \$1,503,914 IN AUSTRALIAN RESEARCH COUNCIL DISCOVERY PROJECT GRANT FUNDING FOR A PROJECT TITLED *OPTIMAL TAX POLICY MEETS MODERN LABOUR SUPPLY THEORY*

CHIEF INVESTIGATOR KAARIN ANSTEY, ASSOCIATE INVESTIGATOR KIM KIELY AND COLLEAGUES AWARDED \$682,209 IN AUSTRALIAN RESEARCH COUNCIL LINKAGE PROJECT GRANT FUNDING FOR A PROJECT TITLED *AGEING DRIVERS: COGNITIVE AGEING AND TECHNOLOGY* TO BE CONDUCTED IN COLLABORATION WITH NATIONAL SENIORS AUSTRALIA AND SUNCORP

SENIOR RESEARCH FELLOW GEORGE KUDRNA AND CHIEF INVESTIGATORS JOHN PIGGOTT AND PETER MCDONALD AWARDED \$260,000 IN AUSTRALIAN RESEARCH COUNCIL LINKAGE PROJECT GRANT FUNDING FOR A PROJECT TITLED *POLICY MODELLING FOR AGEING IN EMERGING ECONOMIES: THE CASE OF INDONESIA* TO BE CONDUCTED IN COLLABORATION WITH THE WORLD BANK AND THE INDONESIAN MINISTRY OF NATIONAL DEVELOPMENT PLANNING (BAPPENAS)

CENTRE DIRECTOR JOHN PIGGOTT AWARDED THE UNSW BUSINESS SCHOOL STAFF EXCELLENCE GLOBAL IMPACT AWARD IN RECOGNITION OF HIS ACHIEVEMENTS, CONTRIBUTIONS, INITIATIVE AND DEDICATION IN THIS AREA

CHIEF INVESTIGATOR HAZEL BATEMAN APPOINTED TO THE ADVISORY BOARD OF THE CONEXUS INSTITUTE

CHIEF INVESTIGATORS ROBERT CUMMING AND JOHN PIGGOTT APPOINTED AS OFFICERS OF THE ORDER OF AUSTRALIA IN THE 2020 AUSTRALIA DAY HONOURS

CHIEF INVESTIGATOR WARWICK MCKIBBIN APPOINTED TO THE AUSTRALIAN TREASURY EXPERT PANEL ON COVID-19

CHIEF INVESTIGATOR SHARON PARKER AWARDED THE AUSTRALIAN BUSINESS DEANS COUNCIL AWARD FOR INNOVATION AND EXCELLENCE IN RESEARCH

CHIEF INVESTIGATORS KAARIN ANSTEY, FIONA BLYTH, PHILIP CLARKE, ROBERT CUMMING, MICHAEL KEANE, PETER MCDONALD AND SHARON PARKER AND PARTNER INVESTIGATOR JAMES NAZROO LISTED IN *PLOS BIOLOGY'S* 2020 LIST OF THE WORLD'S TOP 2% OF SCIENTISTS IN THEIR DISCIPLINE

CHIEF INVESTIGATOR SHARON PARKER AND RESEARCH FELLOW DANIELA ANDREI AWARDED THE CURTIN UNIVERSITY FACULTY OF BUSINESS & LAW RESEARCH & INNOVATION AWARD 2019, FOR THEIR PAPER CO-AUTHORED WITH ANJA VAN DEN BROECK

RESEARCH FELLOW DANDAN YU RECOGNISED WITH A DEAN'S AWARD FOR HER PHD THESIS *THREE ESSAYS ON HOUSEHOLD DECISION-MAKING*

CEPAR PHD STUDENT TSENDSUREN BATSUURI AWARDED A FOX INTERNATIONAL FELLOWSHIP AT YALE UNIVERSITY FOR 2021

FORMER CEPAR PHD STUDENT CASSIE CURRYER AWARDED THE HAL KENDIG PRIZE FOR BEST CEPAR PHD THESIS IN 2019

CHAIR'S MESSAGE



MARC DE CURE

2020 HAS BEEN A CHALLENGING YEAR AND REQUIRED CHANGES IN APPROACH TO RESEARCH, CAREER DEVELOPMENT INITIATIVES, ENGAGEMENT AND TRANSLATION ACTIVITIES. NOTWITHSTANDING THIS, CONSIDERABLE PROGRESS HAS BEEN MADE ACROSS ALL RESEARCH STREAMS AND WITH ENGAGEMENT ACTIVITIES.

CEPAR's response to the pandemic has resulted in developing new approaches that will have ongoing benefit. Notable examples of conferences and workshops were efficiently delivered with high levels of engagement and interaction. CEPAR's response is covered extensively in the Director's Report and evident throughout this 2020 Annual Report.

COVID-19 demonstrates just how globally interconnected we all are and how powerful globally connected needs-focused research can be. It's a reminder that CEPAR's population ageing research needs to continue its multidisciplinary, end-user focused and globally engaged model. The power of CEPAR's model was demonstrated by its ability to meaningfully contribute and inform COVID-19 related issues and policy responses.

The need to save for and draw down in retirement and for quality aged care has been a recent focus in Australia, and many other demographically ageing countries. CEPAR has had significant input to and influence on the various reviews – including the recent Retirement Income Review and Royal Commission into Aged Care Quality and Safety – and public policy development initiatives. Again, demonstrating the power of CEPAR's research and engagement model – performing, informing and translating its research for impact.

2021 AND BEYOND

The Australian Research Council's mid-term review of CEPAR is nearly upon us and is a reminder we are halfway through the second term of funding; we need to double down on our current workplan to optimise impact but also to plan beyond the current funding.

The global ageing demographic story is still unfolding, and the ramifications will continue to play out for at least another 50 years. Population ageing is not yesterday's story – the issues are not fully understood, let alone responses prepared and implemented.

Research is needed to understand how demographic change might impact us as individuals and as a society, as well as our trading partners and our sources of labour and capital. We need research to inform our responses, whether it be behavioural or through the development of products and services or policy. This research will be needed to help individuals better manage risk and make informed decisions; prevent and manage dementia; and enable and empower individuals to be productive longer and live healthy and fulfilling lives.

CEPAR is currently conducting world leading research in all these areas and more. It continues to undertake unbiased world class research informed by end user knowledge gaps: Research with the capacity to make a difference. It also continues to build research capability and to inform society of the population ageing issues.

ENGAGEMENT ACTIVITIES

CEPAR's engagement model is central to its success in guiding the priority research needs and informing end users of research in a proactive and timely manner to drive genuine impact. I highlight below some key activities over the past year.

In 2020 the CEPAR Advisory Board has continued its focus on strategic guidance and oversight of the research and engagement priorities. Our meetings became virtual, enabling greater participation, and more focused meetings. Its members continued to participate in CEPAR conferences, workshops and roundtables.

Stakeholder Reference Groups for each Research Stream continued to operate, albeit with meetings largely occurring in the back end of the year due to COVID-19 constraints. They continued to successfully bring together individual stream research teams with interested and engaged stakeholders.

Workshops, conferences, roundtables, and research briefs, plus responses to policy reviews and the Royal Commission into Aged Care Quality and Safety continued to enable impact.

Other specific examples of significant CEPAR engagement activities in 2020 which included a high level of partner organisation and board member participation and support were:

- the *Forum on Healthy Ageing* attended by partner organisation representatives from Medibank and the Department of Health;
- the virtual *5th International Pension Research Association (IPRA) Conference* co-hosted by CEPAR with Advisory Board members Mike Orszag and me attending plus representatives from the World Bank;
- the *IPRA webinar: Procrastination, Retirement Savings, and Annuities* co-hosted by CEPAR and chaired by Advisory Board member Mike Orszag and also attended by me and representatives of the World Bank;
- the *28th Colloquium on Pensions and Retirement Research UNSW* with Advisory Board members John Simon, Mike Orszag, Pip O'Keefe attending, with me chairing the plenary session on retirement incomes, plus representatives attending from partner and affiliate organisations, the Department of Prime Minister and Cabinet, the Department of Social Services, The Treasury, MLC Wealth, the Reserve Bank of Australia, Willis Towers Watson and the World Bank; and
- a *Special IPRA Session on Pensions and COVID-19: The Global Experience as part of the 28th Colloquium on Pensions and Retirement Research* chaired by Mike Orszag and attended by me and representatives from partner organisations MLC Wealth and the World Bank.

THANK YOU

On behalf of the Board I would like to thank the Centre Director, Chief Investigators and their research teams, and the CEPAR research and professional staff who have worked under difficult circumstances in 2020 to keep the research and engagement activities going.

CEPAR greatly appreciates the support of and engagement with its partner and affiliated organisations, Advisory Board members and Stakeholder Reference Group representatives who generously gave their time, insight and energy to assisting CEPAR with its mission 'to produce research of the highest quality and translate findings to enhance social and economic outcomes for an ageing world'.



Marc de Cure
Chair CEPAR Advisory Board

ACTIVITY PLAN FOR 2021

In 2021 CEPAR will undertake a range of activities which aim to provide Australia, the greater Pacific region, and the world, with crucial new knowledge to inform social and economic responses to one of the most important challenges of the 21st century: population ageing. We will produce high quality research on issues that matter and disseminate outputs to those that can use it to drive impact; contribute to key agendas, policy initiatives, and product development; expand global collaborative networks; engage with the community; and build research capacity and capability to ensure CEPAR's sustainability.

ENGAGEMENT AND OUTREACH

A number of events are planned in 2021 to stimulate discussion on the issue and raise community awareness; engage with industry, government and the global research community; and raise the profile of the Centre. Some of these events were originally planned for 2020 but were postponed to 2021 as a result of the pandemic. Planned 2021 events include:

- A policy dialogue focused on mature workers and workplaces in a changing context, to be hosted in collaboration with the Australian National University's Centre for Applied Macroeconomic Analysis (CAMA) in the Crawford School of Public Policy in Canberra in June;
- A roundtable with stakeholders in Canberra on the topic of Organisational Behaviour and the Mature Workforce in June;
- A workshop on Intrinsic Capacity to be held online in July 2021;
- The 2021 CAMA/CEPAR/Treasury Workshop to be held in August in Canberra;
- Another workshop on Data Linkage for Ageing Research, to be held in Canberra in October in collaboration with CAMA;
- The 29th annual Colloquium on Pensions and Retirement Research on 1-2 December in Sydney;

- A workshop on Ageing in the Asia Pacific, based on chapters by contributors to an edited book;
- Research symposiums on
 - Diversity and Ageing;
 - Workplace Ageing, Age Diversity, and Care in Later Life in May 2021 (online);
 - Workplace Ageing and Age Diversity at the 2021 Australia and New Zealand Academy of Management Conference in December in Perth; and
- CEPAR's fortnightly seminar series on pensions, retirement and ageing; and
- Public talks featuring CEPAR personnel and distinguished visitors.

In addition, research briefs and fact sheets will be published on the following topics: ageing in men (based on the Concord Health and Ageing in Men Project (CHAMP)), mature age workforce and mature labour force participation trends; Indigenous ageing, morbidity and mortality; and longitudinal surveys.

NATIONAL AND INTERNATIONAL NETWORKS

CEPAR will continue to expand its international footprint in 2021, especially in the Asia-Pacific region. The Ageing Asia Research Hub will be instrumental in the development of further linkages between CEPAR and key institutions in Asia as well as connecting with national researchers focused on this area of research.

CEPAR will also remain a very active member of the Association of Pacific Rim Universities (APRU) Population Ageing Hub, having played a leading role in its establishment.

Joint workshops and conferences with international collaborators will also support the development of strong linkages. In 2021 these will include:

- The sixth annual conference of the International Pension Research Association

to be co-organised by CEPAR in collaboration with Wharton, Netspar and Willis Towers Watson and hosted by the OECD on 16 June in Paris;

- A workshop on addressing Population Ageing: Institutional and Public Policy Innovation in collaboration with Shanghai Tech University; and
- The third Household Finance Workshop to be held in December in Sydney in conjunction with the Colloquium, and in collaboration with the Center for the Economic Analysis of Risk at Georgia State University and the Retirement and Savings Institute, HEC Montreal.

Nationally, the Centre will pursue a wide range of ongoing national collaborations as well as establish new linkages. Peter McDonald's team will continue to engage with the Commonwealth Treasury's Centre for Population as well as researchers based in the National Ageing Research Institute (NARI) on migrant ageing, ageism, barriers to healthcare, carer unmet needs; Curtin University on Indigenous ageing; Charles Darwin University on Indigenous ageing and sexual minority populations; and University of Queensland on COVID-19 and ageing. Jeromey Temple will continue to serve on the Australian Institute of Health and Welfare's Aged Care Data Advisory Group and the NHMRC National Institute for Dementia Research's CALD review advisory group. The Stream 3 team will advance collaboration with Carers NSW through the development of a paper based on Carers NSW's National Carer Survey 2020 data, focused on mature age carers in paid work and collaboration on 'fact sheets' for employers. It will also build collaboration with the Australian Human Rights Commission through conducting analysis of, and preparing a paper on, their data on mature workers and sexual harassment. Hazel Bateman's team will work with a number of super funds including Cbus and Aware Super.

Internationally, Peter McDonald's team will engage with researchers based in the Vienna Institute of Demography on regional population projections; the University of Leeds and the University of Toronto on projecting subnational ageing; as well as continuing to engage with the International NTA Project. Peter McDonald will continue to serve as a member of the Asian Demographic Research Institute Advisory Board. Warwick McKibbin will continue to collaborate online with researchers at the Brookings Institution, the World Bank and the International Monetary Fund throughout 2021. Stream 3 researchers will advance collaboration with the research team led by Dr Jurgen Wegge at the Institute of Work, Organisational and Social Psychology at the Technical University of Dresden, on age differentiated leadership and age differentiated work systems. Fiona Blyth's team will continue working on international collaborative projects focused on pain, work and the workplace (with collaborators from the University of Bath) and social epidemiology (with researchers at the University of Toulouse). John Piggott and his team will continue collaborating with the Ragnar Frisch Centre for Economic Research and progress joint work with the East-West Centre and Korea Development Institute on population ageing and sustainable growth.

Our researchers will also present at conferences and workshops, in person if COVID-19 travel restrictions permit, otherwise via virtual means.

MENTORING AND RESEARCH TRAINING

The suite of mentoring programs developed by CEPAR to engage Early Career Researchers (ECRs), Higher Degree Research (HDR) and undergraduate students will continue to be offered in 2021. A workshop will be organised in the latter part of the year offering CEPAR and non-CEPAR affiliated personnel the opportunity to learn state-of-the-art techniques from an international leader in

research methods. The Stakeholder Engagement Program will equip researchers with the skills necessary to effectively engage with stakeholders and communicate social science research. The CEPAR Industry and Government Fellowship Scheme will provide career development opportunities for members of CEPAR and its partner organisations as well as strengthen collaborative links. Subject to the relaxation of border restrictions, CEPAR will reactivate its academic exchange program to offer ECRs the opportunity to spend extended periods of time at other nodes or CEPAR partner institutions to advance the research program, expand their collaborations with Partner Investigators (PIs) or Associate Investigators (AIs) and to build their research networks. CEPAR will continue to support the Emerging Researchers in Ageing program. Summer scholarships will be offered to undergraduate students to offer a taste of life in a research centre.

In addition, three workshops aimed at both ECRs and industry practitioners will be offered in 2021:

- A Primer on Continuous Time Financing Modelling with Applications: What ECRs and Practitioners Need to Know, 7-28 May 2021
- Workshop on Mortality Heterogeneity and Financing Retirement: What ECRs and Practitioners Need to Know in August or September 2021; and
- Workshop on Functional Disability and Aged Care Financing: What ECRs and Practitioners Need to Know in December 2021

To support the development of mid-career researchers CEPAR will continue to offer the very successful Future Leaders in Ageing Program in 2021.

RESEARCH

Research in 2021 will be advanced on a number of topics consistent with the four research streams identified in the CEPAR Strategic Plan. Specifically:

1 Macro-demographic dynamics and population ageing policy

Further detailed projection modelling including projections of dementia, small areas, and living arrangements.

Research the interaction of net overseas migration and natural increase.

Further work on inequalities in ageing.

Complete three sub-projects related to project 1.2 Demographic change and optimal policy: housing, retirement and taxation policy interactions; pensions, retirement and household preferences; and age-dependent taxation for an ageing population. This includes testing, policy simulations and the production of working papers.

Initiate two new sub-projects related to project 1.2 Demographic change and optimal policy: household structure, pensions and retirement; and superannuation and taxes. This includes specifying the models, calibration and testing.

Continue development of the G-Cubed model with data updates as new data becomes available.

Implement a Gertler (1997) 4 generation of cohorts into the new model.

Continue testing model properties comparing Blanchard Yaari implementation from the new model with the proposed 4 cohort Gertler model.

Incorporate country specific age earnings profiles from NTA.

Continue analysis of COVID-19 and incorporate Anti-Microbial Resistance (AMR) into G-Cubed model as part of infectious diseases and ageing modelling.

Produce the NTA for 2015-16.

Publish 3 papers on NTA, including features in an issue of the Journal of Population Research.

2 Decision making, expectations and cognitive ageing

Complete data collection and processing for the Personality and Total Health (PATH) Through Life study older-adult cohort (60+ Wave 6).

Investigate typologies of decision-makers in PATH study mid-life and older-adult cohorts, using new data collected during 2020.

Complete piloting of shared decision-making app and explore its use as a measurement tool in studies of decision-making.

Investigate the influence of psychosocial factors on decision-making styles and patterns in the PATH study.

Design and pilot an evidence-based online intervention aimed at reducing implicit age-bias, with potential application in healthcare and policy workplaces.

Develop and estimate life cycle models that study the effect that age-dependent taxation regimes have on human capital investment over the life cycle.

Develop a model which considers the decision-making processes of older Australians in the game of dice task provided by PATH.

3 Organisations and the mature workforce

Collect baseline organisation data using the Mature Workers and Organisation Survey (MWOS) from additional participating organisations.

Support one participating organisation in trialling an intervention.

Collect follow up data from one of the participating organisations.

Analyse and disseminate results of the MWOS COVID longitudinal survey.

Submit paper manuscript on future old selves and career related behaviours and attitudes.

Study mature Uber drivers and their reasons for staying attached to work.

Submit manuscript on the role of leadership in age diverse teams.

Translate, adapt and plan for the validation of an age differentiated leadership intervention.

Prepare manuscripts based on policy audit data, interview data with HR managers, and care data in MWOS COVID.

Complete data collection for new project in collaboration with Stream 4: Family histories, work trajectories and retirement incomes among mature aged Australian women and men.

Prepare manuscript on 'trajectories of care' using HILDA.

4 Sustainable wellbeing in later life

Continue work on continuous time multi-factor multi-cohort mortality models, functional disability transition models and the joint modelling of health status and functional disability.

Utilise individual level survey and administrative data from the Survey of Disability Ageing and Caring (SDAC) and the Aged Care Assessment Team (ACAT) to develop Australian health and functional disability models.

Commence work on the development of a new microsimulation model of the population of Australia.

Progress CHAMP-related activities including completion of wave 5 data collection (home assessment interviews halted due to COVID-19) and commencement of data analysis; completion of COVID-19 survey and commencement of data analysis; and publication of CHAMP cohort profile update.

Publish paper on social determinants of successful ageing, including papers on: socioeconomic status and falls, socioeconomic status and pain, socioeconomic status and healthy ageing, risk factors for driving cessation, ethnic minorities and mortality.

Work on papers using combined data from CHAMP, PATH, and the Australian Longitudinal Study on Women's Health (ALSWH), including papers on: hearing and falls, socioeconomic status and intrinsic capacity of healthy ageing.

Continue joint work with the East-West Center and Korea Development Institute on population ageing and sustainable growth.

Continue Norwegian pension analysis with particular attention to working longer and program substitution.

Continue analysis of long-term care and retirement income policy.

Continue to work on the design of private market products to finance individual risks not covered by public provision including reverse mortgages, long term care insurance, variable annuities, pooled long-term care and insurance funds.

Analyse Australian health, aged pension and aged care costs and apply actuarial projection methods.

Implement experimental work on interventions to improve decision making with industry partners (e.g., Aware Super, Cbus, Household Capital).

Use dynamic structural lifecycle model of super and housing decisions to explore impact of different super choice/default settings on super/housing decisions.

Further examine shared decision-making among older Australian and Dutch adults aged 50 or over.

In addition, we will continue to focus on building cross-stream collaboration through workshops and joint projects and work closely with our partner organisations, especially through the Stakeholder Reference Groups, to enhance collaboration and facilitate access to data and other resources.



SECTION

GOVERNANCE
& STRUCTURE

GOVERNANCE

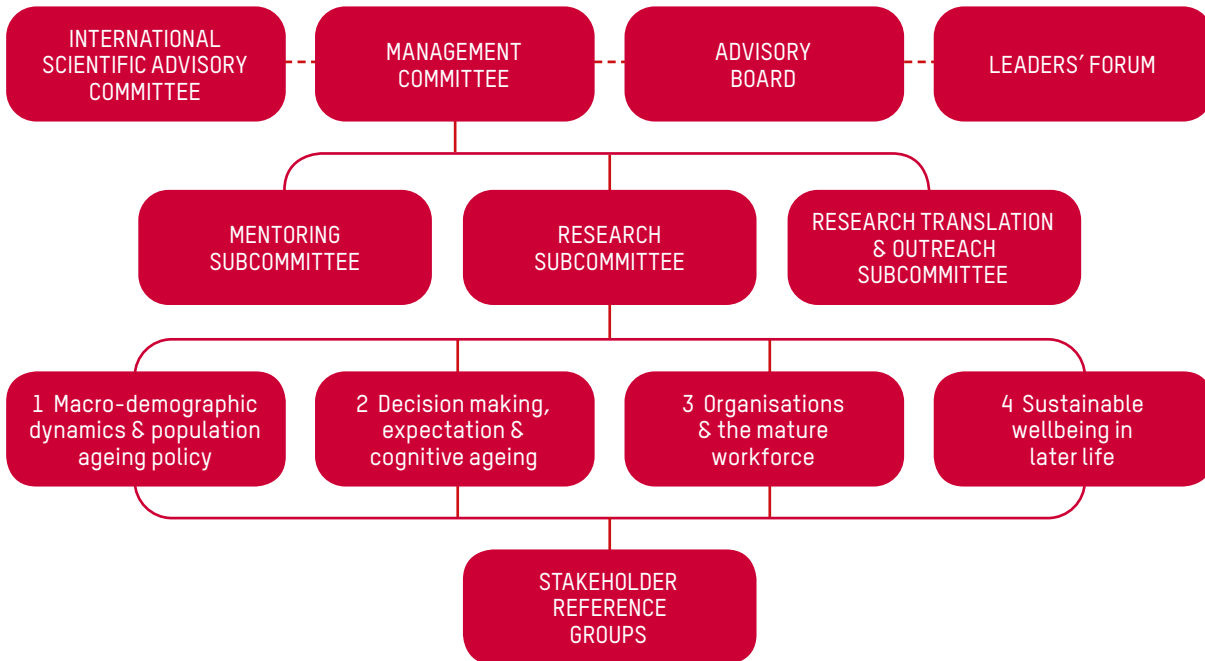
Our governance structure is designed to ensure the efficient operation of the Centre, maximise performance and support strategic planning.

At its core are the Management Committee and the Centre Management Team, which are responsible for the execution of Centre activities.

Three external committees support strategic development as well as engagement between researchers, industry and government. The International Scientific Advisory Committee, Centre Advisory Board and the Leaders' Forum provide the Management Committee with external perspectives on the formulation of research

programs, their implementation, and the dissemination of research outcomes. In addition, Stakeholder Reference Groups (SRGs) facilitate stakeholder interaction and provide opportunities for end users to shape the direction of the Centre's research program and activities.

CEPAR ORGANISATIONAL CHART



INTERNATIONAL SCIENTIFIC ADVISORY COMMITTEE

The International Scientific Advisory Committee, comprising international leaders in the area of population ageing, provides advice on the strategic direction of the Centre from a global perspective, with emphasis on research programs. Drawn from a range of fields, reflecting the Centre's multidisciplinary nature, and with influential positions in academe and policy, members of the Committee also identify and facilitate linkage opportunities as well as act as ambassadors for the Centre, actively building its global profile.

The Scientific Advisory Committee comprises:

Richard Blundell, Professor of Political Economy, University College London, and Director, ESRC Centre for the Microeconomic Analysis of Public Policy, Institute for Fiscal Studies

Eileen Crimmins, Professor of Gerontology, University of Southern California, and Director, USC/UCLA Centre for Biodemography and Population Health

Cai Fang, Professor of Economics and Deputy Director, Chinese Academy of Social Sciences

Sarah Harper, Professor of Gerontology, University of Oxford, and Co-Director, Oxford Institute of Ageing

Ayse Imrohorglu, Professor of Finance and Business Economics, USC Marshall School of Business

Ron Lee, Professor Emeritus of Economics and Demography, University of California, Berkeley

Robert A Moffitt, Krieger-Eisenhower Professor of Economics, Johns Hopkins University

Carol Ryff, Professor of Psychology and Director of Institute on Aging, University of Wisconsin-Madison

Yasuhiko Saito, Professor, Nihon University

Merril Silverstein, Marjorie Cantor Chair in Aging Studies, Syracuse University

James P. Smith, Distinguished Chair in Labor Markets and Demographic Studies, RAND Corporation

Mo Wang, Professor and Director of the Human Resource Research Centre, University of Florida

THE LEADERS' FORUM

The Leaders' Forum is a fluid group comprising of the CEO's of some of Australia's largest corporations, professional and community organisations and senior federal departmental Secretaries which is activated as strategy requires.

ADVISORY BOARD

The Advisory Board plays a critical role in supporting the realisation of the Centre's goals by providing an external perspective on the formulation of research programs and their implementation, and strategies for the translation of research findings to effectively influence economic and social policy, business practice, and community understanding. It facilitates two-way engagement between stakeholders and researchers and provides independent advice to the Management Committee with regard to strategy and external relations, as well as new opportunities for engagement.

The Board comprises delegates of organisations providing financial support to CEPAR, along with a broader membership representing research, policy and community groups. Members are appointed by the Director in consultation with the Chair and Management Committee, for a term of three years.

In 2020, the Board met as a group on 17 April and 1 September. Both meetings focused on engagement, research translation, dissemination and profile-raising. The Board also provided advice on priority topics for future CEPAR research translation initiatives.

As well as the formal meetings, the Director and Chair met bilaterally with individual members on a number of occasions to discuss particular issues.

2020 ADVISORY BOARD MEMBERS

MARC DE CURE	Chair, Adjunct Professor, UNSW Sydney
MICHELLE BAXTER	Chief Executive Officer, Safe Work Australia (until 21 August 2020)
SARAH BUTLER	Partner, PwC Global/Health Services and NSW Government Lead Partner, PricewaterhouseCoopers
BRENTON GOLDSWORTHY	First Assistant Secretary, Economic Division, Department of the Prime Minister and Cabinet (from 5 August 2020)
JENNY GORDON	Chief Economist, Department of Foreign Affairs and Trade (from 26 March 2020)
DAVID GRUEN	Australian Statistician, Australian Bureau of Statistics
ROBERT JEREMENKO	Head, Retirement Income Policy Division, Commonwealth Treasury (until 26 August 2020)
GEOFF LLOYD	Chief Executive Officer, MLC Wealth
MARGOT MCCARTHY	Special Advisor, Department of Health
PHILIP O'KEEFE	Practice Manager, Social Protection and Jobs Global Practice, East Asia and Pacific, World Bank Group
MICHAEL ORSZAG	Head of Global Research, Willis Towers Watson
THE HON DR KAY PATTERSON AO	Age Discrimination Commissioner, Australian Human Rights Commission
MEGHAN QUINN	Deputy Secretary, Markets Group, Commonwealth Treasury (from 27 August 2020)
JOHN SIMON	Head, Economic Research Department, Reserve Bank of Australia
LINDA SWAN	Chief Medical Officer, Medibank
STEPHEN WALTERS	Chief Economist, Macroeconomic Analysis Research & Strategy Division, NSW Treasury
IAN YATES AM	Chief Executive, Council on the Ageing



MARC DE CURE

BCom (Hons) UNSW, MWine Quality UWS, FCA

CHAIR, ADVISORY BOARD

Marc de Cure has recognised since 2001 the social and economic significance of demographic change and the need to undertake and promulgate research to inform government policy, social awareness and commercial responses. He played a key role in establishing CEPAR and provides critical input to the development of the Centre's ongoing strategy, research translation and engagement activities. He has chaired both the Advisory Board and the Leaders' Forum since inception.

Marc has been a member of the Business Advisory Council of the UNSW Business School since 2001 and was appointed as an Adjunct Professor at the UNSW Business School in 2015. He holds a Bachelor of Commerce (Honours) from UNSW, a Master of Wine Quality from UWS and is a Fellow of the Institute of Chartered Accountants ANZ.

Marc has been a non-executive company director and senior executive in financial and professional services groups globally. He was AIA Group's Executive Vice President & CFO and AMP Group's CFO, Executive General Manager Strategy and Executive General Manager responsible for AMP Bank, Virgin Money and AMP's Asian and European Operations.

Marc was a Principal Advisor at Bain & Company and a senior PwC Partner, chairing its Australian Financial Services practice and leading its Asia Pacific Risk Management practice.

CEPAR EX-OFFICIO REPRESENTATIVES ON THE ADVISORY BOARD

ANNE GORDON	Director of Operations
WARWICK MCKIBBIN	Director of Policy Engagement
JOHN PIGGOTT	Director
MICHAEL SHERRIS	Director of Industry Engagement

STAKEHOLDER REFERENCE GROUPS

The role of the Stakeholder Reference Groups (SRGs) is to facilitate stakeholder interaction with CEPAR researchers and promote research translation and knowledge transfer. SRGs also provide opportunities for end users to shape the direction of the Centre's research program and activities. Membership comprises the Stream Leader (as Chair), the Stream Coordinator, the leaders of each of the Stream's projects (or their nominees), relevant representatives of CEPAR's partner organisations plus additional members drawn from business, government and community circles as appropriate.

In 2020, each Research Stream held an annual meeting. The meetings provided an opportunity to review research output over the previous 12 months, identify opportunities and research gaps, share resources, and set goals for the next 12 months.

Schedule of meetings:

Stream 1 SRG: 16 November 2020
 Stream 2 SRG: 22 October 2020
 Stream 3 SRG: 5 November 2020
 Stream 4 SRG: 16 October 2020

MANAGEMENT COMMITTEE

The Management Committee, together with the Centre Director, has overall responsibility for Centre performance and for ensuring that the Centre's activities are conducted in accordance with the Funding Agreement between UNSW Sydney and the ARC. Its role is to oversee all operational matters, including budget management, approval of specific major programs, staffing, approval of visitors and organisation of workshops. In strategic planning, the Committee seeks high level advice from the Centre Advisory Board, International Scientific Advisory Committee and Leaders' Forum.

The Committee is chaired by Chief Investigator Alan Woodland and in 2020 comprised:

JOHN PIGGOTT	Centre Director
KAARIN ANSTEY	Deputy Director and Chief Investigator
MARIAN BAIRD	Chief Investigator and University of Sydney Node Leader (from 18 July 2020)
HAZEL BATEMAN	Deputy Director, Chief Investigator and University of New South Wales Node Leader
ROBERT CUMMING	Chief Investigator and University of Sydney Node Leader (until his retirement on 17 July 2020)
ANNE GORDON	Director of Operations
PETER MCDONALD	Chief Investigator and University of Melbourne Node Leader
WARWICK MCKIBBIN	Chief Investigator and Australian National University Node Leader
SHARON PARKER	Chief Investigator and Curtin University Node Leader

In 2020, the Committee met on 24 March, 15 June, 8 September and 3 December. Consultation also took place via email and teleconferencing and a number of informal meetings were held to handle research management decision making tasks.

The Management Committee is supported by three subcommittees:

RESEARCH SUBCOMMITTEE

Chaired by the Centre Director, the committee comprises all the Chief Investigators, the Stream Coordinators, the Director of Operations and the Senior Administrative Officer (Research and Mentoring Support). In 2020, the subcommittee met on 28 April, 25 August and 17 November. In addition, members of the research committee participated in CEPAR's virtual Annual Workshop on 23-24 November which included detailed discussions about research progress, future directions and opportunities for intra and inter stream collaboration.

MENTORING SUBCOMMITTEE

The subcommittee comprises the two Directors of Mentoring, Sharon Parker and Marian Baird, the Centre Director, the Director of Operations, the Senior Administrative Officer (Research and Mentoring Support) and Emerging Researchers in Ageing (ERA) representative Matthew Carroll. In addition, the Centre's mid-career researchers were represented by Daniela Andrei, Katja Hanewald, George Kudrna, Cagri Kumru and Ruth Peters; early career researchers were represented by Inka Eberhardt and Saman Khalatbari-Soltani; and PhD students were represented by Cheng Wan and Lisa Gulesserian. The subcommittee, chaired by Marian Baird met on 17 March, 15 July and 21 October 2020.

RESEARCH TRANSLATION AND OUTREACH SUBCOMMITTEE

The subcommittee was chaired this year by the Director of Industry Engagement, Michael Sherris, and comprises the Director of Policy Engagement, Warwick McKibbin, the Centre Director, Deputy Director and Chief Investigator, Hazel Bateman, the Director of Operations, the Senior Research Fellow – Research Translation, the Senior Administrative Officer (Stakeholder Relations and Governance), and the Communications, Marketing and Events Coordinator. The subcommittee met on 7 April, 21 July and 3 November 2020.

CENTRE ADMINISTRATION AND OPERATION

Since its formal establishment on 28 September 2017, CEPAR has made significant inroads in the development of the organisational framework necessary to effectively administer and optimise the achievements of the Centre. Progress has been made in the six key domains prescribed by the Australian Research Council in the Funding Agreement:

STRATEGIC PLANNING

CEPAR's Strategic Plan is a living document shaped by ongoing consultation with a wide range of CEPAR personnel and its stakeholders. It is augmented and revised as new opportunities emerge, thus providing a roadmap and a structure that will assist CEPAR to continue to strive for excellence in population ageing research and enable it to achieve its full potential.

The strategic planning process involves regularly reviewing our progress towards fulfilling our objectives and vision for the Centre and discussing strategies for success to ensure the Centre is positioned to make the most of its capabilities and the opportunities provided by the collaborating universities, partners and the Australian Research Council.

In 2020, discussions have taken place at meetings of the Advisory Board, Management Committee and its subcommittees, as well as at CEPAR's annual workshop in November. A particular focus in 2020 was on developing mechanisms to enhance multidisciplinary collaboration across the streams.

EQUITY, DIVERSITY AND INCLUSION

CEPAR is committed to equity, diversity and inclusion (EDI) in the workplace and has developed an Equity Plan outlining how CEPAR supports these concepts in practice.

The document *Equity and Diversity at CEPAR: Principles, Policy and Practice* positions CEPAR

as an equal opportunity employer committed to the principles of cultural diversity, disability inclusion, gender equality, and LGBTQI inclusion. It is supported by workplace and diversity policies, as well as codes of conduct, in place at each of its collaborating universities.

In addition, it sets out CEPAR-specific policies and practices designed to engender a culture of equity and diversity, to further support equity and diversity within the centre. These position the Centre as an equitable, flexible and family-friendly work environment.

In 2020 CEPAR established the ED&I network which comprises the Director of ED&I and CEPAR's ED&I Champions. ED&I Champions, which are located across the nodes, promote ED&I at their node and make suggestions for improvement of the CEPAR policy.

In 2020 Marian Baird, the Director of ED&I, convened four formal meetings of the ED&I network which undertook a review of the *Equity and Diversity at CEPAR* document, formulated a second Centre-wide-survey, and engaged in the planning of a dynamic Centre-wide workshop on the issue. Several informal impromptu meetings also took place during the year. The revised principles, policy and practice document is a much stronger publication and includes further guidance on embedding ED&I principles in CEPAR communications and also supports the enhancement of ED&I at CEPAR by introducing the role of ED&I ally. The revised document has been circulated to all CEPAR personnel, is available online on the CEPAR website, and is included in induction packs for new staff and students.

The 2020 Equity, Diversity & Inclusion (EDI) Survey was designed to better understand the experiences of our members and provide indications of what actions need to be taken to enhance ED&I at CEPAR. The findings were presented at a special session of the 2020 CEPAR

annual workshop and overall pointed to a very positive EDS&I culture within CEPAR. No one reported personal negative EDS&I-related experiences in their CEPAR role and 80% or more respondents reported positive perceptions when asked questions about fair treatment, training opportunities, and diversity in recruitment, employment decisions and helping people fit in. The survey and breakout group discussions as part of the workshop also yielded insights on areas where CEPAR could enhance EDS&I in the future. This included improving overall knowledge of EDS&I principles within the Centre as well as understanding of where to get help and advice if needed; and enhancing inclusion of Acknowledgement of Country in all CEPAR meetings and improving individual confidence in delivering the Acknowledgement. A third survey will be conducted in 2021 to measure our progress in this area. Overall, comments about this dimension of Centre life were extremely positive. For example, one respondent wrote, ‘Keep doing what you are doing, this has been one of the best places I have been able to apply myself without hindrances.’

2020 EDS&I Champions were:

Kaarin Anstey, Chief Investigator, NeuRA, UNSW Sydney

Brooke Brady, Research Fellow, NeuRA, UNSW Sydney

Lisa Gulesserian, PhD student, The University of Sydney

Warwick McKibbin, Chief Investigator, Australian National University

Gigi Petery, Research Fellow, Curtin University

Silke Weiss, Communications, Marketing and Events Coordinator, UNSW Sydney

Tom Wilson, Principal Research Fellow, The University of Melbourne

DISCRETIONARY FUNDING

CEPAR has set aside discretionary funds to support a number of schemes, including a Distinguished Visitors Program, an International Conference Travel Scheme for HDR students, and an HDR and ECR Travel Grant Scheme to support extended visits to other nodes and affiliated institutions for the purpose of research collaboration.

CENTRE COHESION

Strategies to support the cohesion of the Centre, across nodes and disciplines, are embedded in everything the Centre does. The governance framework and Centre structure are designed to ensure that personnel from all five nodes participate in the decision making of the Centre; that partners have an opportunity to shape the direction of the research program and activities through membership of the Advisory Board and Stakeholder Reference Groups; and that researchers regularly come together to discuss and plan research across nodes and disciplines, both informally through regular visits and formally at Research Stream meetings and annual workshops.

Importantly, each of the nodes has a designated Node Leader who serves on the Centre Management Committee, and the Leadership team includes key positions based at the Australian National University (Director of Policy Engagement), Curtin University (Director of Mentoring – Mid-Career Researchers), the University of Sydney (Director of Mentoring – Emerging Researchers and Director of Equity, Diversion and Inclusion) and UNSW Sydney (Director and Deputy Directors, Director of Industry Engagement). Stream Leaders are based at the University of Melbourne, Curtin University and UNSW Sydney.

MENTORING AND PROFESSIONAL DEVELOPMENT

The Centre has developed a suite of programs designed to achieve its objective of creating new researcher cohorts devoted to ageing research, trained in cross-disciplinary skills, with the ability to engage with and respond to the needs of end-users. The programs, which are tailored to students, postdoctoral researchers and mid-career researchers, are outlined in the Research Training and Mentoring Section on pages 77–84.

RESEARCH TRANSLATION, COMMUNICATION, EDUCATION AND OUTREACH

The CEPAR Research Translation, Communication, Education and Outreach Plan, outlines a range of initiatives designed to translate Centre research, enhance the Centre’s profile and address stakeholder needs. The plan is reviewed annually. Key to its development in 2020 were discussions at the CEPAR annual workshop, as well as at meetings of the Advisory Board and the Management Committee and its three subcommittees. The outcomes for the year are outlined throughout the report.

The Plan is embedded in the CEPAR Strategic Plan. In addition, a list of initiatives in this portfolio will be developed each year and included as an appendix to the Strategic Plan.

STRUCTURE

CEPAR is based at the University of New South Wales (UNSW Sydney) with nodes at the Australian National University (ANU), Curtin University, the University of Melbourne and the University of Sydney. It is strongly supported by a number of key government, industry and international university partners.

NODES

The UNSW Sydney node, led by Professor Hazel Bateman, is hosted by the UNSW Business School and includes teams of researchers based in the Business School and Neuroscience Research Australia.

The ANU node is based in the Crawford School of Public Policy under the leadership of Professor Warwick McKibbin.

Professor Sharon Parker leads the Curtin University node based in the Centre for Transformative Work Design.

Professor Peter McDonald leads The University of Melbourne node, based in the School of Population and Global Health.

The University of Sydney node consists of teams in the School of Public Health and the Business School. Professor Robert Cumming led the University of Sydney node until his retirement on 17 July 2020 whereupon Professor Marian Baird took up the role of Node Leader.

All the Chief Investigators (CIs) and many of the Centre's Associate Investigators (AIs) are based at one of the five nodes. Within Australia, Associate Investigators are also based at Macquarie University, the University of Newcastle, the University of Tasmania and the University of Technology Sydney. Other AIs are based at the Conexus Institute, Aware Super, National Seniors Australia, Pacific Life Re, and Taylor Fry.

PROGRAMS

The research program is organised into four interconnected streams:

Macro-Demographic Dynamics and Population Ageing Policy

Decision Making, Expectations and Cognitive Ageing

Organisations and the Mature Workforce

Sustainable Wellbeing in Later Life

INTERNATIONAL UNIVERSITY PARTNERS

Our Partner Investigators are drawn from three world-class research organisations:

The University of Manchester

The Wharton School

The University of Pennsylvania

Through our internationally based Associate Investigators and joint research initiatives we are connected to the following key research institutions:

The Brookings Institution

College of William and Mary

Colorado State University

Dutch Central Bank

Indonesian Ministry of National Development Planning (Bappenas)

Institut National de la Recherche Scientifique: Centre - Urbanisation Culture Société

Korea University

National Institute of Public Finance and Policy, New Delhi

National University of Singapore

Netspar

Newcastle University (UK)

Northern Illinois University

Portland State University

Purdue University

Ragnar Frisch Centre for Economic Research

Saint Louis University

South China Agricultural University

Tilburg University

Université Libre de Bruxelles

University of Bern

University of Duisburg-Essen

University of Exeter

University of Kent

University of Leeds

University of Leipzig

University of Limerick

University of Oxford

University of Parma

University of St. Gallen

University of South Florida

University of Trieste

University of Waterloo

University of Wuerzburg

Washington University in St Louis

WHU – Otto Beisheim School of Management

Zhejiang University

INDUSTRY AND GOVERNMENT PARTNERS

CEPAR is actively engaged with a range of influential government and industry partners to cooperatively deliver outcomes to meet the challenges and opportunities of population ageing. These include:

Australian Human Rights Commission

Department of Foreign Affairs and Trade

Department of Health

Department of Social Services

Medibank

MLC

NSW Treasury

PricewaterhouseCoopers

Reserve Bank of Australia

Safe Work Australia

The Treasury

The World Bank

Willis Towers Watson

In addition, the Centre is supported by Research Attraction and Acceleration Program (RAAP) funding from the NSW Department of Industry.

CENTRE PERSONNEL

CHIEF INVESTIGATORS



SCIENTIA PROFESSOR JOHN PIGGOTT AO

BA Syd., MSc PhD Lond., FASSA
CENTRE DIRECTOR

John Piggott is Scientia Professor of Economics in the UNSW Business School.

He has published widely on issues in retirement and pension economics and finance, and in public finance, and his research has appeared in the leading international economics and actuarial academic journals as well as in highly cited conference volumes. His national policy experience includes membership of both the Henry Tax Review Panel (2008-2009) and the Australian Ministerial Superannuation Advisory Committee (2007-2011).

Internationally, he worked with the Japanese government for nearly a decade from 1999 on pension and population ageing issues. In 2007 he was appointed Visiting Professor at Zhejiang University in China, an ongoing appointment, and from 2008-2010 was a Visiting Scholar at the Wharton School of Business. In 2018, he was awarded a 2018 Rockefeller Residency to work on issues in population ageing and inequality. In 2019, he was appointed as co-chair of the G20 Population Ageing Task Force. He is currently a commissioner on the US National Academy of Medicine International Commission on Creating a Global Roadmap for Healthy Longevity.



SCIENTIA PROFESSOR KAARIN J. ANSTEY

BA (Hons) Syd., PhD Qld., FASSA, FAPS
CHIEF INVESTIGATOR AND DEPUTY DIRECTOR

ARC Laureate Kaarin Anstey is Director of the UNSW Sydney Ageing Futures Institute focused on enabling optimal ageing for individuals and society and Senior Principal Research Scientist at Neuroscience Research Australia (NeuRA).

Kaarin's research programs focus on the causes, consequences and prevention of cognitive ageing, dementia, and common mental disorders in adulthood. A second focus is on older drivers' risk assessment and safety. Kaarin has worked extensively with longitudinal studies, the development of risk assessment tools, and interventions to optimise healthy ageing and mobility. Kaarin also leads the PATH Through Life Project, a large cohort study focusing on common mental disorders and cognitive function, based in the ACT and surrounding regions.

Kaarin is the Chair of the International Research Network on Dementia Prevention, a Director of the Board of the Dementia Australia Research Foundation and a member of the Governance Committee of the Global Council on Brain Health.



PROFESSOR HAZEL BATEMAN

BEd (Hons) Qld., PhD UNSW, GAICD
CHIEF INVESTIGATOR, DEPUTY DIRECTOR
AND UNSW SYDNEY NODE LEADER

Hazel Bateman is a Professor of Economics in the UNSW School of Risk and Actuarial Studies.

Hazel researches consumer financial decision making especially as it relates to retirement accumulation and decumulation. Her work focuses on interventions to facilitate better retirement financial decisions; retirement product design in Australia and China; and the taxation and regulation of pension and superannuation funds.

She is the author of over 70 peer-reviewed publications and book chapters and has been Chief Investigator on over a dozen ARC funded projects. Hazel has consulted on retirement income issues to international organisations including the OECD, the World Bank, the Social Insurance Administration (China) and the Korean Institute of Health and Social Affairs. She is a member of Netspar's Scientific Council and the China Ageing Finance Forum and serves on the Advisory Board of the Mercer CFA Institute Global Pension Index and the Conexus Institute. Hazel is an editor of the *Journal of Pension Economics and Finance* and inaugural President of the International Pension Research Association (IPRA).



PROFESSOR MARIAN BAIRD AO

BEd (Hons) DipEd PhD Syd., FASSA
**CHIEF INVESTIGATOR, DIRECTOR OF MENTORING
 (EMERGING RESEARCHERS) AND
 DIRECTOR OF ED&I**

Marian Baird is Professor of Gender and Employment Relations, Head of the Discipline of Work and Organisational Studies, Co-Director of the Women, Work and Leadership Research Group in the University of Sydney Business School and a Presiding Pro-Chancellor of the University of Sydney. She is a Fellow of the Academy of the Social Sciences in Australia and in 2016 Marian was awarded an AO for outstanding services to improving the quality of women's working lives and for contributions to tertiary education. In 2019 she was named in *Apolitical's* Top 100 Most Influential People in Gender Equality list for the second year in a row. She is a leading researcher in the fields of women, work and family and is a highly recognised member of international networks on women, work and empowerment. Marian has received numerous grants from business and government to study parental leave in Australia, gender equitable organisational change, and work and family policy. She has contributed to a number of government advisory boards and reference groups relating to parental leave, gender equity and sexual harassment in the workplace.



PROFESSOR FIONA BLYTH AM

B Med Sci MBBS (Hons) UNSW,
 MPH PhD Syd., FAFPHM
CHIEF INVESTIGATOR (FROM 16 JULY 2020)

Fiona Blyth is Professor of Public Health and Pain Medicine and Director of the Master of Clinical Epidemiology Program at the School of Public Health in the Faculty of Medicine and Health at the University of Sydney. She is a senior academic within the University's Centre for Education and Research on Ageing at Concord Hospital, and Co-Director of the Concord Hospital Healthy Ageing in Men Project (CHAMP) Study. She also works with the Sax Institute in knowledge translation (promoting the use of research evidence in health policy).

She is recognised internationally for her body of work defining chronic pain as a major public health problem, the epidemiology of pain in older people, pharmacoepidemiology using linked datasets, and the global burden of pain conditions.

Fiona is a Council member for the International Association for the Study of Pain, and Section Editor for Topical Reviews for the leading journal PAIN. She was awarded a Member (AM) of the Order of Australia for 'significant service to medical research and education in the field of public health, pain management and ageing, and to health policy reform' in 2018.



PROFESSOR PHILIP CLARKE

BEd N'cle (Aust), MEd Syd., PhD ANU, FASSA
CHIEF INVESTIGATOR (UNTIL 31 JULY 2020)

Philip Clarke is Director of the Health Economics Research Centre at the University of Oxford, UK. Formerly, he was the Director of the Centre for Health Policy at the University of Melbourne and continues to maintain a fractional appointment with the Centre and strong links with the CEPAR research team based there.

He has contributed to health economic policy debates in Australia, particularly around the pricing of generic pharmaceuticals and more recently the need for better statistics on outcomes and cost in the Australian system. His research interests include developing methods to value the benefits of improving access to health care, health inequalities and the use of simulation models in health economic evaluation. Philip has been involved in the development of the UKPDS Outcomes Model, a health economic simulation model for type 2 diabetes. He has also undertaken policy relevant research for the World Bank, OECD, AusAID and the Department of Health. He has over 80 peer-reviewed publications and has recently contributed to books on cost-effectiveness analysis and cost-benefit analysis published by Oxford University Press. Following his resignation as a CI on 31 July 2020, Philip was appointed as a CEPAR AI to support continued collaboration.

CENTRE PERSONNEL

CHIEF INVESTIGATORS



PROFESSOR ROBERT CUMMING AO
MBBS UNSW, MPH PhD Syd.
CHIEF INVESTIGATOR AND
UNIVERSITY OF SYDNEY NODE LEADER
(UNTIL 15 JULY 2020)

Robert Cumming was Professor of Epidemiology and Geriatric Medicine at the University of Sydney until his retirement in July 2020. Following his retirement he was appointed as Professor Emeritus at the University of Sydney and an Honorary Professor at UNSW Sydney to support ongoing involvement in the CEPAR research program.

He has an international reputation for his research on osteoporosis, falls and fractures. His research on falls prevention in older people has had major impact on policy and practice in this important field. Much of his research brings together biological, psychosocial and medical aspects of ageing. In recent years he has extended his work to the study of ageing and health in developing countries in Asia and sub-Saharan Africa.

He is a member of the Australian Institute of Health and Welfare's National Arthritis and Musculoskeletal Conditions Monitoring Advisory Group and serves on the editorial board of the *International Journal of Epidemiology*. He is a Life Member of the Australasian Epidemiological Association.



PROFESSOR MICHAEL KEANE
BS MIT, MA PhD Brown, FES, FASSA
CHIEF INVESTIGATOR

Michael Keane is an Australian Laureate Fellow and Professor of Economics in the UNSW Business School.

Several independent sources have placed Michael Keane among the top economists internationally in terms of citations and the impact of his work. Recently he was ranked as top economist in the 1990 PhD cohort by Research Papers in Economics (RePEc). He is considered to be a world leader in choice modelling and his expertise is sought both nationally and internationally. In 2009 he prepared a report on tax transfers and labour supply for the Australian Treasury's Commission on Australia's Future Tax System. He has been a visiting scholar at the International Monetary Fund at various times throughout his career.

He was elected a Fellow of the Econometric Society in 2005 and in 2018 was elected to the Econometric Society Council. He won the Kenneth Arrow Award in 2008, was named an Australian Federation Fellow in 2005 and was awarded an Australian Laureate Fellowship in 2011. He is an Associate Editor of the *Journal of Econometrics* and *Quantitative Marketing and Economics*.



PROFESSOR PETER McDONALD AM
BCom UNSW, PhD ANU, FASSA
CHIEF INVESTIGATOR AND
UNIVERSITY OF MELBOURNE NODE LEADER

Peter McDonald is Honorary Professor of Demography within the Centre for Health Policy at the University of Melbourne.

He was President of the International Union for the Scientific Study of Population for the years, 2010-2013. In 2015, he received the Irene B. Taueber Award from the Population Association of America which recognises an unusually original or important contribution to the scientific study of population. He is frequently consulted on the issue of population futures (causes, consequences and policies) by governments around the world, especially in Australia, Europe and East Asia.

In 2008, he was appointed as a Member of the Order of Australia. He is an inaugural ANU Public Policy Fellow and in 2014 was a member of the Independent Review into Integrity in the Subclass 457 Programme. He has worked previously at the Australian National University, the Australian Institute of Family Studies, the World Fertility Survey and the University of Indonesia.



PROFESSOR WARWICK MCKIBBIN AO
BCom (Hons) UNSW,
AM PhD Harvard University, FASSA
CHIEF INVESTIGATOR AND
DIRECTOR OF POLICY ENGAGEMENT

Warwick McKibbin is a Vice Chancellor's Chair in Public Policy and is Director of the Centre for Applied Macroeconomic Analysis in the Crawford School of Public Policy at the Australian National University. He is also a non-resident Senior Fellow at the Brookings Institution in Washington D.C.

He is internationally renowned for his contributions to global economic modelling and the theory of monetary policy. He has published more than 200 peer-reviewed academic papers and five books and is a regular commentator in the popular press. He has a wide range of policy experience. He has been a member of the Board of the Reserve Bank of Australia (2001 – 2011); the Prime Minister's Science, Engineering and Innovation Council (2005-2008); and the Advisory Board of the Prime Minister's Taskforce into Housing Affordability (2002-2003).

He regularly advises international institutions, central banks, governments and corporations across a range of developed and emerging economies.

Warwick serves on the Editorial/Advisory Boards of *China & World Economy*, *Japan and the World Economy*, and *Asian Economic Papers*.



PROFESSOR SHARON K. PARKER
BSc (Hons) UWA, PhD Sheffield, FASSA
CHIEF INVESTIGATOR, CURTIN UNIVERSITY NODE
LEADER AND DIRECTOR OF MENTORING
(MID-CAREER RESEARCHERS)

Sharon K. Parker is an ARC Laureate Fellow, and John Curtin Distinguished Professor, and the Director of the Centre for Transformative Work Design within the Future of Work Institute at Curtin University.

Sharon's research focuses particularly on job and work design. She has attracted competitive research funding worth over \$40,000,000, has published over 150 academic articles, and is the author of a SAGE book on work design and a Routledge book on proactive behaviour. Sharon is a recipient of the ARC's Kathleen Fitzpatrick Award and the Academy of Management OB Division Mentoring Award and is a Fellow of the Society for Industrial and Organisational Psychology. In 2019, she was identified as a Clarivate Highly Cited Researcher in the field of Business and Economics. She helped to develop the Good Work Design principles being used by Safe Work Australia and Comcare to foster the improved quality of work within Australian organisations, and is a co-founder of the Thrive at Work Initiative.

Sharon is a past Associate Editor for the *Academy of Management Annals* and the *Journal of Applied Psychology*, and has served on numerous editorial boards.



PROFESSOR MICHAEL SHERRIS
BA Macq., MBA Syd., FIA, FIAA, FSA
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OF INDUSTRY ENGAGEMENT

Michael Sherris is a Professor of Actuarial Studies in the UNSW Business School. His research sits at the intersection of actuarial science and financial economics and has attracted a number of international and Australian best paper awards. He has published in leading international risk and actuarial studies journals, including *Journal of Risk and Insurance*, *Insurance: Mathematics and Economics*, *Scandinavian Actuarial Journal*, *ASTIN Bulletin*, *Journal of Economic Dynamics and Control*, *North American Actuarial Journal* and *Geneva Papers on Risk and Insurance*. He is on the editorial board of the *Annals of Actuarial Science* and is a co-editor of the *North American Actuarial Journal*.

Prior to becoming an academic he worked in the banking and finance industry. He has been an active member of the Australian actuarial profession having served on the Council of the Institute of Actuaries of Australia. He was President (2008-2009) of the Asia Pacific Risk and Insurance Association and a Board and Executive Member of the Enterprise Risk Management Institute International. He was Chair of the AFIR-ERM Section of the International Actuarial Association until 2019. He was named Australian Actuary of the Year 2007 in recognition of his contributions to actuarial research and education both internationally and within Australia.

CENTRE PERSONNEL



SCIENTIA PROFESSOR ALAN WOODLAND

BA PhD UNE, FASSA, FES
CHIEF INVESTIGATOR

Alan Woodland is Scientia Professor of Economics in the School of Economics within the UNSW Business School.

Alan's primary research interests and publications are in the areas of international trade theory, applied econometrics and population ageing. He has published in leading journals including *Econometrica*, *Review of Economic Studies*, *Journal of Econometrics*, *Journal of International Economics* and the *Journal of Economic Dynamics and Control*.

He is the recipient of the Distinguished Economist Award of the Economics Society of Australia. He is an Associate Editor of the *Review of International Economics*, a past editor of the *Economic Record*, and is currently on the editorial boards of the *International Journal of Economic Theory* and the *Economic Record*. Alan has been a Reserve Bank of Australia Fellow in Economic Policy and a Senior Fulbright Fellow.

He is also on the scientific boards of the European Trade Study Group (ETSG), Asia Pacific Trade Seminars (APTS), Australasian Trade Workshop (ATW) and the Dynamics, Economic Growth, and International Trade (DEGIT) Research Centre.

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Professor James Nazroo
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UNIVERSITY OF MANCHESTER

HONORARY PROFESSORS

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UNIVERSITY OF SYDNEY
(FROM 16 JULY 2020)

Professor Robert Holzmann
AUSTRIAN ACADEMY OF SCIENCES

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School of Aging Studies
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NEUROSCIENCE RESEARCH AUSTRALIA
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(FROM 23 APRIL 2020)

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¹ Not all Associate Investigators were actively involved in the research program in 2020.

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PACIFIC LIFE RE

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FIRST STATE SUPER

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Dr Lidan Zheng

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FUTURE OF WORK INSTITUTE
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Dr George Kudrna

UNSW Business School
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Dr An Tran

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**DR MIGUEL OLIVO-
VILLABRILLE**

BA Pontificia Universidad
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MA Mathematics Instituto
Tecnologico de Santo
Domingo, MA Economics
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PhD Economics University
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RESEARCH FELLOW

Miguel Olivo Villabrille is a CEPAR Research Fellow at UNSW Sydney. He is also a Research Affiliate at the Tax and Transfer Policy Institute at ANU's Crawford School of Public Policy.

Miguel's interests lie in labour economics, particularly in family and demographic economics. He employs dynamic structural methods to model decision making over the life cycle to propose and evaluate policies. Those methods can be applied to study educational choices, labour supply and retirement decisions, savings and asset accumulation, and also divorce. He is interested in studying how changes in marriage formation can lead to more macro outcomes like household income

inequality. In addition, he is interested in tax policies, evaluating the effect they have on labour supply and tax-evading behaviour at higher levels of income.

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Andrew Cracker

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Imogen Gad

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Kirsty Zmisa

Executive Assistant to Professor Kaarin J. Anstey
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SECTION

RESEARCH & RESEARCH TRAINING

CEPAR PERSONNEL AT ANNUAL WORKSHOP 2019

RESEARCH STREAM 1

MACRO-DEMOGRAPHIC DYNAMICS AND POPULATION AGEING POLICY

STREAM LEADER / [PETER MCDONALD](#)

This stream brings together a multidisciplinary team comprising expertise in demography, economics and actuarial studies to develop a suite of models that will combine to place Australia at the forefront of macro-demographic modelling globally. Together they will generate greatly improved understanding of (i) the evolution of Australia's demography, (ii) the optimal policy settings required to support an ageing demographic, (iii) demographic changes in the region and its impact on Australia, and (iv) how transfers between generations will change as populations age.

The stream comprises four projects:

- 1.1 [DEMOGRAPHIC PROJECTION MODELS](#)
- 1.2 [DEMOGRAPHIC CHANGE AND OPTIMAL POLICY](#)
- 1.3 [REGIONAL MACRO MODELLING](#)
- 1.4 [THE NATIONAL TRANSFER ACCOUNTS \(NTA\)](#)

RESEARCHERS

PETER McDONALD
JEROMEY TEMPLE
MEIMANAT HOSSEINI-CHAVOSHI
TOM WILSON
COLLIN PAYNE
HEATHER BOOTH
IWU UTOMO

While population ageing is inevitable in Australia, the speed and extent of future population ageing depend upon the course of the three demographic parameters: fertility, mortality and migration. Accordingly, monitoring and projection of the trends in these three parameters is a vital CEPAR activity.

Substantial progress has been made in 2020 in the development and publication of projections of characteristics of Australia's population. This has included projections of the Australian Indigenous population and the Australian population by country of birth. It also includes new estimates of the oldest-old population of Australia. Principal Research Fellow Tom Wilson and Associate Professor of Demography Jeromey Temple have also begun work on projections of small area populations, sexual minority populations and

projections of the incidence of dementia. These data are made publicly accessible through the CEPAR Population Ageing Futures Data Archive: www.cepar.edu.au/cepar-population-ageing-projections.

Fertility

During 2020, a major report on Australian fertility trends and projections prepared by CI Peter McDonald was published by the Centre for Population of the Department of the Treasury. The projections also included an estimate of the impacts of COVID-19 on Australian fertility rates. The projections of fertility in this report were used for the 2020-21 Budget estimates for Australia. The report observed that the very long historical trend towards later childbearing dating back to the 1970s resumed around 2013 after it had slowed during the mini baby boom years. This reflected a higher degree of control over fertility among women with lower levels of education as early childbearing has long been related to low education. The same trend has been observed in other countries such as the United States, the United Kingdom, New Zealand and Sweden. The report concludes that this trend will likely lead to a lower level of fertility for Australia in the longer term thus increasing the future level of

population ageing. This is a trend that needs to be monitored closely to avoid fertility falling to very low levels that would lead to hyper-ageing of the population. The report is available at: population.gov.au/research/research-fertility.html

Migration

For 20 years, the Australian Government has sought to reduce the level of future population ageing through its immigration program. The evolution of this policy approach has been documented through the successful completion in 2020 of the PhD thesis of Dr Abul Rizvi who was attached to this CEPAR project. Immigration lowers population ageing because the immigrants themselves are young compared with the general population but, more significantly, because immigrants have their children and their grandchildren before they themselves grow old. Immigration has a very large impact on the number of births occurring in Australia not because immigrants have higher fertility rates but because immigrants substantially increase the population in the childbearing ages. In November 2020, McDonald was involved in a workshop conducted by the Department of Home Affairs on migration policy post-COVID.



**DR MEIMANAT
HOSSEINI-CHAVOSHI**
BS (Public Health)
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Medical Sciences,
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PhD Demography ANU
RESEARCH FELLOW

Meimanat Hosseini-Chavoshi is a CEPAR Research Fellow in the School of Population and Global Health at the University of Melbourne mentored by Professor Peter McDonald. Prior to this, she worked at ANU's Crawford School of Public Policy and School of Demography (formerly the Australian Demographic and Social Research Institute) where she carried out her postdoctoral research on fertility regulation and abortion in Iran.

Before moving to Australia, she had a longstanding career with the Iran Ministry of Health and Medical Education as Head of the Population and Health Data Unit responsible for design, implementation and data analysis of several national

surveys in the areas of reproductive health, fertility, adolescence and ageing. Over the past 10 years, she has collaborated in different research projects funded by agencies such as the Wellcome Trust, WHO, UNFPA, GDN and GERPA and the Australian Research Council.

Meimanat is currently working on demographic perspectives of ageing in Australia exploring spatial patterns of older Australians, and factors associated with their living arrangements and health conditions.

Mortality

During 2020, Dr Collin Payne, CEPAR Associate Investigator (AI) at the Australian National University, received a Discovery Early Career Researcher Award from the Australian Research Council. His four-year project aims to investigate trends, determinants, and inequalities in healthy longevity in Australia. By identifying inequalities in later-life health and the drivers of healthy longevity, the project addresses a pressing issue facing Australia and other ageing populations. The project is expected to generate the first systematic evidence-base on healthy longevity in Australia and seeks to explore how trends in later-life health in Australia fit within the global context. Intended outcomes of this project include improved health interventions and more targeted, effective, and equitable health system planning. The anticipated benefit is to improve healthy longevity among older Australians and reduce health inequalities.

During 2020, a major report on Australian fertility trends and projections prepared by Peter McDonald was published by the Centre for Population of the Department of the Treasury ... [and the projections] were used for the 2020-21 Budget estimates for Australia.



DR TOM WILSON

BA (Hons) Leeds, MA
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PRINCIPAL
RESEARCH FELLOW

Tom Wilson is a CEPAR Principal Research Fellow in the Demography and Ageing Unit at the University of Melbourne.

He is an applied demographer specialising in population and household projections, migration analysis, the indirect estimation of demographic data, Indigenous demography, very elderly demographic trends, migration analysis, subnational demographic change, and LGBT demography.

He obtained his PhD from the University of Leeds in 2001 for his work on multi-regional population projection methods. He is the founder and Editor of the open-access journal *Australian Population Studies*.

In addition to academic research, Tom regularly works with government and has created population and household projection software for several state and territory government departments.

RESEARCHERS

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External collaborators

SEBASTIAN WENDE
NABEEH ZAKARIYYA
(BOTH ANU)

This research project, under the leadership of CI Woodland, broadly concerns the nexus between population ageing and government policy, particularly income taxation, age pension and retirement policy settings. Significant demographic change in the form of population ageing in Australia and other countries induces economic policy responses on the part of governments on those policy instruments. The project is partially concerned with how appropriate these various policy responses are and what other responses might be considered. In addition, these policy settings are likely to require adaptation over the course of the demographic change and so it is an important

research task to identify dynamically optimal policy settings. These are the broad objectives of the research project.

During 2020, there has been significant progress on several specific sub-projects.

Home ownership and retirement policy

Research by Senior Research Fellow George Kudrna and AI Hans Fehr concerns homeownership in Australia and Germany. The main purpose is to quantify the role of pension and retirement income policy in explaining large homeownership differences between Germany and Australia. Although Germans and Australians have very similar incomes per capita, Australians hold significantly more wealth and they typically own their place of residence while in Germany most households are renters. The research question is to what extent these differences in wealth levels and patterns are induced by national tax and transfer policies. To shed light on this issue, an overlapping generations model with tenure choice is constructed. The model is calibrated to Germany and then the Australian tax and pension structures are implemented sequentially to distinguish the impact of higher capital taxation and means-tested and funded pensions.

Simulation results indicate that the Australian tax and pension design has a dramatic impact on asset levels and structures, explaining more than two thirds of the observed differentials in asset levels and homeownership rates.

This research project forms the platform for a new project on a more detailed investigation of the interactions between housing decisions of households and the Australian retirement system, a project being undertaken, and continuing into 2021, by George Kudrna, AI Chung Tran, and Alan Woodland.

Incidence of capital income taxation in a life cycle economy with firm heterogeneity

Chung Tran and co-author Sebastian Wende study capital income taxation incidence in a dynamic model with heterogeneous firms and households. Marginal excess burdens of corporate income, dividend, and capital gains taxes are different due to heterogeneous responses of firms and households, and heterogeneous general equilibrium effects. Taxing capital via corporate income tax on firms results in higher excess burden than taxing capital with dividend and capital gains taxes via households. Welfare benefits of the tax reforms are different across households and generations, depending on skill,



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SENIOR RESEARCH FELLOW

George Kudrna is a CEPAR Senior Research Fellow, located in the UNSW Business School. He completed his undergraduate studies in economics and insurance management in the Czech Republic and received a PhD in Economics from the University of Sydney in 2009.

His research encompasses the areas of public economics, macroeconomics and population ageing. He develops and applies rigorous macroeconomic models to investigate the economic impacts of demographic change and retirement income policy reforms – with the ultimate aim of informing and influencing major policy decisions in this area.

His research on pension and ageing related topics has been published in both national and international economics journals, including the *Economic Record*, the *Journal of Macroeconomics*, *Macroeconomic Dynamics* and *Economic Modelling*. He has also co-authored several government reports on pension and tax related issues, including commissioned reports for the Australian Treasury, for the US Social Security Administration and for the NSW Treasury. George is also a Fellow at the Global Labour Organization (GLO) and a Research Associate at the Centre for Applied Macroeconomic Analysis (CAMA).

age-cohort, and budget balancing tax instruments. Currently alive households, especially retirees, experience welfare gains under moderate corporate income tax cuts, but suffer losses under larger tax cuts.

Tax progressivity in Australia: Facts, measurements and estimates

Chung Tran and co-author Nabeeh Zakariyya study the progressivity of the Australian personal income tax system using HILDA and ATO's individual income tax records. They consider two tax progressivity metrics: tax liability progression and tax liability distribution. The former indicates a declining trend in tax progressivity; the latter shows a cycle of lesser and greater tax progressivity over time. A lack of automatic indexation and mismatches between the income tax code and the evolution of income distribution are the main determinants of the tax progressivity cycle. Active tax policy with frequent adjustments to income brackets, marginal rates and offset levels drive the progressivity level before 2010. Relatively inactive tax policy induces subsequent lower levels of tax progressivity.

Preferences and pension design with self-control preferences

PhD student Daniel Wheadon is currently working on a research project that investigates the role played by myopic households in determining the efficacy of Australia's means tested age pension and in determining what should be optimal means testing rules. He observes that, while standard economic theory assumes that agents will save optimally for their retirement to maximise their expected utility over the life cycle, this seems at odds with experience, and notes that a growing literature has attempted to model myopic preferences amongst households, leading to households excessively favouring short term rewards over long run welfare. Daniel is

investigating how populations with myopic preferences respond to different pension regimes and how that differs from the response of a population with standard preferences. His current research considers households with 'self-control' preferences, and whether these preferences affect whether a means-tested pension is still preferred to a universal pension. He has calibrated an overlapping generations model to the Australian economy and has undertaken preliminary simulations, showing that self-control preferences can have a significant effect upon optimal means-test rules.

The main purpose is to quantify the role of pension and retirement income policy in explaining large homeownership differences between Germany and Australia.



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ASSOCIATE INVESTIGATOR

Chung Tran is Associate Professor of Economics at the Australian National University and a CEPAR Associate Investigator.

His primary research interests lie in the areas of macroeconomics and public finance. Specific research topics include: evaluating trade-offs in designing social security and health insurance systems; analysing the dynamic effects of fiscal policy; and understanding the consequences of debt financing and fiscal austerity measures.

His work appears in leading academic journals including *Review of Economic Dynamics*, the *Journal of Economic Dynamics and Control*, the *European Economic Review* and the *Journal of Development Economics*.

RESEARCHERS

WARWICK MCKIBBIN
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Extending the G-cubed multi-country model

The goal of the main project, involving a team comprising CI Warwick McKibbin and Research Fellow Larry Liu, is to extend the G-Cubed multi-country model to explore different demographic scenarios for Asian economies with a focus on the macroeconomic adjustment globally, in the region and in Australia.

During 2020 the ANU team has successfully completed the global database and constructed the core model with countries including United States, Japan, Europe, Australia, Korea, Rest of Advanced Economies, China, India, Indonesia, Philippines, Vietnam, Thailand, Malaysia, Other Asia, Latin America, Africa, Middle East and North Africa, and the Rest of the World. We have also introduced annual cohorts into all countries and modelled several demographic scenarios.

During 2020 we successfully incorporated the demographics structures within this model to enable us to develop the core model further using the Blanchard/Yaari approximation to an overlapping generations (OLG) model. With the demographic model in place we were able to successfully generate a baseline projection of the model from 2015 to 2100, taking into account the annual changes in demographic features across countries and over time.

During 2021 we plan to continue to further explore this version of the model using different demographic scenarios and incorporating individual country age earnings profiles using the National Transfer Accounts. We also propose to implement 4 types of cohorts into the model: children, young workers, older workers, retirees. The approach to be followed builds on the Gertler (1999) approach.

Dr Larry Liu also has a number of new papers under way which are planned to be finalized in 2021. They include a survey of the macroeconomics of global demographic change and several papers on demographic change and international capital flows.

The impact of demographic change in Asia on macroeconomic and environmental outcomes

PhD student Tsendsuren (Tsegi) Batsuuri is focused on several research questions: (1) How does demographic change and population ageing affect carbon emissions when capital intensity and emissions intensity across sectors are different? (2) How does asymmetric demographic change across countries affect global and country emissions when countries are linked through trade and finance? (3) How does the interaction of different pension schemes with different demographic transition affect global emissions? (4) Can price based metrics be useful in comparing country efforts when there are spill-over impacts due to demographic change? This year Tsegi has progressed on coding and solving her model to explore the research questions. She has drafts of her first two papers. During 2021 the OLG model will be developed to further explore the research questions.



DR LARRY LIU
BS MA Shanghai Jiao Tong,
PhD ANU
RESEARCH FELLOW

Larry Liu is a CEPAR Research Fellow at the Crawford School of Public Policy at ANU. He is also a Research Fellow at the Centre for Applied Macroeconomic Analysis (CAMA) at ANU. He joined CEPAR in December 2017 after working as a Research Fellow at CAMA since 2015. He completed his PhD in Economics at ANU and received both his MA in Economics and BS in Computer Science from Shanghai Jiao Tong University in China.

His current research focuses on macroeconomic effects of demographic changes in life cycle models. More specifically, he examines demographic effects on consumption and savings, economic growth,

structure change and financial markets in closed-economy models, and also on international trade, capital flows and current account balances in open-economy models.

The link between demographic change, risk and the impact of monetary policy

PhD student Phitawat Poonpolkul is focused on the link between demographic change and the impact of monetary policy. His first paper on 'Risk-sensitive preferences and age-dependent risk aversion' has been published as a CAMA working paper in 2019. This paper investigates the macroeconomic implications of population ageing when households are assumed to be increasingly risk-averse in future utility when they age. His second paper (with Larry Liu), on 'Demographic Impacts on Life Cycle Portfolios and Financial Market Structures' has also been published as CAMA and CEPAR working papers in 2020. This paper develops a closed economy OLG model in order to explore the link between demographic change and asset allocation decisions.

Phitawat will submit his dissertation for examination in early 2021.

During 2021 we plan to continue to further explore this version of the model using different demographic scenarios and incorporating individual country age earnings profiles using the National Transfer Accounts.



PROFESSOR JONG-WHA LEE
BA MA Korea,
MA PhD Harvard
ASSOCIATE INVESTIGATOR

Jong-Wha Lee is a Professor of Economics at Korea University. He served as a senior adviser for international economic affairs to the former President of the Republic of Korea. He was also previously Chief Economist and Head of the Office of Regional Economic Integration at the Asian Development Bank and an economist at the International Monetary Fund. He has taught at Harvard University and Peking University.

He has published extensively on topics relating to human capital, growth, financial crises, and economic integration in leading academic journals.

His most recent books include *Crisis and Recovery: Learning from the Asian Experience* (World Scientific, 2016) and *Education Matters: Global Schooling Gains from the 19th to the 21st Century*, co-authored with R. J. Barro (Oxford University Press, 2015). He is a regular columnist for *Project Syndicate*. He obtained his PhD and Master's degree in Economics from Harvard University.

1.4 THE NATIONAL TRANSFER ACCOUNTS (NTA)

RESEARCHERS

PETER McDONALD
JEROMEY TEMPLE
JAMES MAHMUD RICE

The CEPAR NTA team has produced and analysed six NTA accounts for Australia dating from 1980 to 2010 in five-year intervals. Work will soon commence on the account for 2015-16. National Transfer Accounts, now estimated for over 90 countries, are designed to provide a unified view of population ageing and the economy in a way that is comparable across countries. The accounts measure age-specific labour income, asset income, consumption, transfers and saving, accounting for flows within households, between households, through the public sector and with the rest of the world. (United Nations Department of Economic and Social Affairs 2013: National Transfer Accounts manual: Measuring and analysing the generational economy.) The Australian NTA accounts for 2002-04 and 2009-10 also include generational wealth accounts that provide detailed information of levels of wealth and debt for individuals by age.

During 2020, the project has developed tools to make the NTA accounts more readily accessible through the CEPAR website.

The major work in this project during 2020 has been conducted through the PhD research of James Rice. This has included a paper that examines intergenerational inequality – in particular, intergenerational inequality in income. In order to provide greater definition to the concept of intergenerational inequality, the paper introduces a new measure of intergenerational inequality. Using this index, the paper examines empirical evidence on intergenerational inequality in income, as well as how the state works to alter intergenerational inequality through the redistributive effects of public transfers. The analyses presented suggest that there are substantial inequalities in the incomes received by different generations, with earlier generations generally receiving less income in real terms over their lifetimes than later generations. As the state has operated through time – receiving public transfers from some individuals and paying public transfers to others – it has worked to increase intergenerational inequality. This implies that the state has worked

to decrease the incomes of earlier generations relative to those of later generations. In this way, the state could be described as exhibiting a bias in favour of later generations.

The project has also prepared and compiled a special feature on National Transfer Accounts to be published by the *Journal of Population Research*.

The analyses presented suggest that there are substantial inequalities in the incomes received by different generations, with earlier generations generally receiving less income in real terms over their lifetimes than later generations.



A/PROFESSOR
JEROMEY TEMPLE

BA Population Studies
(Hons) BCom PhD
Demography ANU

ASSOCIATE PROFESSOR OF
ECONOMIC DEMOGRAPHY

A/Prof Jeromey Temple is Head of the Demography and Ageing Unit at the University of Melbourne and Associate Professor of Economic Demography with CEPAR.

Temple is the head of the Australian National Transfer Accounts (NTA) project and in 2018 was elected as the Asia Regional representative on the global NTA Executive Council led from the University of California at Berkeley and the East West Centre. Temple's current work on the National Transfer Accounts seeks to improve our understanding of how changes in population age structure are affecting economic growth, the wellbeing of

all age groups, and the sustainability of public and private systems that transfer resources between generations. Temple's further research focus includes quantitative studies of inequality and discrimination in the later life course.

FEATURED ASSOCIATE INVESTIGATORS

OTHER ASSOCIATE INVESTIGATORS INVOLVED IN STREAM 1 RESEARCH IN 2020 INCLUDED:



DR COLLIN PAYNE

BA Wisconsin, MA PhD Pennsylvania

Collin Payne is an ARC DECRA Fellow and Senior Lecturer in the School of Demography at The Australian National University. He joined CEPAR in 2019 where he collaborates with the Demographic Projection Models project team.

He completed his PhD in Demography at the University of Pennsylvania in 2015, and from 2015-2017 he was a postdoctoral fellow at the Center for Population and Development Studies at Harvard University.

Payne's research focuses on two areas: exploring the dynamic relationships between lifespan and healthspan among older adults, and developing and advancing demographic methodologies to estimate population health. Recently, his focus has centred on developing new methodological techniques for exploring cohort patterns of health and longevity. Much of his research focuses on population ageing in low- and middle-income countries, including Eastern and South-Eastern Asia. His research is published in various journals across demography, epidemiology, and public health, including *Demography*, *Population and Development Studies*, *PLoS Medicine*, *BMC Medicine*, and the *International Journal of Epidemiology*.



DR IWU DWISETYANI UTOMO

BA Psych University of Indonesia,
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Iwu Utomo is a Fellow at the School of Demography at the Australian National University (ANU).

She graduated from the ANU School of Demography in 1998 and returned to the School as a Postdoctoral Fellow in 2000. Her first appointment at ANU was with the National Centre for Epidemiology and Population Health (2002-2008) where she worked on issues relating to gender, sexuality and health.

Iwu has been successful in gaining ARC funding for a number of studies including Meeting the Needs of Older People in Indonesian Villages (with Peter McDonald and Robert Sparrow, 2016-2019). She is the chief investigator in the Greater Jakarta Transition to Adulthood Longitudinal Survey which has received funding from the ARC, WHO (2008-2011); the Ford Foundation (2008-2020); and the National University of Singapore (2010).

In 2008, Iwu received an AusAID Australian Development Research Award for a project on Integrating Gender and Reproductive Health Issues in the Indonesian National Curriculum.



PROFESSOR HANS FEHR

MA Econ PhD Econ Regensburg

Hans Fehr is Professor of Economics at the University of Wuerzburg in Germany. As a CEPAR AI he collaborates with researchers on Project 1.2.

He joined the Centre in January 2018 after visiting the CEPAR UNSW Sydney node during his sabbatical.

His main research interests are in the field of quantitative public economics. In the past he has analysed the economic consequences of population ageing and various tax policy and social security reforms by means of computable general equilibrium models with overlapping generations. His research is published in various journals including the *European Economic Review*, *Journal of Economic Dynamics & Control*, *Review of Economic Dynamics*, and the *Scandinavian Journal of Economics*. Hans is also a Research Fellow at the Network for Studies on Pensions, Aging and Retirement (Netspar) in Tilburg and the Center of Economic Studies (CESifo) in Munich.

RESEARCH STREAM 2

DECISION MAKING, EXPECTATIONS AND COGNITIVE AGEING

CO STREAM LEADER / [KAARIN ANSTEY](#)

This stream brings together for the first time the disparate areas of behavioural economics, neuroscience, and developmental and health psychology, to unify our understanding of life course choices and to transform policy perspectives.

By undertaking research which aims to fully capture the psychological and social factors that influence choice over the life course it seeks to enhance the wellbeing of people in old age. These include decisions about: (i) savings, retirement, home ownership, insurance, (ii) planning for the future in terms of active ageing and aged care, and (iii) choices about health behaviour and management of chronic conditions.

CO STREAM LEADER / [MICHAEL KEANE](#)

It will:

- develop a comprehensive model of ageing and decision making including identification of typologies of decision makers;
- develop multidisciplinary paradigms and predictive models of decision making and ageing;
- develop and evaluate interventions to increase positive expectations about ageing; and
- develop life cycle models that incorporate investments in health and housing as well as cognitive limitations in ageing.

The stream comprises four projects:

- 2.1 [INDIVIDUAL DIFFERENCES IN FINANCIAL AND HEALTH DECISION MAKING: IMPACTS ON PRODUCTIVE AGEING](#)
- 2.2 [IDENTIFYING INDIVIDUAL AND SOCIAL INFLUENCES ON DECISION MAKING AT OLDER AGES](#)
- 2.3 [EXPECTATIONS AND THE AGEING EXPERIENCE](#)
- 2.4 [RATIONAL CHOICE THEORY AND CONSUMERS](#)

2.1 INDIVIDUAL DIFFERENCES IN FINANCIAL AND HEALTH DECISION MAKING: IMPACTS ON PRODUCTIVE AGEING

RESEARCHERS

KAARIN ANSTEY
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RUTH PETERS
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MOYRA MORTBY
LIDAN ZHENG
RANMALEE ERAMUDUGOLLA
NICOLE EE
YUCHEN XIE
DANIEL KONTOROVICH

Older adult decision making typologies

Research Fellow Craig Sinclair and colleagues examined data from the Personality and Total Health (PATH) Through Life study, using cluster analysis and logistic regression techniques to identify different groups of older adult decision makers, based on performance on the 'Game of Dice' decision-making task. Age, gender, short-term memory and executive function abilities were found to be associated with group membership. This work is being developed further in collaboration with CI Michael Keane and Research Fellow Tim Neal, who will apply consumer-choice modelling algorithms developed in prior studies.

Decision making and driving safety

Motor vehicle crashes are the second largest cause of unintentional injury in older age. A broad range of cognitive factors have been found to contribute to impaired driving in older adulthood, however, decision making has been largely overlooked.

Research Fellow Brooke Brady and colleagues explored the contribution of decision making to older adults' on-road driving safety. Data from more than 300 older drivers revealed that poorer performance on cognitive decision-making tasks was associated with lower road safety scores above and beyond the contribution of other well-established cognitive and sensory predictors which opens a new avenue for research into the cognitive determinants of driving safety.

Financial difficulties & financial decision making

Associate investigator Kim Kiely, alongside CI Kaarin Anstey led research using longitudinal data from the PATH Through Life Study to investigate whether the within-person associations between a recent major financial crisis and deficits in cognitive performance vary across the life course. The findings showed that a recent financial crisis coincided with declines in cognitive performance, and these declines were largest for those in the oldest age group, compared to both middle-aged and younger birth cohorts. The results of this study provide important new evidence that financial difficulties in later life are potent stressors associated with occasion-specific deficits in cognitive performance.

Associate Investigator Ruth Peters, CEPAR PhD Student Nicole Ee and colleagues conducted a systematic review and meta-analysis of age-differences in financial, social, health and safety-related decision-making. The results provide evidence for poorer financial decision-making performance in older adulthood and highlight the need for more research exploring life course changes in social, health and safety decision making.

Health decision making & care planning

In 2020, UNSW Scientia PhD candidate Yuchen Xie commenced a project investigating the experiences of older people and their family members in navigating home-based aged care services within the Commonwealth 'consumer directed care' policy environment. Yuchen is supervised by Kaarin Anstey, and CEPAR Principal Research Fellow Myra Hamilton and collaborates with Craig Sinclair.

Craig Sinclair collaborated with Advance Care Planning Australia to analyse the prevalence of advance care planning documentation within a national multi-centre audit of health and aged care facilities. This work showed that nationality (country of birth) was associated with the prevalence and type of advance care planning, with implications for healthcare policy and practice.

Research participation with impaired decision making

Craig Sinclair also contributed to a scoping review of older persons' and their caregivers' perspectives and experiences of research participation with impaired decision-making capacity. The review concluded that research participation by older persons with dementia may be optimised through reducing risks and burdens and increasing benefits for participants, greater consumer input into study development, and shared and supported decision-making.

2.2 IDENTIFYING INDIVIDUAL AND SOCIAL INFLUENCES ON DECISION MAKING AT OLDER AGES

RESEARCHERS

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External collaborator

ROGER DIXON
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MALINEE NEELAMEGAM
(UNSW SYDNEY)

Sharing the decision making process

Research Fellows Brooke Brady and Craig Sinclair continued an inter-stream collaboration to develop a new measure of shared financial decision making, which aims to address a significant gap identified in the literature through incorporating individual, social and relational factors in research

on decision making. The novel measure, which will be pilot tested as an iOS application in 2021, will offer new insight into collaborative decision making at multiple stages of the decision making process, including the search for information to inform a decision, weighing decision options, and making a final choice.

In 2021, Sinclair and Brady will continue to collaborate on a CEPAR multidisciplinary project exploring the interplay of life transitions and shared financial decision making among older adults in Australia and the Netherlands. This project is led by Stream 4 Research Fellow, Inka Eberhardt.

Resilience in mid-life and ageing

The concept of resilience is increasingly being recognised as an important phenomenon in ageing, particularly as it is used to describe trajectories of ageing whereby individuals overcome challenges or do not decline despite having substantial internal or external risk factors or stressors. CEPAR CI Kaarin Anstey with Professor Roger Dixon from the University of Alberta published a chapter on resilience in mid-life and ageing for the forthcoming Handbook of the Psychology of Ageing. This work synthesised concepts and definitions of

resilience and related concepts, and discussed measurement approaches, research on resilience in mid-life, and domain-specific resilience in ageing. This work will inform aspects of future research in Stream 2.

Ageing, emotion regulation and empathy

Social cognition is a domain of cognition thought to underlie the ability to recognise and respond to another person's emotional state and is arguably important for late-life decision making. Ageing is associated with reduced skills in social cognition but there has been very limited research on the association between social cognition and social functioning. Anstey's team led by Ranmalee Eramudugolla conducted research on the association between impaired social cognition in late life and measures of loneliness, social network size and positive and negative interactions with family and friends. The findings suggested that at mild levels of impairment in social cognition, there was no association with social function. In other words, social skills are resilient to slight cognitive decline in this domain. However, impaired social cognition in dementia was associated with greater loneliness and negative social interactions.



DR CRAIG SINCLAIR
BA BSc (Hons),
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RESEARCH FELLOW

Craig Sinclair is a CEPAR Research Fellow based at the University of New South Wales node.

His research training is in psychology, and he works with Professor Kaarin Anstey on a range of projects relevant to decision making, cognitive ageing and expectations of ageing. Within the current policy environment, older adults are expected to actively engage in a range of high-stakes decisions relating to their finances, lifestyle, accommodation and healthcare. These decisions occur in the context of shifting personal and family priorities and responsibilities, and limited time to recover from decisions that turn out poorly. His recent research has focused on advance care

planning and supported decision making, particularly in the context of cognitive ageing and dementia. This work aims to better understand the decision-support needs of older people (including those with dementia) to inform the design of decision-support interventions. He is also engaged in work to develop better assessments of shared decision making.

Brady led research exploring age-related differences in the success of cognitive emotion regulation strategies, including positive reappraisal and mindful attention. Electrodermal activity provided strong evidence that young adults successfully down-regulate fear using mindful attention and positive reappraisal relative to a just watch condition. Older adults' electrodermal activity was constant across conditions, and lower than young adults' in the just watch condition, suggesting general hyporeactivity to fear. Subjective data suggest that young, but not older, adults successfully down-regulate amusement using mindful attention. These findings provide some evidence for emotion regulation benefits in young relative to older age. However, these youthful benefits may reflect reduced initial reactivity to fear and amusement among older adults.

Gender and cognitive ageing

Gender is emerging as a key factor that may explain differences in ageing trajectories, with important implications for health care, decision making and policy. Anstey with CEPAR AIs Ruth Peters, Moyra Mortby, Kim Kiely and Nicolas Cherbuin investigated gender differences in cognitive development across all three age cohorts of the PATH study. Within each cohort, women had better verbal memory and men had better working memory and faster reaction time. In late life, gender differences were apparent for verbal memory with women showing steeper decline, despite retaining higher average performance than men. Individual differences in cognitive trajectories are likely influenced by differences in lifestyle predictors of brain ageing. Anstey led an international team to further explore factors that may explain gender differences in memory ageing. Socio-demographic, lifestyle and medical factors were evaluated. Many factors were associated with

memory performance such as financial hardship, social engagement, physical activity and depressive symptoms. Overall women had fewer modifiable risk factors than men, and stroke and hypertension explained the gender differences in memory decline for men and women respectively.

Childhood adversity, cognitive ageing and mental health

CEPAR PhD candidate at UNSW, James Lian, is examining the impact of childhood adversity on cognitive ageing and mental health in old age using the PATH Through Life dataset. Baseline data from 7500 participants on child adversity including early life deprivation, emotional neglect and abuse will be examined using factor analytic approaches to investigate adversity as predictors of lifestyle, and later life cognition and mental health.

Medication impacts on cognitive ageing

Endeavour Leadership scholar and PhD student Malinee Neelamegam worked with Anstey to examine the association between the chronic use of anticholinergic medications and changes in the cognitive function in a population-based sample of older Australian adults. Cumulative use of anticholinergics was significantly associated with poorer processing speed. Memory and verbal abilities were not affected by cumulative anticholinergic use over a 4-year period.

Looking ahead in 2021

The PATH Through Life study is an ongoing longitudinal cohort study of adults across the lifespan and followed-up for over two decades. CEPAR funded data collection for two of the cohorts now include a new array of measures examining financial, health and lifestyle decisions, captured at two critical points in life as the midlife cohort approaches retirement, and the older cohort approaches end of life. Data collection for the midlife cohort was finalised in 2020 and is due to complete in 2021 for the older cohort. This data will be a unique resource for future work on cognitive ageing, as well as demographic, socioeconomic, mental health, and lifestyle predictors of healthy ageing and decision making with important policy and practice implications.

RESEARCHERS

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External Collaborator

SERENA SABATINI
(UNIVERSITY OF EXETER)

Awareness of age-related change

Under the supervision of CEPAR Associate Investigator Linda Claire from Exeter University and in collaboration with CI Kaarin Anstey, PhD student Serena Sabatini conducted a systematic review and meta-analysis to synthesise and quantify the associations of awareness of age-related change (AARC) with emotional wellbeing, physical wellbeing, and cognitive functioning. The findings provided an indication that AARC gains and losses can play a

role in emotional wellbeing and that AARC losses are associated with physical wellbeing.

SuperAgers

Despite expectations of deterioration in memory function with age, some older adults demonstrate superior memory performance and have been defined as SuperAgers. In 2020, CERAR PhD Student Janet Maccora led research demonstrating that the prevalence of SuperAgers was higher among women than men using data from the PATH Through Life Study. Factors associated with SuperAger performance were found to vary between sexes.

Intergeneration contact and engagement

Intergenerational engagement, i.e. structured or semi-structured interactions between non-familial older adults and younger generations is emerging as a tool to reduce social isolation in older adults and to benefit children and adults alike. This has great potential for our communities, however, the strength and breadth of the evidence for this is unclear. During 2020, Associate Investigator Ruth Peters led an international team in conducting a systematic review to summarise the existing evidence for intergenerational interventions designed to

reduce social isolation among community-dwelling non-familial older adults and children. The review concluded that there is neither strong evidence for nor against community-based intergenerational interventions, highlighting an urgent need for evidence-based research.

CEPAR Psychology Honours student Daniel Kontorovich at UNSW undertook a study aimed at better understanding the effects of intergenerational contact in reducing the impact of age stereotypes on cognitive performance among older adults. Due to COVID-19 restrictions, this experiment was conducted online, and the expected age stereotype effects were not observed.

Life expectancies

Associate Investigator (AI) Kim Kiely in collaboration with AI Carol Jagger, from Newcastle UK, and Kaarin Anstey led research examining longitudinal trends in total and disability-free life expectancies among older Australians. This specifically investigated social determinants such as rural-urban disparities. Using data from two cohorts of the HILDA study, the work revealed gender differences in the



DR KIM KIELY
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ASSOCIATE INVESTIGATOR

Kim Kiely is a Senior Research Fellow within the UNSW School of Psychology with a conjoint appointment at NeuRA. He currently holds an NHMRC Early Career Fellowship entitled 'Estimating and Alleviating the Impacts of Age-Related Sensory Decline'. He is the Lead Investigator on an ARC funded 'Healthy and Working Life Expectancies in an Ageing Australia' study, and the Dementia Australia funded 'Auditory Ageing and Cognitive Impairment Study (AUDACIOUS)'.

Kim's research is orientated by a contextualised perspective to human development and spans the fields of life course epidemiology, social psychiatry, and geropsychology. His interests encompass

aspects of healthy and productive ageing, focusing on the social, functional and cognitive impacts of sensory ageing. Current work includes analyses of the determinants and outcomes of successful sensory aid use, and identifying mechanisms underlying sensory-related cognitive decline. He is also developing a research program investigating social determinants and inequalities in health and working life expectancies.

Kim is involved in projects 2.1, 2.2 and 2.3 of the CEPAR research program.

impact of area-level disadvantage on gains in total and disability-free life expectancy, where the gains in life expectancy for women tended to be years with disability. By looking at markers of socioeconomic position such as education, occupation and area disadvantage, the work also found that higher levels of any of these markers were associated with gains in disability-free life expectancy for men, but for women, area-level advantage was the most predictive of gains in years lived without disability.

Al Lidan Zheng used data from the US Health and Retirement Study to demonstrate the impact of cardio-vascular conditions on total life expectancy and ‘cognitively healthy life expectancy’ among adults aged over 50. She found a hierarchical effect across individuals with stroke, diabetes, heart problems and hypertension, where individuals with stroke showed the shortest life expectancy and cognitive impairment free life expectancy. She also investigated the impact of having multiple cardiovascular conditions on life expectancy and cognitive impairment free life expectancy and found a compounding effect.

Looking ahead to 2021

New research will involve the analysis of new survey data from the PATH Through Life study and other surveys on expectations about ageing. These studies also include assessments of the impact of COVID-related restrictions and experiences. Research will evaluate how expectations of ageing impact a range of health and social outcomes for middle aged and older adults. An intervention to assess implicit ageism will be developed.

In early 2021, PhD student Shally Zhou joined the CEPAR 2.3 project team to conduct research that will explore the interrelationship between subjective ageing and lifestyle environments and their impacts on healthy ageing. This project will also use smart technology to assist with data collection and develop novel methods of measuring variables.

In 2021, PhD student Jessica Amos will join the CEPAR 2.3 and 2.2 project teams to conduct research that will explore mechanisms that could promote or hinder behaviour change in the context of cognitive ageing and dementia risk reduction interventions. The project will focus on the influence of motivational processes and self-perceptions for knowledge acquisition, goal setting and the effectiveness of a novel risk reduction intervention.

Previous work by the Anstey group has found that negative self-perceptions of ageing are associated with poorer physical and mental health among older Australians.



BROOKE BRADY
BPsych (Hons)
Western Syd.
RESEARCH FELLOW

Brooke Brady is a CEPAR Research Fellow based at the University of New South Wales node.

Brooke’s doctoral research encompasses the areas of emotion regulation, mindfulness and ageing. Brooke is also interested in the interplay between other forms of cognition - including decision making and expectations about the ageing experience, socioemotional changes in ageing, and health-related outcomes. Brooke is leading the development of a new assessment of shared financial decision making in collaboration with Stream 2 and Stream 4 investigators.

Brooke’s research on ageing-related topics has been published in *Mindfulness*, the *British Journal of Clinical Psychology*, the *International Journal of Psychogeriatrics*, *Journals of Gerontology: Psychological Science*, *Maturitas*, and *PeerJ*.

Brooke has also co-authored government reports on social connectedness and individual and community resilience commissioned by the ACT Chief Minister, Treasury and Economic Development Directorate.

RESEARCHERS

MICHAEL KEANE
HANMING FANG
TIMOTHY NEAL
PEYMAN FIROUZI NAEIM
MIGUEL OLIVO-VILLABRILLE
ELENA CAPATINA
FEDOR ISKHAKOV

The aim of this project is to develop and extend the methodologies that economists use to model the choices of older individuals. Rational Choice Theory is the prevailing framework used for formally modelling economic decisions, and it relies on a number of assumptions relating to the rationality of individual decision making. But there is good reason to believe that these assumptions are not appropriate for modelling the choice environments of older Australians, as they regularly need to make highly complex financial decisions using limited cognitive resources.

Accordingly, this project develops new choice models that incorporate cognitive limitations in decision making, as well as other deviations from rational choice behaviour. These models will be applied to help better understand observed behaviour in areas such as investments in health and financial decision making. They will allow for heterogeneity in consumer preferences and choices, and lead to new methods that can isolate heterogeneity that arises from differences in preferences to those arising from confusion or irrationality. The application of this methodology will enable more realistic policy experiments that yield better insight into the role of government policy and how it influences individual wellbeing. Indeed, when we better understand the processes by which older individuals make complex choices, it facilitates more accurate predictions of how government intervention in a complex market will affect consumer welfare.

Three research papers were published or completed in 2020. The first paper analysed the causes of high health costs in the US relative to the UK, and found that high medical education costs and malpractice risk play important roles in increasing US costs. The second study incorporated complex health shocks into a life cycle labour supply model, and found evidence that provision of universal health insurance coverage actually increases labour supply by removing the perverse incentive to constrain earnings so as to maintain eligibility for welfare benefits. The third study developed a model of panic buying generated by the COVID-19 pandemic, a phenomenon that had a particularly severe impact on elderly consumers. Among other results, it found that Australians were the world's worst panic buyers.



DR TIMOTHY NEAL
BA BEc (Hons) Macq.,
PhD UNSW
RESEARCH FELLOW

Timothy Neal is a CEPAR Research Fellow located in the UNSW Business School. He joined CEPAR in July 2016 after completing a PhD in Economics at the UNSW Business School. His primary research interests include panel data econometrics, machine learning and climate change economics. Thus far he has published in *Quantitative Economics*, the *Journal of Econometrics*, the *Econometrics Journal* and other journals in these areas.

Alongside academic research, Tim has worked as an economic consultant at Ernst & Young where he supported the development of economic reports and business cases commissioned by government for a variety of transport infrastructure projects. Notable projects included the business case for the North West Rail Link and a study into Sydney's future aviation capacity.

The first paper was published in the *European Economic Review*, while the second was submitted to a leading journal and has been presented at several seminars. The third study was published in the *Journal of Econometrics* and received considerable media attention in Australia. In addition, several ongoing studies attached to this project were progressed this year. Of particular note is a project that examines the optimal tax structure in life cycle models that include human capital, which can provide insight into the impact that taxes have by age and the consequences of an ageing population on the tax system.

...when we better understand the processes by which older individuals make complex choices, it facilitates more accurate predictions of how government intervention in a complex market will affect consumer welfare.



DR PEYMAN FIROUZI-NAEIM
MA Mathematics East
Carolina University, PhD
Georgia State University
RESEARCH FELLOW

Peyman Firouzi-Naeim is a Research Fellow at CEPAR, located in the UNSW Business School. He is a labour and health economist and his research interests lie at the intersection of two important policy issues: health and retirement. He employs and develops the computational techniques in both structural estimation and reduced-form methods of causal inference to address big-data and high-dimensional problems. This approach allows for a more comprehensive investigation of policy-relevant questions.

His current research includes the effect of raising Medicare eligibility age on the health of people near retirement in the US; consistent incorporation of individual-level characteristics into models with health outcomes measured at an aggregate level; the effect of sleep on health of elderly people; and numerical optimal tax calculation with age-dependent taxation.

FEATURED ASSOCIATE INVESTIGATORS

OTHER ASSOCIATE INVESTIGATORS INVOLVED IN STREAM 2 RESEARCH IN 2020 INCLUDED:



DR LIDAN ZHENG

BCom BPsych (Hons) ANU, PhD UNSW

Lidan Zheng is a Postdoctoral Research Fellow at UNSW Psychology, and has previously worked within the NHMRC Centre of Research Excellence in Cognitive Health and the Dementia Centre for Research Collaboration (DCRC). She collaborates with Kaarin Anstey and her team on projects 2.1-2.3.

Her research interests are in population ageing and cognition across the lifespan, and she has expertise in dementia, big data analysis, health expectancy, neuroimaging, technology use and knowledge translation. Her previous projects have investigated technology use in older adults on the autism spectrum; cognitive health expectancies across different cardiovascular conditions; dementia risk reduction in primary practice; and cost-effectiveness of dementia prevention interventions. Her current project examines predictors of cognitive resilience across the lifespan.

She has published in a number of ageing, dementia and autism journals and worked on a number of projects related to dementia with the World Health Organisation.



DR SOPHIE C. ANDREWS

DPsych (Clin Neuro) Monash University

Sophie Andrews is a clinical neuropsychologist and Research Fellow at Neuroscience Research Australia and a conjoint lecturer at UNSW Psychology, employed within the NHMRC Centre for Research Excellence in Cognitive Health.

As a CEPAR Associate Investigator, she collaborates with the teams working on projects 2.1 and 2.2, and has an interest in cognition, psychology and cognitive neuroscience of ageing. Her current research investigates goal-directed and habitual decision making during ageing process, and how this knowledge can be used to support ageing well. Sophie has received recent funding from the Dementia Centre for Research Collaboration, Dementia Australia Research Foundation, and the UNSW Ageing Futures Institute, and in 2021 she will commence an ARC DECRA, on the topic of developing a neuropsychological model of habit formation and change in ageing. Sophie has 24 peer-reviewed publications, and an h-index of 10, and has published in top journals in the field including *Psychological Medicine*, *Cerebral Cortex*, *Neuropsychology*, *Cortex* and the *Journal of Neurology*.



PROFESSOR FEDOR ISKHAKOV

BMath CandSc St Petersburg State University, MSc PhD University of Oslo

Fedor Iskhakov is Professor of Economics and an ARC Future Fellow in the Research School of Economics at the Australian National University (ANU). Before joining ANU, he was a senior research fellow at CEPAR.

Fedor is an applied micro-econometrician working to inform public policy in the areas of social security, taxation and industry regulations. In his projects, he uses economic theory together with administrative and survey data to build numerical models of individual and strategic decision making over time. Once estimated to represent the observable data, these models are used to quantify the effects of governmental interventions by performing counterfactual simulations of such interventions.

To push the boundary of how accurately theoretical models can reflect complex economic environments, Fedor also develops new mathematical and computational methods used in the analysis of dynamic strategic interaction and market equilibria.

He collaborates with Michael Keane and his team on project 2.4.

RESEARCH STREAM 3

ORGANISATIONS AND THE MATURE WORKFORCE

STREAM LEADER / SHARON PARKER

This stream is undertaking research to identify work designs and other organisational practices to attract and retain mature workers in organisations, thus enhancing their performance and improving growth and productivity. It is at the vanguard of new research focused on the impact of various work designs on worker wellbeing at older ages, especially cognitive capital. It investigates barriers to mature workforce participation, especially age discrimination and the accommodation of caring responsibilities, to inform workplace policy and practice.

The stream comprises four projects:

- 3.1 MATURE WORKERS IN ORGANISATIONS SURVEY
- 3.2 PROMOTING SUCCESSFUL AGEING IN THE WORKPLACE
- 3.3 PROMOTING SUCCESSFUL TEAMS AND ORGANISATIONS
- 3.4 PROMOTING EFFECTIVE CARE OUTSIDE OF WORK

3.1 MATURE WORKERS IN ORGANISATIONS SURVEY (M-WOS)

RESEARCHERS

SHARON PARKER
MARIAN BAIRD
DANIELA ANDREI
ANDREEA CONSTANTIN
GRETCHEN (GIGI) PETERY
ALISON WILLIAMS
LUCINDA ILES
NATE ZETTNA
EVA ZELLMAN
LEAH ZOSZAK
GWEN FISHER
FABIOLA GERPOTT
BARBARA GRIFFIN
MO WANG

The goal of this stream is to conduct several longitudinal and multi-level organisational studies to investigate how to attract and retain mature workers in the workplace. To better understand how organisations can improve mature worker attraction and retention, the project team has developed the Mature Workers in Australia Survey (M-WOS) and Policy Audit instrument, as well as a range of other supporting tools and resources (such as an M-WOS survey platform, website, brochures and social media).

The survey and policy audit instrument underpin the research across almost all the projects in Stream 3.

A key component of this stream has been to secure the participation of organisations in longitudinal and intervention studies. This year, many of the industry partnerships that were established in 2019 were developed and progressed. The stream currently has 12 collaborating organisations actively participating in the project, with an additional two in scoping discussions. The Policy Audit has been completed in seven collaborating organisations, and is currently in progress in an additional three organisations. This year we have conducted interviews with mature workers in five of our collaborating organisations and our MWOS survey was distributed in another two of our partner organisations. The data we collect from our partner organisations has led to the development of feedback and recommendations to the participating organisations. One of the collaborating organisations is actively planning their intervention based on the evidence provided by the research team.

Although the COVID-19 pandemic had an impact on the progress of some of our industry collaborations, we saw an opportunity to investigate the impact of the pandemic on mature workers and organisations, which led to the development of a new COVID-19 related sub-project. We were interested in understanding industry responses to the pandemic, and considerations that were made for older workers. We developed an interview protocol and recruited and interviewed human resource managers from organisations in a range of industries to discuss their response to the pandemic and the ways in which they were addressing the needs of mature workers in this response. Interviews were conducted at two timepoints and analysis is underway.

Although the COVID-19 pandemic had an impact on the progress of some of our industry collaborations, we saw an opportunity to investigate the impact of the pandemic on mature workers and organisations, which led to the development of a new COVID-19 related sub-project.



DR ANDREEA CONSTANTIN
MSc Bucharest, MSc KU
Leuven, Dr. rer. pol. Köln
RESEARCH FELLOW

Dr Andreea Constantin is a postdoctoral research fellow based at the University of Sydney node of CEPAR.

She received her PhD degree in Economics and Social Sciences from the University of Cologne, Germany. She has two master's degrees in Social Policy Analysis and Statistics and Advanced Sociological Research from the Catholic University Leuven and the University of Bucharest respectively.

Her main research interests are work-life balance policies, mature workers, outside-work care, and gender roles within and outside organisations.

She has contributed to analysing links between social policies and individual behaviour and attitudes, and to testing and developing cross-cultural comparative survey measures. Andreea's research interests also include big data, survey methodology and cross-cultural studies.

3.2 PROMOTING SUCCESSFUL AGEING IN THE WORKPLACE

RESEARCHERS

SHARON PARKER
KAARIN ANSTEY
DANIELA ANDREI
GRETCHEN (GIGI) PETERY
ALISON WILLIAMS
LUCINDA ILES
EVA ZELLMAN
LEAH ZOSZAK
ROSS ANDEL
JOANNA EARL
GWEN FISHER
ANDREAS HIRSCHI
DORIEN KOOIJ
CHIA-HUEI WU
HANNES ZACHER
PATRICK DUNLOP

Some individuals age more positively than others. For example, some people are able to maintain or improve their physical wellbeing over time, experience a lower probability of disease, and maintain physical and cognitive functioning until older ages. In this project, we focus on how work factors (as well as demographic, family, and personality variables) affect such 'successful ageing'.

In 2020 we continued our investigations on the work factors that contribute to successful ageing. Research Fellow Gretchen Petery, PhD student Lucinda Iles and CI Sharon Parker published an article titled 'Putting successful ageing into context', which describes the role of the organisation in preventing or facilitating successful ageing. We are also currently working on a systematic review of work design research, which aims to identify a comprehensive set of work factors that contribute to successful ageing.

Attitudes towards older workers can be influential in workers' abilities to fully participate in the workplace. We have been investigating the way stereotypes can influence perceptions of older workers in organisations, which has resulted in two academic publications. Dr Petery published a manuscript with her co-authors Dr Serena Wee, CEPAR Associate Investigator Dr Patrick Dunlop, and CI Professor Sharon Parker published an article that examined the extent to which age stereotypes influence expected performance quality. Additionally, Dr Petery led a paper examining the mechanisms that link age-related stereotypes to various forms of exclusion of mature workers in the workplace.

Expanding our view from influential work factors, Senior Research Fellow Daniela Andrei is interested in how older workers' perceptions of their future influences their approach to work and career management. She is currently working on an investigation into how employees represent their ideal future old selves and how these representations drive proactive career behaviour as well as retirement behaviours and attitudes. Dr Andrei presented her findings at CEPAR's virtual cross nodal series in November and at the Centre for Transformative Work Design in 2020.

The team has also published several non-academic articles, including an article co-authored by Professor Sharon Parker in *The Conversation* titled 'More neurotic, less agreeable, less conscientious: How job insecurity shapes your personality'. Further, our investigations into COVID-19 has enabled us to publish several reports on our stream website with insights into mature workers' individual experiences of work and COVID-19.

Unfortunately, the pandemic meant that our international conference and presentation opportunities were limited. Despite this, CI Professor Sharon Parker gave several virtual presentations and webinars, many of which focused on the value of work design for worker health and wellbeing. Audiences for these presentations were both domestic (e.g. the Australasian Research Management Society, John Curtin Institute of Public Policy Curtin Corner, Telethon Kids Institute, Industrial Relations Reform Working Groups, and the Australian Human Resources Institute) and international (e.g. Academy of Management).

Unfortunately, our stream's ageing conference, planned to be held in Perth in 2020 was cancelled due to the pandemic. We are working towards a virtual format, which will take place in early 2021.

This year we have continued our investigations on the work factors that contribute to successful ageing.

RESEARCHERS

SHARON PARKER
MARIAN BAIRD
DANIELA ANDREI
ANDREEA CONSTANTIN
MYRA HAMILTON
GRETCHEN (GIGI) PETERY
BEI LU
ALISON WILLIAMS
LUCINDA ILES
LISA FINKELSTEIN
MARYLÈNE GAGNÉ
ANDREAS MULLER
CORT RUDOLPH
DONALD TRUXILLO

This project is concerned with how an inclusive, individualised, and integrative approach to mature workers can promote not only successful ageing for individuals, but also productive and high performing teams and organisations.

A key achievement with respect to this project in 2020 has been the timely adaptation of the M-WOS to examine experiences of mature people during the COVID-19 pandemic. Data was collected from a large-scale Australian sample of people aged 45 and over in May-June 2020 (N=1928).

This sample included mostly mature employees, but smaller samples of unemployed workers and people who had recently retired were also included for comparative purposes. More than 900 of these people participated also in a follow up survey conducted in November 2020.

We successfully released partial results of this research in a series of brief communications on the stream website. Preliminary findings from this research indicate that, as expected, 20% more mature workers were working from home compared to pre-pandemic and almost half of them indicated a strong preference for continuing to work more from home in the future. The highest levels of redeployment of mature workers were reported in *Education & Training*, followed closely by *Retail and Health Care Services*. While unemployed workers felt they presented the highest risk of contracting COVID-19, employed mature workers perceived lower risks to their health. Actually, 84% of employed mature workers believed that the pandemic had increased the value of their workplace contributions. Participants who reported this also reported lower levels of burnout and higher levels of wellbeing. Also, participants whose workplaces managed to preserve the relational aspects of work reported higher levels of work engagement and health.

Another key achievement for this project has been the start of data collection with our organisational partners. Emerging results from one of our participating organisations has indicated the importance of leadership in buffering the positive relationship between increased age diversity in work teams and perceived age bias. The role of leadership is now being analysed in more depth across all our data collection efforts and a collaboration was initiated with the research team led by Dr Jurgen Wegge at the Technical University of Dresden Germany to explore opportunities to translate, adapt and validate their established interventions on age differentiated leadership and age differentiated work systems. Additional funding was also obtained through the *CEPAR Multidisciplinary Collaboration Funding Scheme* for Research Fellows Lu Bei (Stream 1) and Gigi Petery (Stream 3) to conduct joint research with our collaborating organisation in China.

Last but not least, the framework developed by the research team: *Include, Individualise, Integrate* has been positively received by both collaborating organisations and academics. Senior Research Fellow Daniela Andrei and CI Sharon Parker were invited to expand on the



DR GRETCHEN (GIGI) PETERY
BSc Psychology
Washington State,
MA PhD Industrial-
Organizational
Psychology UConn
RESEARCH FELLOW

Gigi Petery joined CEPAR as a Research Fellow in June 2018 and worked within the Future of Work Institute at Curtin University, Perth until December 2020. She continues to collaborate with CEPAR as an Associate Investigator in her role at the National Center for Productive Aging and Work at the National Institute for Occupational Safety and Health (NIOSH) in the US.

Gigi completed her education in the United States, including her undergraduate studies in Psychology at Washington State University, and a master's (2015) and PhD (2018) in Industrial-Organizational Psychology at the University of Connecticut. She also holds university certificates in Human Resource

Management and Occupational Health Psychology.

Gigi specialises in issues central to an ageing workforce. Her research focuses on workplace age bias and discrimination, successful ageing at work, alternative measures of age, and worker health and wellbeing and has been published in international journals. She has presented her research internationally, including at conferences for the Society of Industrial and Organizational Psychology; European Association of Work and Organisational Psychology; European Association of Occupational Health Psychology; Gerontological Society of America; and Society for Occupational Health Psychology.

model in a forthcoming chapter for *Age and Work, Advances in Theory, Methods and practice, SIOP Organizational Frontiers Series*.

Despite travel restrictions, research staff and associate investigators continued to have a strong presence in the academic and wider community through online presentations, interviews, webinars, podcasts and other engagement activities. Many researchers associated with our stream were active in addressing the implications of COVID-19 for the mature workforce. CI Sharon Parker had 21 invited keynotes and presentations with almost half of these focusing specifically on COVID-19 related implications. She has also coordinated the development of a series of tools aimed at supporting workers throughout the changes associated with COVID-19. Professor Truxillo also published on the implications of COVID-19 for work ability and organisational research more broadly.

In terms of traditional academic presence, Dr Petery co-chaired a session at the *35th Annual Conference for the Society for Industrial-Organizational Psychology* focusing on the challenges for the structure and nature of future work. CI Sharon Parker presented at the *80th Annual Meeting of the Academy of Management* research focusing on the factors influencing good quality work design. At the same event, Associate Investigator Dr Fabiola Gerpott gave a presentation focusing on understanding the dual pathway model of the effects of two age diversity training programs and published three journal manuscripts on the topic of ageing workforce.

Emerging results from one of our participating organisations has indicated the importance of leadership in buffering the positive relationship between increased age diversity in work teams and perceived age bias.



DR DANIELA ANDREI
MSc Human Resources,
Psychology and
Marketing, PhD
Psychology UBB Romania
SENIOR RESEARCH FELLOW

Daniela Andrei is a CEPAR Senior Research Fellow, located in the Centre for Transformative Work Design at Curtin University. She joined CEPAR in March 2018 after working for five years as a Postdoctoral Fellow for the UWA School of Psychology and UWA Business School. She completed her undergraduate and postgraduate studies in Psychology at the Babes-Bolyai University (UBB) in Romania, where she also worked as an Assistant Professor before receiving a G08 European Scholarship and moving to Australia. Daniela's research interests revolve around work design, with a focus on the multilevel antecedents of work design as well as on work design consequences for performance, wellbeing

and safety. Within CEPAR, Daniela focuses on understanding how work design can support successful ageing of the mature workforce and the effects of work design related interventions. Daniela's research has been published in journals such as *Journal of Applied Psychology*, *Journal of Vocational Behavior*, and *Safety Science*. She has co-authored several research reports for industry and government, including the Australian Maritime Safety Authority (AMSA) and the International Mining for Development Centre (IM4DC). Daniela serves as CEPAR stream coordinator for Stream 3.

RESEARCHERS

MARIAN BAIRD
SHARON PARKER
MYRA HAMILTON
ANDREEA CONSTANTIN
DANIELA ANDREI
GRETCHEN (GIGI) PETERY
LUCINDA ILES
LEAH ZOSZAK
NATE ZETTNA
ALISON WILLIAMS
LISA GULESSERIAN
DANIEL DINALE
KATE O'LOUGHLIN
VANESSA LOH
JEROMEY TEMPLE

The focus of this project is the intersection between mature workers, their care needs outside of work and acknowledgement of, and support for, these care needs by the organisations for which they work.

Mature workers are more likely to be primary carers for persons with disabilities and elders (ABS, 2015), and they are frequently also caring for children, grandchildren and partners. These care needs affect mature workers' ability to

remain in the labour market, with participation rates 20% below the general population (ABS, 2015). A research paper, using data from the MWOS survey, on the effects of care on work withdrawal has been prepared and will be submitted in 2021. New CEPAR research from Principal Research Fellow Myra Hamilton and her co-authors also showed that older single women without children are the most likely to provide care for ageing relatives and relatives with a disability, interrupting their careers and hindering their financial security as they approach retirement.

The research will look more closely at how decisions about work and retirement saving are made in the context of family circumstances and relationships in a new sub-project entitled Family histories, work trajectories and retirement incomes among mature aged Australian women and men. The new sub-project, a collaboration with CEPAR's Stream 4, will collect biographical narrative interviews from older women and men. The project has received ethics approval and the interview format has been piloted. The data collection will commence in 2021.

Extending this research, in 2021, the research team will use the new data collected in the MWOS

COVID-19 survey to examine how experiences of care among mature workers has changed during the pandemic. The team will also commence a new ARC Discovery project led by Associate Professor Myra Hamilton entitled 'Grandparent childcare: negotiating work and care across generations', which will examine the gendered ways that childcare is examined in families and its impacts on grandparents' labour market participation.

In addition to examining the role of care in shaping work withdrawal, an academic manuscript using data from the MWOS survey and led by Associate Investigator Vanessa Loh is in preparation examining 'Why mature workers stay in work?'

For mature workers to successfully combine work and care, employer policies that allow for flexible work and leave for caring is vital. The team is currently investigating new and emerging types of leave, with a research paper in preparation. We continued our analysis of supportive employer policies for mature workers with participating organisations; to date the policies at seven case study organisations have been analysed, with a report, including recommendations, provided to each organisation. A strong theme emerging from the analysis of policies is that organisations



ASSOCIATE PROFESSOR
MYRA HAMILTON
BA(Hons) PhD Syd
PRINCIPAL RESEARCH
FELLOW

Associate Professor Myra Hamilton is a CEPAR Principal Research Fellow at the University of Sydney and is based in the School of Work and Organisational Studies.

She is a sociologist and social policy researcher whose research focus is on gender, ageing and care. Myra's research explores how policies and services can build wellbeing and financial security in work and in care over the life course. Her projects have covered areas such as: the employment experiences and policy needs of parents, grandparents, unpaid carers and young people in care; work/care reconciliation at different times in the life course;

gender inequalities in later life; and the aged care workforce. Her current work focuses on mature workers and their experiences of balancing work and care in later life.

She combines traditional academic research with applied policy research for government and non-government organisations, including evaluations of policies and programs. Myra sits on the board of COTA NSW.

primarily take a risk-management approach to their mature workers, rather than focusing on their positive attributes and how they can be enhanced at work. A further emerging theme is that policies that assist mature workers are rarely directed at them, but are usually aimed more broadly at worker flexibility and general wellbeing. As part of this strand of research, a paper on 'Policy formation for mature workers in Australian local government organisations' is currently in development.

The COVID-19 pandemic demonstrated that flexible work, in particular working from home, is possible for a large number of organisations. The team conducted interviews with senior managers of 29 Australian organisations and explored how they implemented flexible work policies during the pandemic as well as their plans for future flexible working. Analysis of these interviews is underway, as part of a larger research project examining employer responses to the pandemic, with a report due to be released in early 2021.

A new project with Carers NSW commenced in 2020. This began with a collaborative briefing note for employers (written by Myra Hamilton and Marian Baird in collaboration with Carers NSW) on what employers have learned from COVID-19 about ways of supporting working carers. This has been circulated widely through Carers NSW's Carers and Employers Network. Now, the CEPAR team and Carers NSW have commenced a joint endeavour to conduct a piece of analysis on work/care conflict among mature age carers. The project draws on data from Carers NSW's national Carer Survey 2020 (n=7000) and the teams are working together to undertake the analysis, write a journal article and build strategies for policy impact.

The COVID-19 pandemic impacted the ability of the team to present our research at conferences. Despite this, CI Marian Baird, was a keynote speaker at a number of online symposiums for forums as varied as the Diversity Council of Australia, the Industrial Relations Society of NSW, the Australian Women's Leadership Symposium, the Human Rights Commission and Carers NSW. Professor Baird presented on topics including COVID-19 and gender equality; women, work and COVID-19; barriers to women in the renewables industry; and reflections on the HRC Respect@Work Report. Associate Professor Myra Hamilton was an invited speaker at the Carers NSW webinar on the experiences and impacts of being a young carer.

The pandemic further influenced our research in 2020 when the Fair Work Commission commissioned a research report on 'Preferences for flexible working arrangements: before, during and after COVID-19' as part of the Clerks-Private Sector Award 2020 – Work From Home Case. This was published by the Fair Work Commission in November.

Last, Marian Baird and Myra Hamilton were featured regularly in local and national media during 2020, with 28 appearances commenting primarily on the impacts of COVID-19 on women, carers, older workers, flexible work, grandparents as child carers, and parental leave.

A strong theme emerging from the analysis of policies is that organisations primarily take a risk-management approach to their mature workers, rather than focusing on their positive attributes and how they can be enhanced at work.

FEATURED ASSOCIATE INVESTIGATORS

OTHER ASSOCIATE INVESTIGATORS INVOLVED IN STREAM 3 RESEARCH IN 2020 INCLUDED:



PROFESSOR DONALD TRUXILLO

BS MA PhD Louisiana State University

Donald Truxillo is a Professor of Work and Organizational Psychology at the Kemmy Business School, University of Limerick, Ireland, and Professor Emeritus in Psychology, Portland State University. He collaborates with Sharon Parker and her team on project 3.3.

Professor Truxillo's research on age issues at work focuses on age discrimination, work design for an ageing workforce, and promoting work ability. He is currently an associate editor at *Work, Aging and Retirement* and is currently editor-in-chief for a special issue on age at work for *Personnel Psychology*. He is the author of over 120 peer-reviewed journal articles and book chapters. He recently co-authored a book on research-based practices to support age differences at work (*Ageless Talent*, Routledge, to be published in spring 2021). He is a Fellow of the Society for Industrial and Organizational Psychology, the American Psychological Association, the Association for Psychological Science, and the International Association for Applied Psychology.



PROFESSOR MARYLÈNE GAGNÉ

BA McGill University, MA PhD University of Rochester

Marylène Gagné is a John Curtin Distinguished Professor at the Future of Work Institute in the Faculty of Business and Law of Curtin University. She collaborates with Sharon Parker and her team on project 3.3.

Her research examines how organisations, through their structures, cultures, rewards, tasks, and management, affect people's motivational orientations towards their work, including volunteer work, and how quality of motivation influences performance and wellbeing in the workplace. She is currently involved in projects looking at how mature job seekers fare when they are searching and applying for work and how to assist in the maintenance of their job search motivation and wellbeing.

She currently sits on several editorial boards of journals in psychology and management. She is recipient of an American Psychological Association Dissertation Award, a Canadian Psychological Association New Researcher Award, and is a Fellow of the Society for Industrial and Organizational Psychology.

Marylène has previously held appointments at the Psychology Department of the University at Albany (SUNY) in New York State, at the John Molson School of Business, Concordia University, Canada, and at the School of Psychology and the Business School at the University of Western Australia.



ASSOCIATE PROFESSOR KATE O'LOUGHLIN

BA (Hons) Macq., PhD Syd

Kate O'Loughlin is an Associate Professor in Health Sociology, and a member of the Ageing, Work and Health Research Unit in the Faculty of Medicine and Health at the University of Sydney.

Her research interests and expertise are in population ageing with a particular focus on the baby boom cohort and workforce participation, and ageing-related health and social care policies in Australia and globally. Her current research projects investigate the interplay between paid work and carer responsibilities and its relationships with health and wellbeing; behaviours and exposures across the life course and their effect on health in later life; attitudes to ageing and age discrimination; and technology and ageing-in-place.

She has published widely in the gerontology/ ageing and sociology literature and has a record of successful supervision and mentoring of higher degree students; she is primary supervisor of three CEPAR-affiliated students from the Faculty of Medicine and Health.

Kate collaborates with Marian Baird and her team on project 3.4.



PROFESSOR FABIOLA H. GERPOTT

PhD B.A Jacobs University Bremen GER,
PhD OrgPsych Vrije Universiteit Amsterdam NL

Fabiola H. Gerpott is a Professor of Leadership at the WHU – Otto Beisheim School of Management in Germany. She joined CEPAR in July 2018 after conducting a research stay at the Future of Work Institute with Chief Investigator Sharon Parker.

Within CEPAR, Fabiola focuses on understanding how organisational interventions can improve knowledge transfer and learning between age-diverse employees and, in doing so, contribute to successful ageing of the mature workforce. Furthermore, she contributes to the Mature Workers in Organisations Survey.

Fabiola's research has been published in journals such as the *Academy of Management Journal*, *Academy of Management Learning & Education*, *Human Relations* and the *Journal of Personality & Social Psychology*. Fabiola also uses her research skills to develop intervention programs for managing an age-diverse workforce for organisations, particularly in the automotive industry. She has attracted grants from national foundations as well as industry funding for her work.



ASSOCIATE PROFESSOR PATRICK DUNLOP

BSc, MPsyCh PhD UWA

Patrick completed his Master of Industrial and Organisational Psychology and PhD at the University of Western Australia in 2012 and he is now an Associate Professor at the Future of Work Institute at Curtin University. His research is focused on personnel recruitment, assessment, and selection and how these processes occur in the digital age.

Patrick also has three years' of professional experience working in the recruitment sector as a psychological assessment consultant. His research with the emergency services volunteer sector, funded by the Bushfire and Natural Hazards CRC and the Department of Fire and Emergency Services in Western Australia, focuses on understanding how to apply the principles learned from organisational psychology to the attraction and retention of emergency services volunteers across Australia.



DR VANESSA LOH

BLibStud (International), (Hons), PhD Psyc Syd.

Vanessa Loh is a CEPAR Associate Investigator and Lecturer, located in the Discipline of Work and Organisational Studies at The University of Sydney Business School. She completed both her undergraduate and postgraduate studies at the University of Sydney, receiving her PhD in Psychology in 2010.

Her research spans the areas of organisational behaviour, applied psychology, and social gerontology. She has a keen interest in investigating both the individual and external factors that influence health, wellbeing and performance outcomes with a particular focus on mature-age workers and older adults. Her research on retirement, productive ageing, and work and care has been published in a range of leading national and international journals, including the *Journal of Vocational Behaviour*, *Social Science and Medicine*, *Human Factors*, *BMC Geriatrics*, *Ageing and Mental Health*, *Neuropsychology Review*, *Journal of Ethnic and Migration Studies*, and the *Australasian Journal on Ageing*.

RESEARCH STREAM 4

58

SUSTAINABLE WELLBEING IN LATER LIFE

STREAM LEADER / [MICHAEL SHERRIS](#)

This stream undertakes research to provide businesses, households, and governments with new knowledge and expanded options on a range of policy and practice issues confronting ageing societies. It will take the macro-demographic projections of Stream 1, the insights about cognitive ageing and decision making from Stream 2, and the evidence concerning organisation behaviour from Stream 3, to build a comprehensive evidence base for strategies and actions to enhance wellbeing in later life.

The stream comprises six projects:

- 4.1 [MORTALITY AND MORBIDITY RISK](#)
- 4.2 [MACRO-HEALTH OUTCOME SIMULATIONS](#)
- 4.3 [SOCIAL DETERMINANTS OF SUCCESSFUL AGEING](#)
- 4.4 [RETIREMENT POLICY ISSUES](#)
- 4.5 [FINANCIAL AND INSURANCE PRODUCT DESIGN](#)
- 4.6 [GUIDING FINANCIAL DECISION MAKING](#)

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 MENGYI XU
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 YULONG LI
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 YANG SHEN
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 DILAN SRIDARAN
 YU CRYSTAL FU

This project undertakes modelling on mortality and morbidity risk to understand these risks for both individuals and to support research on financial and insurance product design (Project 4.5).

The research group has been developing aggregate mortality models for both individual risk and systematic risk as well as transition rate models of both health status and functional disability. The models reflect the main features required to assess the design and pricing of financial and insurance products to finance or insure post-retirement risks, from both an insurer/pension fund perspective and an individual perspective.

In 2020, this project produced four journal articles. In addition, several working papers are in progress. Before COVID-19 limited international conference activity, invited presentations were made to the Society of Actuaries Living to 100 Symposium in January 2020. There was also an invited submission, a response to Questions on Financing Aged Care and appearance as a Witness by Professor Sherris at the Sydney Hearings of the Royal Commission into Aged Care Quality and Safety based on CEPAR actuarial research on longevity and functional disability risk modelling and retirement product innovations including life care annuities and home equity release (reverse mortgages).

Mortality modelling

Research in 2020 has continued on the development of multi-factor continuous-time affine mortality models. These models have been estimated using age-cohort mortality data for complete cohort data. The estimation of these models has a number of challenges that have been considered during the year. One of these is the extension of the estimation of the models to incorporate incomplete cohort mortality data. Another is the numerical estimation of the parameters of the models. A range of numerical estimation methods have been considered and

are being compared for numerical accuracy, computational speed and stability. These methods will be used to estimate the models for a number of countries and model estimation software in R is being developed.

Research continued on the application of data analytic and machine learning techniques to aggregate and individual level mortality data. The research has assessed how combining mortality models using ensemble machine learning approaches compare with single mortality models for forecasting future mortality rates. Individual data from the HRS has been used to assess how clustering of different covariates, or risk factors, such as BMI and self-assessed health, can be used to reduce the number of factors to forecast mortality and how these methods compare with using individual risk factors. R software has been developed for applying cross-validation and regularisation techniques to select the factors required for mortality model risk factors.

Future research will continue the development of multi-factor affine mortality modelling including making available R software for estimation and forecasting. Predictive models will be applied to health status and functional disability in a multiple-state functional disability model using machine learning and individual-level data.



DR MENGYI XU
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 ASSOCIATE

Mengyi Xu was a Senior Research Associate with CEPAR from September 2017 until 30 October 2020. In November she took up a position as an assistant professor of actuarial science in the Departments of Statistics and Mathematics at Purdue University. She remains affiliated with CEPAR as an Associate Investigator. She is also a Fellow of the Institute of Actuaries Australia.

Her research interests include longevity and disability risk modelling, innovations in retirement income products, and pension fund management. Her work has been published in the *ASTIN Bulletin* and the *North American Actuarial Journal*.

There will be an increased focus on using Australian data including the Survey of Disability, Ageing and Carers (SDAC) as well other individual level Australian health status and mortality data.

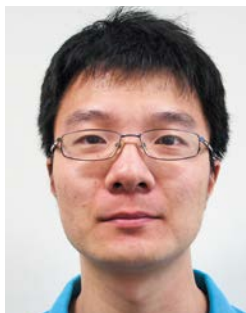
Morbidity modelling

This project also covers morbidity modelling to inform Long-Term Care (LTC) insurance design and policy development. The research focuses on multiple-state transition models of functional disability that include trends and uncertainty in morbidity, as well as health status.

Individual level transition data, incorporating both health status and levels of functional disability, was used in developing multi-state models of mortality and functional disability. These models have incorporated trends and uncertainty in transition rates and have been estimated using US HRS data and China Health and Retirement Survey (CHARLS) data. The estimated transition rates from individual transition data are then used to estimate healthy life expectancy and disability-free life expectancy with micro-simulation. The modelling has highlighted the importance of

including both health status and functional disability in transition rate models for mortality as well as how the incorporation of trend and uncertainty can be used to assess future mortality trends and the impact on healthy and disability-free life expectancy. The models are critical in understanding the structuring, pricing and risks of retirement products that incorporate both longevity risk and long-term care.

The models are critical in understanding the structuring, pricing and risks of retirement products that incorporate both longevity risk and long-term care.



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Yang Shen is a Senior Lecturer in the School of Risk and Actuarial Studies. He obtained his PhD in Actuarial Studies from Macquarie University in May 2014. After completing his PhD degree, he worked as a research fellow at CEPAR from 2014 to 2015 and an assistant professor at York University from 2015 to 2019.

He is an ARC DECRA Fellow (2020-2022) on a project to study optimal retirement planning. In 2021-2023, he will be collaborating with Jonathan Ziveyi, Michael Sherris, Jeromey Temple, and Ermanno Pitacco on an ARC Discovery Project to study healthy ageing and aged care in Australia.

His research interests include portfolio optimization, longevity risk modelling, and optimal (re)insurance. His current research projects involve designing innovative retirement income products, devising optimal retirement planning rules, and demystifying the annuity puzzle.

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AN TRAN (UNTIL AUGUST 2020)
JOSH KNIGHT (UNTIL AUGUST 2020)

FROM 1 SEPTEMBER 2020:

PETER MCDONALD
JEROMEY TEMPLE
TOM WILSON
MEIMANAT HOSSEINI-CHAVOSHI

During 2020, Philip Clarke moved from the University of Melbourne to the University of Oxford and transitioned from his role as a Chief Investigator to an Associate Investigator with CEPAR. From September 2020, Peter McDonald assumed leadership of the project and commenced research on simulation of outcomes for older people. Until September, research in this project was focused on opioid use before and after surgery, costs related to comorbidity and noncommunicable diseases, and the measurement of health poverty.

The study of opioid use, published in the *ANZ Journal of Surgery*, suggests that many patients who use opioids prior to surgery will persist in their opioid use following surgery. No association was found between persistent opioid use and total joint replacement surgery, but rather a risk reduction compared to other elective surgeries when associations with opioid use are controlled for. Primary care clinicians and surgeons should monitor the duration and dosage of perioperative opioid use.

Using data for New Zealand, the comorbidity study found that the costs of having two non-communicable diseases simultaneously is typically super-additive, and more so for younger adults. Neurological and musculoskeletal diseases contributed the largest health system costs, in accord with burden of disease studies finding that they contribute large morbidity. Just as burden of disease methodology has advanced the understanding of disease burden, there is a need to create disease-based costing studies that facilitate the disaggregation of health budgets at a national level. The study was published in *PLoS Medicine*.

Work on defining and measuring health poverty was published in *Social Science and Medicine*. Poverty was measured using the Foster-Greer-Thorbecke class of indicators and was applied to three health variables: cardiovascular risk in the USA, and to health status and expectation of life in Australia. This research is still under development but shows promise in identifying those who are worse off in health terms.

A study quantifying competition in Australia's residential aged care sector and how competition is associated with quality of care and prices in the sector was completed. The analysis found that more competition is not associated with

better quality or lower prices. Government owned facilities, in comparison to for-profit and not-for-profit facilities, were found to provide higher quality in some domains but not in others, yet tend to charge lower prices than other ownership types. The results indicate the possibility of market failures in aged care. The paper suggested that two key sources of market failures, the lack of public reporting of quality of care and price transparency, should be addressed as policy priorities before competition can work in residential aged care markets.

From September 2020, activity in this project has shifted to participation in the development of a model for Australia which will expand knowledge of population dynamics and societal changes through microsimulation, especially for older persons. This is part of an international endeavour led by the Canadian Institut National de la Recherche Scientifique and also involving the European Commission Joint Research Centre, the Asian Demographic Research Institute of Shanghai University, Statistics Canada, and Pennsylvania State University.

[the project will develop] a model for Australia which will expand knowledge of population dynamics and societal changes through microsimulation, especially for older persons.

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This project mainly uses data from three large Australian cohort studies: The Concord Health and Ageing in Men Project (CHAMP), the Path Through Life Study (PATH) and the Australian Longitudinal Study of Women's Health (ALSWH). CEPAR CI Fiona Blyth leads CHAMP; CEPAR CI Kaarin Anstey leads PATH, and CEPAR AI Julie Byles is a Director of the ALSWH.

Much of the work in 2020 involved conducting a 14-year follow-up (wave 5) of CHAMP and implementing a survey to evaluate the impact of the COVID-19 outbreak on the social relationships and psychological health of participants. CHAMP started in 2005 when 1705 men aged ≥70 years were recruited from the community around Concord Hospital in Sydney. So far, 455 men have been recruited for wave 5 with home assessment interviews halted due to COVID-19. Of the 455 participants in the fifth wave of CHAMP, 255 men have agreed so far to participate in a COVID-19 follow-up survey, with an anticipated final sample of about 280.

Much of the CHAMP research in 2020 was directly concerned with social determinants of health. For example, Research Fellow Saman Khalatbari-Soltani, in collaboration with Senior Research Fellow Rafal Chomik, found that lack of

homeownership is associated with a higher prevalence of depressive symptoms. She also found that lower education and occupational position are associated with a higher rate of falls among Australian-born men; however, the opposite association was evident for educational level among migrants born in non-main English-speaking countries.

Nutrition is another social determinant of health. AI Vasant Hirani leads the nutrition component of CHAMP. Dietary data were collected from CHAMP men at Wave 3 in 2012–2013 and wave 4 in 2014–2016. Several CHAMP papers in 2020 have examined the relationship between nutrition and health outcomes. To highlight, PhD student Arpita Das found that inadequate intake of antioxidants, particularly vitamin E and zinc, was associated with depressive symptoms and congestive cardiac failure. CHAMP collaborator, David Scott, showed that obesity in participants did not protect them from incident fractures. CHAMP researchers are currently investigating the influence of non-haem and haem iron intakes and dietary patterns on the health of older Australian men.



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Saman Khalatbari Soltani is a CEPAR Research Fellow, located in the School of Public Health at the University of Sydney. She joined the Centre in September 2018 after working for one year as a Postdoctoral Fellow at the Department of Internal Medicine, University of Lausanne, Switzerland. She holds a PhD in Life Sciences (University of Lausanne, Switzerland), a PhD in Epidemiology and Public Health (Swiss School of Public Health) and a Master of Science in Nutritional Science (University Putra Malaysia). During a one-year Fellowship at the University of Cambridge, she trained in Nutritional Epidemiology.

Her current research encompasses the areas of social determinants of successful ageing, social inequalities and health, and the role of behavioural, psychological, and biological factors in the genesis of social disparities in health at older ages – with the ultimate aim of improving perceptions of and indicating possibilities for future health policy.

Prior to joining CEPAR, her projects mainly focused on the link between diet and chronic diseases, undernutrition, and drivers of and barriers to healthy eating. Her research has been published in international journals, including *BMC Medicine*, the *American Journal of Clinical Nutrition*, and *Clinical Nutrition*.

In 2020, the CHAMP oral health team, led by Professor Clive Wright, continued to analyse and publish papers on the comprehensive oral health assessments conducted as part of CHAMP Wave 4. The CHAMP oral health team, in collaboration with CIs Robert Cumming and Fiona Blyth, found a relationship between cognitive impairment and lower numbers of natural teeth and limited chewing capacity. Another CHAMP oral health paper published in 2020 found that poor oral health outcomes like limited chewing capacity and untreated tooth decay may contribute to depressive symptoms. The CHAMP oral health team also completed the second wave of oral health data collection. Going into 2021 the oral health team, led by Professor Woosung and Dr Deborah Cockrell, will undertake a longitudinal analysis of oral health and general health of older men.

As Julie Byles and Carol Jagger collaborated to examine trajectories of healthy ageing and health expectancy for women in the 1921-26 and 1946-51 cohorts of the ALSWH. These analyses show large differences in health expectancy between the two cohorts, with the 1946-51 cohort predicted to have much longer life expectancy and more years of disability free life expectancy (DFLE) than the older cohort.

However, the difference in DFLE with particular combinations of education, obesity, smoking, and exercise was much larger for the 1946-51 cohort than for the 1921-26 cohort. For the subset of women who had diabetes, the large additional impact of low education, obesity, and comorbidity on healthy life expectancy was apparent, with very large reductions in the percentage of remaining life spent in good health. Byles and Jagger, in collaboration with Anstey and Al Kim Kiely, used data from DYNOPTA to examine risk factors and disability outcomes derived from five Australian longitudinal ageing studies to determine the impacts of smoking and obesity on ageing. Smoking had a greater effect on total life expectancy, while obesity had a greater effect on mobility disability. Those with lower education generally had fewer years of total life expectancy, fewer years of DFLE, and a lower proportion of remaining life free of mobility or ADL disability.

...Research Fellow Saman Khalatbari-Soltani, in collaboration with Senior Research Fellow Rafal Chomik, found that lack of homeownership is associated with a higher prevalence of depressive symptoms.



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VASANT HIRANI

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Vasant Hirani is a CEPAR Associate Investigator, currently working at the Charles Perkins Centre, University of Sydney as an Associate Professor.

Her expertise lies in nutritional epidemiology, population health, nutrient status and the impact on health outcomes such as, frailty, sarcopenia, sarcopenic obesity, chronic disease and mental health. Her research encompasses topics on health and ageing such as investigating the impact of nutrient status on health outcomes which have been published in both national and international journals, including *Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, *Nutrition Reviews*, *European Journal of Clinical Nutrition* and *The Journal of Nutrition*.

She also co-authored and has been an Editor on the government commissioned reports on the annual Health Surveys in England and Scotland, for the UK Department of Health.

Vasant is an Accredited Practising Dietitian in Australia and is an Associate Editor for the *Journal of Human Nutrition and Dietetics*. She actively collaborates with colleagues at different institutions such as The University of New South Wales: Faculty of Medicine and Centre for Big Data Research in Health, the Bone Research Program, ANZAC Research Institute, and Dept of Endocrinology & Metabolism, Concord Hospital, Monash University, Deakin University and University College London, Department of Epidemiology and Public Health.

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CEPAR was very active in the area of retirement income policy through 2020.

In February, we put forward a major submission to the Retirement Income Review, developed with several CEPAR contributors, and overseen by Senior Research Fellow Rafal Chomik. This was associated with meetings with both a Review Commissioner and a range of officials from the Secretariat. The review itself mentioned CEPAR more than 30 times, citing not just the submission, but research briefs and other research outputs.

Many of the topics embraced in this comprehensive review have also been addressed in this project. In 2020, Chomik's research on trends in spatial life expectancy inequality provides one example. While inequality in

retirement provision programs receives much attention, life expectancy inequality, split spatially, is novel and provides new insights into what might be required to reduce inequity in later life.

Policy imperatives also led to an expansion of the project scope to embrace aged care. Aged care analysis had already been a topic of research interest, but the Royal Commission into Aged Care Quality and Safety requested input from several CEPAR researchers, including John Piggott, and this latter connection brought aged care within the ambit of this project. There are major challenges in designing long-term care (LTC) funding policy such that a secure and adequate safety net is combined with incentives to lead those in need of care to access the various care offerings appropriately. There is some evidence that insecurity about what LTC programs offer lead many active older people to under-consume in retirement, and LTC design is thus drawn squarely into the debate about retirement policy. (This motivates the decision to focus on LTC as one of three topics at the 2021 IPRA conference, which is at this stage scheduled to be held live at the OECD in mid-2021.) Overall, three submissions from CEPAR researchers were made to the Commission, including one focused specifically



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Rafal Chomik is a Senior Research Fellow at CEPAR, located in the UNSW Business School. He joined CEPAR in April 2012. Rafal has worked in public administration and policy analysis for over a decade, initially as a project manager in economic regeneration and subsequently as an economist focusing on social policy. He has experience in economic and business consulting in the private sector, working as an economic advisor for the British Government and as a pensions economist at the Organisation for Economic Cooperation and Development in Paris. He specialises in social policy design, public and private pension analysis, static

microsimulation modelling of the tax-benefit system, and poverty and income measurement. His current work at CEPAR is centred on producing policy related briefing papers, summarising existing CEPAR and external research and assisting the secretariat in producing technical content for conferences and the media. He is also undertaking a research project on the interactions between demography and inequality.

on pricing and financing issues. Interestingly, research (reported below) focused on one of China's pilot LTC programs proved to be of interest in this context.

The impact of COVID-19 on retirement incomes continues to be researched. Within this project (broadened temporarily to provide much needed knowledge about the impact of COVID-19 and the policy responses to the pandemic), several research outputs were generated, including a fact sheet by Rafal Chomik on 'COVID-19 and the Demographic Distribution of Health and Economic Risks'; and a discussion paper by Bruce Chapman and Piggott on applying revenue-contingent loans to transition from JobKeeper, especially important for older workers. This latter paper triggered an extended discussion with Treasury on the issues, and media attention.

Internationally, research activity continued focusing on Norway, China, and Indonesia. The Norwegian research reported in last year's report, on earlier access and transition to retirement, has been further developed. We now show that earlier access (with the removal of an earnings test) leads mature workers to reduce work intensity, but to increase extensive labour force participation, to the point where overall

labour supply may increase. This is an important result, since many countries have increased access age to induce mature labour force participation. A revised CEPAR working paper appeared in August 2020, 'Work Less but Stay Longer: Mature Worker Response to a Flexibility Reform' (CEPAR WP2020/22). The Norwegian research strand has now moved to an examination of program substitution, and it is hoped that a paper on this topic will be written during 2021, although border restrictions may delay this.

Beyond those mentioned above, specific research outputs include:

1. Lu, B., Hong, M., Feng, G., Piggott, J. and Mayraz, G. (2020). The Impact of Cost-Sharing on Hospital Expenditure in China: A Regression Discontinuity Approach. CEPAR Working Paper 2020/26.

This paper uses a unique dataset, provided by the Qingdao City Medical Insurance Authority, comprising administrative data on medical outlays by and on behalf of seriously ill patients in its jurisdiction. We analyse the impact of a change in the co-pay ratio at retirement on inpatient expenditures. It was found that a 50% drop in co-pay (under the employee medical insurance scheme) is associated with a 38%

increase in overall spending on inpatient services, including a 40% increase in spending on services covered by the medical insurance, and a 33% increase in out-of-pocket spending by patients. Pre-saving accounts exacerbate this. If policy reform is aimed at containing aggregate health expenditures, the retirement age change in the co-pay rate should be re-visited, along with restrictions on pre-saving account utilisation.

2. Yiengprugsawan, V.S., Piggott, J., Witoelar, F., Blyth, F.M. and Cumming, R.G. (2020). Pain and Its Impact on Functional Health: 7-Year Longitudinal Findings among Middle-Aged and Older Adults in Indonesia. *Geriatrics*. Jun 22;5(2):39.

In an attempt to get a handle on how health status affects different groups of people as they age, this study uses pain among older people and links this to functional health. Among other findings, those who reported 'low-medium' pain in 2007 and 'severe' pain in 2014 belonged to the most vulnerable group with worst functional health outcomes. Findings have implications for public health policy in Indonesia, as a complement to other forms of social protection.

Additional research on retirement and aged care issues in Asian countries is reported in the Ageing Asia Research Hub write-up (pp 72-76).



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RESEARCH FELLOW

Bei Lu is a CEPAR Research Fellow located at the UNSW Business School and a Research Fellow with Tsinghua University and Zhejiang University, China. She is Director of Engagement for the CEPAR Ageing Asia Research Hub, a member of the project team for 4.4 Retirement Policy Issues, and a collaborator on Project 3.3.

Bei returned to academia in 2002 to undertake a PhD in Economics at UNSW after working as an international trader for 12 years. Her research focuses on demographics, health, pensions and population ageing related social welfare and economic issues.

Bei has been very successful in developing international linkages over the past ten years with

organisations such as the provincial government of Zhejiang, China, the World Bank China as well as academic institutions. She also participated in a Chinese Key National Science Project from 2015-2019.

She has presented her research at a number of international conferences including the Stanford-Harvard Population Ageing Conference and the London School of Economics Long-Term Care Conference. Her research has appeared in the *China Economic Review*, *International Social Security Review*, *the Journal of the Economics of Aging*, *Population Review*, *CESifo Economic Studies* and the *Journal of Aging and Social Policy*. She also has published in Chinese newspapers, journals and books.

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The research for Project 4.5 aims to analyse and develop sustainable, cost-effective retirement income products, allowing both individuals and institutions to manage longevity, health, and aged-care risks.

In 2020, this project produced three journal articles. In addition, working papers are in progress and presentations have been made, mostly at virtual local and international actuarial conferences or related events due to COVID-19. An invited submission, at the Sydney Hearings of the Royal Commission into Aged Care Quality and Safety based on CEPAR Actuarial Research included coverage of innovations in retirement income products including Life Care Annuities and Home Equity Release (Reverse Mortgages).

Retirement income products

The impact of retirement income products on government pensions, including life annuities, deferred annuities and life annuities with higher payments when an individual has impaired health has been investigated in conjunction with multiple-state health models. The results, still to be finalised and written up, show the benefits that these longevity insurance products will have on future government pension obligations. The modelling also shows how multiple health state models for mortality provide a richer understanding of government future pension obligations as compared with aggregate mortality models that produce only an average future mortality and do not capture the impact of mortality heterogeneity.

Research on the design of pooled annuities and the sharing of investment and mortality risk in these mutual retirement income product pools has continued. The smoothing of investment returns to reduce market volatility has been investigated by comparing different mechanisms to smooth crediting rates for investment returns. Actuarial fairness and equity in the pools for sharing both investment risk and mortality risk is being considered since these are fundamental to the success of these innovations in retirement income products.

Portfolio strategies for life insurers and pension funds

Research has developed target volatility investment strategies for insurers, pension and superannuation funds. These strategies aim to produce a more consistent level of equity market risk than traditional buy and hold and constant mix portfolio strategies. Research during the year has assessed the impact of leverage constraints as well as the impact of market crashes. Targeting constant volatility strategies require changes to market exposures which is implemented using a futures overlay. An implementation issue for these strategies is the extent of leverage in the equity component. The research has demonstrated empirically that the higher



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Héloïse Labit Hardy worked as a Senior Research Associate in the ARC Centre of Excellence in Population Ageing Research at the UNSW Business School from September 2016 to May 2020.

She completed her PhD at the University of Lausanne in the Department of Actuarial Science. She graduated from the French actuarial school *Institut de Science Financière et d'Assurances*.

She worked with CI Michael Sherris on mortality and morbidity modelling, specifically on heterogeneity in mortality, cause-of-death mortality and longevity risk management.

She left CEPAR to join the School of Risk and Actuarial Studies at UNSW as a Lecturer in May 2020.

return per unit risk of target volatility strategies is not impacted by the degree of leverage. The impact of market crashes including COVID-19 was also assessed. Target volatility strategies were shown empirically to reduce the negative returns of market crashes and to provide a level of volatility closer to long run equity volatility in the post-crash period resulting in an overall higher return than buy and hold or constant mix strategies.

Variable annuities

Research has also continued on the valuation and risk management of variable annuities. An assessment of the impact of taxation on the pricing of variable annuities has been finalised during the year. The application of machine learning to the risk hedging of variable annuities has also been investigated. Since the link between risk factors and price sensitivities used in hedging for these products is non-linear, numerical techniques used in machine learning have been shown to improve the risk hedging of these products.

Another development in the design of variable annuities that has been part of the research program during the year has been the incorporation of long-term care insurance into variable annuity product design. Variable annuities with guaranteed lifetime income benefits as well as long-term care insurance benefits provide coverage of all the major retirement risks including, equity, longevity and functional disability. Research on the design, efficient pricing and risk management of variable annuities is at the heart of providing the ideal guaranteed retirement income product.

Research on the design, efficient pricing and risk management of variable annuities is at the heart of providing the ideal guaranteed retirement income product.



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Jonathan Ziveyi is an Associate Investigator at CEPAR based at the UNSW Business School where he is an Associate Professor, and Associate Head in the School of Risk and Actuarial Studies.

He received his PhD in Quantitative Finance from the University of Technology Sydney where his thesis was on the evaluation of early exercise exotic options.

His current research interests include longevity risk management, retirement income product design and valuation of guarantees embedded in variable annuities.

His research output has been published in quantitative finance and actuarial journals such as *Insurance: Mathematics and Economics* and *Quantitative Finance*, among others, and has been presented at various international conferences.

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 JOSHUA FUNDER (HOUSEHOLD CAPITAL)

The aim of this project is to contribute to the understanding of how people make retirement saving and spending decisions and to identify the means to facilitate the best possible decisions. In 2020 research associated with this project was characterised by strengthened relationships with external collaborators Cbus, UniSuper, Aware Super, the Australian Treasury and Household Capital. Outputs were presented at the Netspar

International Pension Workshop, the ARIA online Annual Meeting, the Actuaries Institute Summit, the Household Capital Third Pillar Summit, the 28th Colloquium of Pensions and Retirement Research and the IPRA online session 'Pensions and COVID-19: The Global Experience'. A highlight in 2020 was a successful ARC Linkage Grant application with Cbus (the superannuation fund for the building and construction industry) for the project *Boosting communication to solve the under-saving, under-spending puzzle*.

Early access to superannuation

With industry partner Cbus, a team comprising CI Hazel Bateman and AIs Susan Thorp, Ben R Newell, Isabella Dobrescu and Junhao Liu explored motivations for and understanding of decisions to take early access super – an initiative designed to provide income support during the COVID-19 pandemic. Regression analysis using data from a survey of Cbus members who withdrew money from their retirement account indicated that while the majority of people used the scheme to address immediate expenses, a significant minority took the money for future concerns, did not think about the consequences of withdrawing super and underestimated (or didn't know or care about) the impact of early release on their retirement wealth (Bateman et al. 2020).

Behavioural responses to market volatility

Another feature of COVID-19 was the impact on financial markets, with a large drop in the ASX200 associated with the slowdown in economic activity and a subsequent partial recovery. This scenario motivated joint research between CEPAR (CI Hazel Bateman and Research Fellow Inka Eberhardt) and Aware Super (CEPAR AI Shang Wu and Portfolio Manager of Retirement Income Strategy Jacki Ellis) to explore the impact of alternative communication treatments to address the potential for poor switching decisions. An experimental survey to elicit the impact of these communication strategies will be administered to a sample of around 2000 Aware Super members in early 2021.

Retirement income product Fact Sheets

CI Hazel Bateman and Research Fellow Inka Eberhardt (working co-operatively with the Australian Treasury) tested the impact of the prescribed information items in a proposed Fact Sheet on retirement income products on product understanding, product perceptions and product choices using an online discrete choice experiment to a sample of around 900 pre-retirees. Regression analysis revealed average annual income and a 'product security' rating as



INKA EBERHARDT
 MSc Econ Utrecht
 RESEARCH FELLOW

Inka Eberhardt is a CEPAR Research Fellow, located in the UNSW Business School. She joined the Centre in October 2018.

She completed her undergraduate studies in political studies and economics in the Netherlands. In 2017, she also visited Professors Michael Norton and John Beshears at Harvard Business School.

Inka is interested in the interface between behavioural economics and pension systems. For her dissertation, Inka worked together with the

Bedrijfstakpensioenfondsv Detailhandel, the pension fund of the Dutch retail sector. She uses field experiments and online surveys to research the effectiveness of pension communication on savings behaviour and retirement decisions. The aim of her research is to improve communication and to enable consumers to make better choices.

drivers of product preferences, and amongst alternative presentation formats including text, graphs and tables, preference for annuity products was higher when their risk management features were more salient (Bateman and Eberhardt, 2020).

Reverse mortgages, housing assets and super

Researchers in project 4.6 were involved in several sub-projects on housing decisions and retirement provision in 2020. Using an online survey administered to a sample of 1,000 Australian homeowners aged 60–80 CI Hazel Bateman, AI Katja Hanewald, Scientia PhD student Tin Long Ho and Dr Josh Funder from industry partner Household Capital explored the role of behavioral factors – specifically mental accounting, narrow choice bracketing and product complexity – on reverse mortgage demand. On average 43% of the sample stated that they would purchase a reverse mortgage using an average of 13% of their housing wealth. Regression results support this finding and indicate strong interest in reverse mortgages by persons with low/moderate incomes, low non-housing wealth, optimistic subjective life expectancy, and for those in the treatment designed to offset mental accounting.

In 2021 this work will be extended to include an exploration of the Pension Loans Scheme.

In a project co-funded by industry partner UniSuper, AI Isabella Dobrescu and Research Fellow Akshay Shanker built a dynamic life cycle model incorporating housing, mortgage and renting decisions with a realistic superannuation contribution, plan and portfolio choice architecture. The rich pension and housing choice structure results in a high dimensional, non-convex optimisation problem and new mathematical optimisation theorems have been developed that allow efficient solutions and model estimation. A working paper reporting the welfare effects of alternative policy settings will be completed in early 2021.

Other ongoing research on housing decisions includes: a study by CI Bateman with Research Fellow Inka Eberhardt and AIs Susan Thorp and Christine Eckert on decisions to contribute to super and/or take out an owner-occupier or investment mortgage; and an exploration of residential mortgage decisions, including the use of brokers, by CI Bateman, AIs Susan Thorp, Christine Eckert, Fedor Iskhakov, Julie Agnew and Junhao Liu.

Shared financial decision making

Finally, in a project co-funded by the CEPAR Multidisciplinary Collaboration Funding Scheme 2020, Craig Sinclair and Brooke Brady (Research Fellows in Stream 2) and Research Fellow Inka Eberhardt, together with Research Assistant Joseph Phillips are analysing panel data from Australia and the Netherlands to examine shared financial decision-making behaviour among adults aged over 50 years. In 2021 this will be extended to an exploration of the impact of transition to retirement on financial decision-making power within the household.

2020 outputs include:

Bateman H, Campo R, Constable D, Dobrescu L I, Goodwin A, Liu J, Newell B R and Thorp S (2020), 20K now or 50K later? What's driving people's decision to withdraw their super? CEPAR Industry Paper, August 2020.

Bateman H and I Eberhardt (2020), Follow the Rating: How Mandatory Information Disclosure Affects Retirement Income Product Choices, CEPAR Working Paper 2020/24.

leading business and health journals such as the *Journal of Marketing Research*, *Management Science*, *International Journal of Research in Marketing*, *Review of Finance and Tobacco Control*.

Within CEPAR, Christine brings her knowledge about consumer behaviour and its quantitative modelling to research on superannuation and retirement.



ASSOCIATE PROFESSOR
CHRISTINE ECKERT

PhD Goethe University
Frankfurt

ASSOCIATE INVESTIGATOR

Christine Eckert is Associate Professor in the Marketing Discipline at UTS Business School, University of Technology Sydney and a CEPAR Associate Investigator collaborating with Hazel Bateman's team on Project 4.6.

Christine's primary research interest falls into the field of quantitative modelling, with a particular interest in the choices made by market participants, defined broadly. She has researched on this topic across different disciplinary issues: such as the financial decision making of consumers, strategic governance decisions of innovation seeking companies, and corporate and consumer social responsibility. Her research has been published in

FEATURED ASSOCIATE INVESTIGATORS

OTHER ASSOCIATE INVESTIGATORS INVOLVED IN STREAM 4 RESEARCH IN 2020 INCLUDED:



PROFESSOR BEN NEWELL

BSc Nottingham, PhD UNSW

Ben Newell is a Professor of Cognitive Psychology and Deputy Head of the UNSW School of Psychology.

His research focuses on the cognitive processes underlying judgment, choice and decision making and the application of this knowledge to environmental, medical, financial and forensic contexts. He has published over 150 journal articles and book chapters and is the primary author of the leading text, *Straight choices: The psychology of decision making*. Ben has worked with industry and government partners on projects including climate change communication, retirement wealth-planning and child protection. His work adopts experimental and computational methods to assess how people make decisions.

Within CEPAR, Ben collaborated on Project 4.6, bringing a psychological perspective to research on superannuation and retirement. His work has been discussed in various media outlets including *TIME Magazine*, *The Guardian*, *BBC*, *ABC*, *SMH*, *Chicago Tribune* and *WIRED Magazine*. He is on the editorial boards of *Psychonomic Bulletin & Review*, *Decision*, *Judgment and Decision Making*, and *Journal of Behavioural Decision Making*. He is also a member of the inaugural Academic Advisory Panel of the Behavioural Economics Team of the Australian Government.



DR JUNHAO LIU

BSc University of Hong Kong, MAST University of Cambridge, PhD University of Wisconsin–Madison

Junhao Liu is a postdoctoral research associate at the University of Sydney Business School, and a CEPAR Associate Investigator collaborating with Hazel Bateman’s team on Project 4.6.

He conducts empirical research using a wide range of data sets such as experimental data and statutory filings. His research focuses on personal finance and insurance regulation. Junhao’s current projects include studies of the decision making regarding the COVID-19 early access of superannuation and mortgage choices. His other research studies the regulation of insurance contract language and prices. His work has been published in the *Journal of Risk and Insurance* and the *Journal of Consumer Affairs*.

Within CEPAR, Junhao brings his training in insurance, finance, and economics to research on various topics including ageing, insurance product design, and retirement savings. He works closely with several CEPAR researchers and has co-authored a CEPAR Industry Report in 2020. He is a frequent participant in CEPAR seminars and events.

Before moving to Sydney, Junhao received a PhD in Risk and Insurance at the University of Wisconsin–Madison. Prior to that, he studied mathematics and statistics at the University of Hong Kong and the University of Cambridge and worked in actuarial consulting in Shanghai, China.



PROFESSOR JULIE BYLES

B Med PhD N’cle (NSW), FAAHMS

Professor Julie Byles is Global Innovation Chair in Responsive Transitions in Health and Ageing at the University of Newcastle, Director of the Priority Research Centre for Generational Health and Ageing, and a Director of the Australian Longitudinal Study on Women’s Health.

She collaborates as an Associate Investigator on Project 4.3 and with Professor John Beard on projects relating to healthy ageing. As a clinical epidemiologist, Julie’s interests are in risk determination, health assessment, other health care evaluation, and measurement of health outcomes. As a gerontologist and Fellow of the Australian Association of Gerontology, her research interests in ageing include the role of health services, preventive activities, and treatments in maintaining quality of life for older people, and in determining physical, psychological and social factors associated with optimal physical and mental health of men and women as they age. Julie is also Head of the International Longevity Centre - Australia (ILC-Aus), Chair of the International Association of Gerontology (Asia Oceania) Social Research and Planning sub-committee, and a frequent advisor to the World Health Organisation, assisting with translation of evidence on health and ageing.



PROFESSOR ERMANNO PITACCO

BBus Econ University of Trieste,
Degree in Actuarial Science and Statistics,
University of Rome

Ermanno Pitacco is Professor of Actuarial Mathematics and Life Insurance Techniques at the University of Trieste, and Academic Director of the Master in Insurance and Risk Management at the MIB School of Management, Trieste.

His current research interests lie in the area of life and health insurance mathematics and techniques, focusing in particular on longevity risk, life annuity and life insurance portfolio valuations and solvency assessment. He is an author and co-author of textbooks and has published in leading international risk and actuarial studies journals. He was awarded the 2011 Bob Alting von Geusau Memorial Prize, together with Annamaria Olivieri. He serves as vice co-chairman of the Mortality Working Group of the International Actuarial Association (IAA) and Treasurer of the AFIR/ERM Committee of the IAA.

Ermanno is editor of the *Springer Actuarial* series, co-editor of the *European Actuarial Journal* and associate editor of a number of international journals.

Ermanno collaborates with Michael Sherris and his team on project 4.5.



PROFESSOR CAROL JAGGER

BSc MSc Leeds, PhD Leicester

Carol Jagger is the AXA Professor of Epidemiology of Ageing at Newcastle University, UK.

Her research focuses on the interplay between morbidity/disability and mortality through composite indicators like disability-free life expectancy, and the drivers of trends to inform interventions to increase years spent healthy and free of disability and reduce inequalities. Carol has published over 200 journal articles and book chapters, and is the leading UK researcher on healthy life expectancy, having provided evidence to various government committees on this topic. More recently, her work directly informs policy through the NIHR Older People and Frailty Policy Research Unit of which she is part.

Within CEPAR, Carol collaborates on Projects 4.3 and 2.3, bringing an epidemiological perspective to research on later life health and function, as well as contributing to training early career research on health expectancy methods. She sits on a number of national and international committees, including: Public Health England's Productive Healthy Ageing and Dementia Expert Advisory group, the Office for National Statistics National Population Projections Expert Advisory Panel, and the Finnish Centre of Excellence in Research on Ageing and Care Expert Advisory group.



ERIK HERNÆS

Cand Oecon Oslo

Erik Hernæs is a Senior Research Fellow at the Ragnar Frisch Centre for Economic Research at the University of Oslo, one of Norway's leading economics research centres. Erik's primary research interests are related to pension economics and he is currently leading a project on evaluating the labour market effects of Norwegian pension reform. After working at Statistics Norway, he became the inaugural Director of the Frisch Centre in 1999. He was one of the first researchers to organise administrative register data and use these for econometric analysis. This is now a major research focus of the Frisch Centre. Erik has published on productivity, education, unemployment and retirement, in the *Scandinavian Journal of Economics*, *Oxford Bulletin of Economic Research*, *Journal of Pension Economics and Finance*, *Journal of Health Economics*, *Journal of Public Economics*, *Journal of Labor Economics* and in volumes published by the NBER, Kluwer, Edward Elgar and Routledge. Erik collaborates with Professor Piggott on Project 4.4.

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The Ageing Asia Research Hub has advanced research in three main streams in 2020: Healthy ageing, long-term care and retirement income. The team welcomed two new Scientia PhD students in 2020. Yafei Si and Shu Chen are working on ‘Long-Term Care Insurance and Services in China’ under the supervision of Katja Hanewald, Bingqin Li and Hazel Bateman.

Healthy Ageing

John Beard and his colleagues have developed the idea of functional ability to provide a structured metric for healthy ageing. It combines the intrinsic capacity of the individual with the facilitation generated by the environments in which they live. Structuring and quantifying intrinsic capacity is the first task in operationalising this idea, and this was first reported by Beard et. al. (*BMJ Open*, 2019) using English data. Katja Hanewald, John Beard, Lynn Chenoweth, Zhixin Liu, Jotheeswaran Amuthavalli Thiyagarajan and Yafei Si worked on validating the structure and predictive value of the intrinsic capacity measure suggested by Beard et al. (2019) using nationally representative de-identified data from the China Health and Retirement Longitudinal Study (CHARLS) 2011 and 2013.



**DR VASOONTARA
 YIENGPRUGSAWAN**

BA Thammasat University,
 MA Maxwell School of
 Syracuse University,
 PhD ANU

SENIOR RESEARCH FELLOW

Dr Yiengprugsawan is a CEPAR Senior Research Fellow at the UNSW Business School, UNSW Sydney.

Her research focuses on life course determinants of health and wellbeing, risk factors relating to non-communicable diseases and chronic care management, and the role of primary health care and universal health coverage in Asia.

Vasoontara has been affiliated with CEPAR since 2014 and is currently investigating health-wealth dynamics in later life and long-term care policy in emerging economies (including Indonesia, Thailand, and Vietnam). In 2020, she has prepared a case study for the Asian Development Bank Joint Ministers of Health and Finance Meeting on COVID-19 and Universal Health Coverage.

She previously led analyses for over a decade of the Thai Cohort Study (2005-2014), held a fellowship from the World Health Organization’s Asia-Pacific Observatory on Health Systems and Policies (2014-2016), and coordinated the Australian Research Council Discovery Project on ageing, health and productivity in China and Australia (2016-2019).

She has been collaborating on international ageing cohort studies, including the English Longitudinal Study of Ageing and the Pelotas Brazil Birth Cohort. Vas previously worked in policy and research at the United Nations International Organization for Migration and was awarded a PhD in 2009 from the Australian National University in epidemiology, economics, and population health.

Further research along these lines is envisaged for the Hub. In particular, Indonesian data lends itself to this kind of analysis, embracing a wider age span than the English and Chinese surveys. It is hoped that this trio of analyses may allow the environment to be quantified as well – they represent rich, middle income, and poor countries respectively. As well, this planned research will complement ongoing work on Indonesian pensions, reported below, and builds on research into pain and healthy ageing among mature cohorts in Indonesia, reported in project 4.4 (see pages 64–65).

Other current research linked to healthy ageing includes a study on the relationship between drinking and healthy ageing, by Lu Bei and Dandan Yu.

Research already published in this stream this year includes:

Yuan, B., Yiengprugsawan, V. (2020). Associations between a history of depression and cognitive performance among older adults in Shandong, China. *Community Mental Health Journal*. 56: 116-125.

The importance of cognitive performance in healthy ageing is well recognised. This study investigates the relationships between depression and cognitive performance among older adults living in Shandong province. Data were derived from the World Health Organization's Study on global AGEing and adult health (WHO-SAGE) China Wave 1 aged 50 and over residing in Shandong province. Cognitive performance was assessed by overall cognitive score. Data were analysed by multivariate linear regression. In rural Shandong, having a history of depression, being female, poor household wealth and primary level of education were main factors associated with their poor cognitive performance. Notably, in urban Shandong, lowest household wealth and not having health insurance were significant predictors of adverse cognitive performance. Findings could help inform policy in monitoring depressive symptoms and cognitive performance among older adults in China.

Long-term Care

Long-term care is an increasingly urgent issue in Asia, especially among emerging economies that are rapidly ageing. These jurisdictions have typically experienced substantial rural-urban migration by younger cohorts, operate with a large informal labour force (for example, nearly 80% of the labour force in Indonesia works in the informal sector), and have often undergone substantial increases in inequality. Older people, especially those in rural areas, are likely to have major need of public support in coming decades, but public social protection structures are very limited.

To address this, Yiengprugsawan and Piggott have organised an edited book covering long-term care policies in several of these countries, including China, Thailand, Indonesia and Vietnam. The idea is not just to document what the circumstances of older people in these countries are, and what policies exist. The more important aim is to tease out what dynamic policy structures might be developed to provide affordable old-age protection to the large upcoming cohorts of older people. Routledge have contracted to publish the completed manuscript in 2022.



DR DANDAN YU
BEcon M Econ Peking,
PhD UNSW
RESEARCH FELLOW

Dandan Yu is a CEPAR Research Fellow located in the UNSW Business School.

She has a PhD in Economics from UNSW. Her PhD thesis studies the sharing of resources within the family. Before starting her PhD, she obtained a Bachelor's and a Master's degree in Economics from Peking University. Dandan's main research interests lie in health decisions and social involvement in later life. She also has expertise in econometric modelling and STATA programming. Her current research focuses on health behaviours and social activities for seniors in China.

Among completed research papers from the Hub this year in this stream is:

Wang, Q., Hanewald, K. and Wang, X. (2020) Multi-State Health Transition Modeling Using Neural Networks. CEPAR Working Paper 2020/25.

This paper proposed a new model that combines a neural network with a generalized linear model (GLM) to estimate and predict health transition intensities. The model allows for socioeconomic and lifestyle factors to impact the health transition processes and captures linear and nonlinear relationships. A key innovation is that the model features transfer learning between different transition rates. They apply the model to individual-level data from the Chinese Longitudinal Healthy Longevity Survey from 1998–2018. The results show that their model performs better in estimation and prediction than standalone GLM and neural network models.

Retirement income and mortality modelling

In an early external funding success for the Hub, George Kudrna led a successful ARC Linkage Grant application, in collaboration with the World Bank and the Indonesian Ministry of National Development Planning (Bappenas) to develop

a cutting-edge economic policy model that can be used by policymakers in emerging economies in Asia.

This work is generating interest already. Pip O’Keefe (until recently a senior World Bank official and a current CEPAR Advisory Board member), George Kudrna and John Piggott have been asked to contribute to a volume on population ageing and its challenges by its editor, David Bloom.

An early output from the grant is:

Kudrna, G., Le, T. and Piggott, J. (2020). Review Report on Demographics, Labour Force and Older People in Indonesia. CEPAR Working paper 2020/27.

This report documents and studies demographic and household survey data in Indonesia. The two key objectives are to provide (i) data for the calibration of the economic model that will be developed in this broader modelling project alluded to above, and (ii) stylised facts for the Indonesian household sector and economic behaviour of Indonesian households over their life cycle that will be closely captured by the economic model.

The focus of this report is on the demographic change, labour force and older people (and their resources) in Indonesia, using the United Nations demographic data (UN 2019) and the Indonesian Family Life Survey (IFLS). We find that the aged dependency ratio (65+/15-64) is projected to increase from less than 10% in 2020 to over 46% in 2100. This is attributed to an increasing life expectancy, particularly at older ages. For those at age 65, life expectancy is projected to increase by almost 20 years in 2100 (which is almost double the expected lifespan in the middle of the 20th century). Indonesia’s total population has also quadrupled to 273 million since 1950 and is projected to increase to 320 million in 2100. However, the annual population growth rate will become negative, at -0.3% in 2100.

Two UNSW Scientia PhD students will contribute to this research over the next three years.

Other research under this stream includes:

Lu, Q., Hanewald, K., Villegas, A.M, and Wang, X. (2020) Subnational Old-age Mortality Modeling: Accounting for Underreporting in a Bayesian Framework. CEPAR Working Paper2020/23.



DR YUANYUAN DENG
MA PhD SUNY-SB
SENIOR RESEARCH
ASSOCIATE

Yuanyuan Deng is a CEPAR Senior Research Associate. She is an applied microeconomist with broad empirical interests focusing on Health Economics, Public Economics, and Labor Economics.

Her current research develops a life cycle model of labour supply and consumption for urban males with heterogeneous skill types to evaluate the implications for labour supply and individual welfare of three reforms to the Basic Old-Age Insurance pension scheme in China. She is also working on projects related to population aging, the effect of gender-concordance, the intergenerational consequences of depression, mobility limitations of old Americans, and the relationship between

measures of labour supply flexibility and portfolio-choice decisions.

Before joining UNSW in 2018, Yuanyuan held positions at Singapore Management University. Yuanyuan received her Ph.D. in Economics from the State University of New York-Stony Brook in 2016. During her PhD study, her research focused on Medicare costs at both the individual and aggregate level, as well as the interactions between Medicare and Social Security. Her research has been supported by the Michigan Retirement and Disability Research Center (MRDRC) and the Center for Retirement Research (CRR) at Boston College.

This paper proposed a new Bayesian framework for old-age mortality that allows for death underreporting. They introduced a reporting probability, which is defined as the ratio of reported deaths to real deaths and uses informative priors derived from demographic death distribution methods. The team showed that the proposed modelling framework works well for province-level old-age mortality data (ages 60–99) in China over 1982–2010. Compared to a more conventional framework that assumes the reported data are accurate and uses reported mortality data directly, the proposed framework provides a better fit.

Other

In a nod towards COVID-19, the Hub produced an account of how the Wuhan lockdown was implemented. This has been published as:

Li B.Q. and Lu B., (2020) 'How China made its COVID-19 lockdown work', *East Asia Forum*, April 7, 2020.

Fighting against the spread of COVID-19 requires people to maintain social distancing and isolate from sources of infection, as advised by the World Health Organization. China's approach was a 'draconian' lockdown. The article discussed what communities needed to be prepared for when it happened. This included enforcing social distancing and the travel ban; digital gadgets for monitoring and surveillance with minimal human contact and regular health checks. Logistics of food and medicines to housebound residents is critical in strict lockdowns. The article reviews Chinese government actions and its mistakes in enforcing these arrangements.

In an early external funding success for the Hub, George Kudrna led a successful ARC Linkage Grant application, in collaboration with the World Bank and the Indonesian Ministry of National Development Planning (Bappenas) to develop a cutting-edge economic policy model that can be used by policymakers in emerging economies in Asia.



DR SOPHIE YAN
BSc Econ. PhD UNSW
RESEARCH FELLOW

Sophie is a CEPAR Research Fellow based at the UNSW Business School. She joined CEPAR after completing her PhD in Economics at UNSW Sydney.

Sophie's work before 2019 mainly contributed to the CEPAR research briefs and other policy briefs, including topics like relative poverty among the elderly, retirement incomes, pension systems and labour market for seniors.

Starting from early 2019, she has been also affiliated with the UNSW Ageing Futures Institute. Her research studies people's behaviour in health economics and labour economics, with a focus on policy evaluation. Sophie's current projects include long-term care for the elderly and housing in Australia.

FEATURED HUB RESEARCHERS

OTHER INVESTIGATORS INVOLVED IN THE HUB IN 2020 INCLUDED:



DR KATJA HANEWALD

MSc Econ PhD Humboldt-Universität zu Berlin

Director of Hub Research and Associate Investigator

Katja Hanewald is a Senior Lecturer in the UNSW School of Risk and Actuarial Studies. She is also a CEPAR Associate Investigator and the Director of Research of the Ageing Asia Research Hub.

Her research addresses risk management and insurance aspects of population ageing with a focus on China. Her current research investigates optimal retirement financial decisions of older households in China and the design of retirement financial products such as reverse mortgages, long-term care insurance, and annuities.

Katja held academic positions at Humboldt-Universität zu Berlin, Germany (2008-2010), and at the University of New South Wales (2011-2013) and worked at the German Federal Ministry of Finance (2013-2015). She obtained her doctoral degree in Economics from Humboldt-Universität zu Berlin in November 2010.



PROFESSOR JOHN BEARD

MBBS Adel., PhD USyd

John Beard is a Professor at CEPAR in the UNSW Business School. In this role, he shapes the development and growth of the Centre's research program, especially projects focused on Asia.

He is also currently a Commissioner with the US National Academy of Medicine's Commission on Healthy Longevity and Chief Adviser to the European Institute of Innovation and Technology (EIT) Health.

John Beard is a former Director of WHO's Department of Ageing and Life Course, a position he held from 2009 to 2018. During his time at WHO he was also the Director of the Department of Gender, Women and Health from 2010 to 2012. He was a lead writer and editor of the first WHO *World Report on Ageing and Health* (2015), and oversaw the development of the Global strategy and action plan on ageing and health, adopted by WHO Member States in May 2016.

In 2010, he launched the Global Network of Age-friendly Cities and Communities. John Beard works closely with the World Economic Forum and is a past chair of their Global Agenda Council on Ageing and a current member of the Global Council on the Future of Human Enhancement.



PROFESSOR HANMING FANG

BA Fudan, MA Virginia, PhD Pennsylvania

Partner Investigator and Professorial Fellow

Hanming Fang is Joseph M. Cohen Term Professor of Economics at the University of Pennsylvania and a Research Associate at the National Bureau of Economic Research, where he served as the Acting Director of the Chinese Economy Working Group from 2014-2016. He is also a Research Associate of the Population Aging Research Center, a Senior Fellow at the Leonard Davis Institute of Health Economics, and an Executive Committee Member of the Center for the Study of Contemporary China, all at the University of Pennsylvania. In addition, he is a Senior Fellow of the Asian Bureau of Economic and Finance Research in Singapore.

He is an applied microeconomist with broad theoretical and empirical interests focusing on public economics. His current work focuses on issues related to insurance markets, particularly the interaction between health insurance reform and the labour market. He also studies the Chinese economy, particularly in relation to population ageing and social security.

He has been a co-editor for leading economics journals and was elected as a Fellow of the Econometric Society in 2018.

Before joining the Penn faculty, he held positions at Yale University and Duke University.

RESEARCH TRAINING AND MENTORING

THE CEPAR RESEARCH ENVIRONMENT IS UNIQUE GLOBALLY IN ENCOURAGING RESEARCHERS AT ALL CAREER STAGES TO DRAW ON DEEP KNOWLEDGE OF THEIR OWN DISCIPLINES WHILE ENGAGING WITH COLLEAGUES FROM DIFFERENT COGNATE BACKGROUNDS.

CEPAR offers a range of initiatives designed to enhance the experience of researchers in the Centre's four targeted groups: mid-career (MCR), early career (ECR), PhD students, and undergraduates. These initiatives are aimed at developing researchers not only affiliated with CEPAR but also those affiliated with other national, and in some cases international, groups focused on the issue. In this way, CEPAR plans to play a key role in national capacity building and networking, with the aim of driving impact in the field of population ageing in the longer term.

CENTRE-WIDE EVENTS

In addition to the initiatives targeted at specific cohorts outlined below, CEPAR also provided formal opportunities for the Centre's mid-career and emerging researchers to come together with senior researchers. A virtual cross-nodal seminar series provided opportunities for emerging researchers to share their work with their colleagues, garner different perspectives, and explore opportunities for collaboration. Each of the six presentations in 2020 were well-attended and feedback was extremely positive.

CEPAR's annual workshop provided an opportunity for our researchers and students to gain an in-depth understanding of the entire CEPAR research program, including progress-to-date and future research directions. Usually held as an in-person workshop, it was decided in 2020 to hold the event in two stages, with personnel

convening for a two-day online event in November 2020 with an in-person event to be organised in 2021 as state border restrictions permit. The two-day event included virtual poster presentation sessions designed to showcase the work of our emerging and mid-career researchers.

EARLY AND MID-CAREER RESEARCHER MENTORING AND TRAINING

ECRs and MCRs are mentored by CEPAR senior researchers and have opportunities to interact with experts within the five collaborating universities, as well as more broadly through CEPAR's extensive networks. CEPAR ECRs and MCRs participate in Centre activities such as workshops and seminars, serve on CEPAR subcommittees and Stakeholder Reference Groups, contribute to the Centre's working paper series, and have opportunities to develop a range of skills.

CEPAR MENTORING SCHEME

The formal CEPAR Mentoring Scheme, launched in 2018, matches senior researchers with ECRs and MCRs to support the professional and personal growth of the mentees.

The program supports the development of leadership and relationship skills which mentees will require to go on to independently establish and manage large, complex multidisciplinary projects that are firmly engaged with national and international partners in academe, government and industry.

Mentees may use the scheme to seek advice on career and goal planning; work/life balance; the development of skills and leadership capabilities; publication or grant application strategies; or strategies for engaging with or translating research for stakeholders and/or the media. Networking or other opportunities may also be facilitated through the mentor's connections.

The Scheme also enhances connection and collaboration within and across nodes as well

as with other institutions where our mentors are based.

FUTURE LEADERS IN AGEING PROGRAM

This program aims to develop the skills of CEPAR's mid-career researchers, providing them with experience and training to support the next steps in their careers. Offered for the first time in 2019, the program was developed by CIs Sharon Parker and Marian Baird with the facilitation of the program and its preceding activities and exercises carried out by Denise Weinreis, who specialises in coaching for leadership and teamwork. In 2020, a series of regular virtual meetings was convened by Denise Weinreis, to provide opportunities for participants to further develop their skills. The focus was on seeking opportunities for leadership within the participants' own individual workplaces with Denise providing support through the process. In 2020, the Future Leaders' cohort was also tasked with facilitating and participating in the design and delivery of the Career Development Workshop series led by CI Marian Baird and Denise Weinreis.

CAREER DEVELOPMENT WORKSHOP

This new initiative in 2020 was spearheaded by CI Marian Baird and Denise Weinreis. An organising committee made up of ECRs assisted Marian and Denise along with the Future Leaders group in designing the program which ran over three sessions in September, October, and November.

Each of the sessions focused on a particular issue with CIs providing personal perspectives on the theme prior to participants exploring the issue in depth in small groups. The session themes were: Career paths (featuring CIs Peter McDonald and Fiona Blyth); collaborative leadership (featuring CIs Sharon Parker and John Piggott); and managing difficult conversations (featuring CIs Hazel Bateman and Michael Sherris).

23 people from across the nodes participated in the workshop and feedback was extremely positive.

RESEARCH TRAINING AND MENTORING



ALISON WILLIAMS

Research Associate and
Career Development
Workshop Participant
UNIVERSITY OF SYDNEY

'In 2020 I was fortunate to attend a series of career development workshops under the warm guidance of CEPAR CI Marian Baird and organisational coach Denise Weinreis, ably assisted by more senior CEPAR research fellows. In the workshops we were encouraged to think strategically about our careers and explored how to collaborate productively and happily in a cross-disciplinary environment. Another session focused on how to handle difficult conversations which I found not only useful for my academic career but my wider life as well. Dee was a skilled facilitator and all our sessions were engaging, informative and useful. I'm sure all participants would agree with me that a highlight of our sessions were the frank and honest presentations on their own careers from John Piggott, Sharon Parker, Peter McDonald, Fiona Blyth, Hazel Bateman and Michael Sherris. Learning from them how they progressed their careers was incredibly valuable.'

EARLY CAREER RESEARCHER METHODOLOGY WORKSHOP

A training workshop, 'Handling longitudinal missing data using multiple imputation' was hosted online by the CEPAR UNSW node in December 2020. It was convened by CEPAR CI Kaarin Anstey and presented by Md Hamidul Huque, a research fellow and statistician at the School of Psychology, UNSW Sydney.

The course, which was attended by twelve participants, covered the application of various multiple imputation methods to deal with missing data in complex analyses, including longitudinal models and clustered data.

STAKEHOLDER ENGAGEMENT PROGRAM

Offered for the first time in 2020, this initiative is designed to support researchers to develop the skills necessary to effectively engage with stakeholders and communicate social science research. Each year the workshop will focus on either (i) translating a research project to be accessible to end-users or (ii) 'pitching' a research project with the aim of securing a collaborative research partner.

In 2020, the focus was on 'pitching' where workshop participants, under the mentorship of experienced CEPAR researchers, were provided with the opportunity to hone their skills in this area. The program comprised three sessions. The introductory session, led by John Piggott, Hazel Bateman and Marc de Cure explored the various elements of the engagement process: building relationships; exploring the needs of the potential partner; and 'closing the sale' to achieve the desired outcome. Following this session, each ECR participant developed their individual engagement strategy and pitch for their target partner with guidance from a designated mentor. These were presented in the second session, followed by constructive feedback from the convenors, which in turn shaped the final presentations delivered in the third session.



INKA EBERHARDT

CEPAR Research Fellow
and Stakeholder
Engagement Program
participant
UNSW SYDNEY

'The Stakeholder Engagement Program was very helpful to me. Each convenor had great insights about different aspects of the process. Topics covered were language use, costs and benefits for the academic and the stakeholder, as well as procedural dos and don'ts. A particularly beneficial feature was that the program was hands-on, so we could practice how to best pitch and talk to stakeholders. My mentor, Susan Thorp, was a very good match for me. She is very engaged and provided me with viewpoints specific to my research field. All in all, I'd recommend this program to any researcher at CEPAR.'

NATIONAL AND INTERNATIONAL NETWORKING OPPORTUNITIES

Over the years CEPAR has invested significant resources in creating opportunities for emerging researchers to develop their international networks and communicate the results of their research to international peers. COVID-19 border restrictions prevented researchers from taking advantage of the formal funding schemes designed to support these interactions this year, although some students and fellows did have the opportunity to present their research at virtual conferences and meetings. In 2021 the Mentoring subcommittee will discuss how best to support networking in the current climate of border restrictions.



TIN LONG HO
CEPAR PhD student
UNSW SYDNEY

'As a third year PhD candidate, I recognised the need to develop my reputation through different networking events. Although 2020 was a tough year, I managed to present in various virtual conferences which enabled me to receive feedback from international experts. The conferences I presented at included the 55th Actuarial Research Conference, the World Risk and Insurance Economics Congress 2020 and the 28th Colloquium on Pensions and Retirement Research. I also presented in the industry conference 20/20 All-Actuaries Virtual Summit which helped me not only communicate my research to academics, but also to industry practitioners all over the world.'

The Centre's visitors' program, which normally also provides students, ECRs and MCRs with opportunities to expand their international networks, was also severely impacted by border restrictions in 2020. It also affected the ability to host visiting ECRs and PhD students from institutions with which CEPAR is building a collaborative research program. As a result, the Centre was only able to host a single visiting PhD student in 2020 who arrived before border restrictions were imposed.



QIQI WANG
Visiting PhD Student from
School of Statistics,
Renmin University, China
1 January – 31 December
2020
UNSW SYDNEY NODE

'CEPAR is a great place to gain research experience. It offers me opportunities to participate in research events and get acquainted with leading researchers. I have visited CEPAR at the UNSW Sydney node since 2019 as a PhD student as part of the UNSW Study Abroad Research Practicum Program under the supervision of CEPAR Associate Investigator Katja Hanewald. During my visit, we completed the joint project "Multi-State Health Transition Modeling Using Neural Networks". We are now starting a new project on multi-population mortality modelling using neural networks. CEPAR helps and motivates me to be devoted to ageing research. The researchers and their enthusiasm here inspire me to explore the solutions to world ageing issues.'

HIGHER DEGREE RESEARCH TRAINING

53 HDR students were enrolled under the supervision of CEPAR Investigators and working on topics aligned with the Centre's research agenda in 2020. Details of their research theses are provided on pages 81-84. These students have the opportunity to participate in a range of Centre activities, including conferences and workshops and meetings with international visitors.

The Centre contributes to the development of national research capacity more generally through support for the Emerging Researchers in Ageing (ERA), an initiative which aims to bring together students interested in ageing research and provide them with opportunities to form networks and undertake collaborative endeavours. In 2020, ERA membership continued to grow, with over 950 registered members, primarily graduate students drawn from a wide range of disciplines but also key professionals, industry stakeholders and representatives from peak bodies in the ageing field keen to play a role in supporting emerging researchers.

CEPAR's funding support allows the ERA administrative team to coordinate educational and mentoring activities for research students and early career researchers in the ageing field. The key annual ERA activity is the ERA National Conference. However, due to the ongoing impact of COVID-19 the ERA 2020 conference scheduled for Hobart was cancelled. With the support of CEPAR, the ERA funds which would have been devoted to the annual conference were used to support emerging researchers to participate in the 53rd Australian Association of Gerontology (AAG) conference, 'A climate for change in ageing'—a digital event. This included providing \$100 bursaries to subsidise full conference registration.

RESEARCH TRAINING AND MENTORING

ERA also partnered with the AAG Student and Early Career Group (SECG) to co-host two AAG 2020 pre-conference workshops:

- 10 November: *How to become a resilient researcher*, presented by Dr Richard Huysmans, research strategist and career coach, and facilitated by Dr Katrin Gerber from the National Ageing Research Institute and University of Melbourne and Dr Matthew Carroll from Monash University (127 registrations)
- 17 November: *How to influence people with your research*, presented by Professor Inger Mewburn ('The Thesis Whisperer'), Director of Researcher Development at the Australian National University, and facilitated by Dr Joanne Tropea from the Royal Melbourne Hospital and University of Melbourne and Dr Matthew Carroll from Monash University (100 registrations).

With the support of ERA's conference sponsorship, these workshops were made available at no cost to students and early career researchers participating in the AAG 2020 conference, as well as other ERA and AAG members not otherwise participating in the conference. The registration for these pre-conference workshops greatly exceeded the usual attendance of similar in-person events held previously, which highlights a benefit of online sessions in terms of increased participation, including the added flexibility of asynchronous attendance, with participants provided access to session recordings for a period of time post-conference.

The enhanced collaboration between ERA and the AAG in 2020 also enabled ERA members to attend three additional AAG webinars throughout the year at no cost:

- 23 September: *Integrated & culturally sensitive service for older Aboriginal people. Practical solution or pipe dream?* (282 registrations)

- 30 September: *Coping with feelings of guilt when you believe you are not making progress* (134 registrations)
- Ongoing access: Recording of a special presentation on *Dementia and dementia care*, presented by Dr Sarah Cope (328 registrations)

ERA also collaborated with the AAG SECG to co-host a regular joint webinar. The selected topic was *Building research partnerships with key stakeholders* (22 July), presented by Dr Monica Cations from the South Australian Health and Medical Research Institute, Lui Di Venuto from the City of Onkaparinga, and Professor Judi Walker from Monash University, and facilitated by Mikaela Wheeler from the University of Queensland and Dr Matthew Carroll from Monash University. The three presenters shared their knowledge and experience of developing research partnerships in the field of ageing, and offered strategies and advice from both the researcher and partner perspective on how to develop partnerships and make research connections, including key strategies for increasing the likelihood of the successful translation of research. The session was well-attended, with 160 registered participants.

CEPAR's funding also supports the annual *ERA Travel Exchange Program* which makes funding available for up to one international and two national exchanges, enabling emerging researchers in ageing to connect with academic experts in their field. Unfortunately, the 2020 round of the Travel Exchange Program had to be deferred due to COVID-19 travel restrictions. The funding will be put towards additional exchanges in the next round, which is anticipated to be offered in 2021 (for 2022 travel).

UNDERGRADUATE STUDENT ENGAGEMENT

SUMMER SCHOLARSHIP PROGRAM

The CEPAR Summer Scholarship Program is now in its fifth year. The program provides successful applicants with the opportunity to work under the supervision of CEPAR Research Fellows for up to a six-week period over the summer break. The program generated a great deal of interest from undergraduate students in relevant disciplines who competed for five awards. The successful students and their research projects were:

Evelyn Chan

Which information, and in what format, can best help people choose the most suitable retirement income products?

Andrew (Jia) Wu

Distributed computing and structural estimation of high dimensional economic dynamics.

Marielle Dominguez

Social environment and biomarkers of ageing in different ageing cohorts.

Melantha Wang

Does the Gender-Concordance effect exist in long-term care?

Karl Michael Jacinto

Patterns in peak-performance and participation age in sport: A fact sheet.

The program is designed to provide students with a taste of working in a research centre and inspire them to pursue research studies.



KARL MICHAEL JACINTO
BActSt/BCom
UNSW SYDNEY

'In my experience as a CEPAR Summer Research Scholar, I have had the opportunity to work on a project analysing Olympics data, identifying trends in how peak performance age varies between different sports and across time. My project has been an exciting yet challenging experience that has allowed me to develop skills in areas such as data visualisation, time management, and research. Working with my supervisor Rafal Chomik has also been enjoyable. He has provided me the perfect balance of creative freedom and helpful guidance that has empowered me to work at my best. My experience as a Summer Research Scholar has given me a deep understanding of how researchers work and has inspired me to consider research as a future career.'

CEPAR RESEARCH STUDENTS

CEPAR affiliated students work under the supervision of CEPAR Investigators on topics aligned with the Centre's research agenda. In 2020 a total of 53 PhD students and three Honours students were affiliated with the Centre.

PHD COMPLETIONS

This year 14 PhD CEPAR affiliates submitted their theses for examination and/or graduated:

Md MUHAMMAD ABSOR

Thesis: Inequality in later life in rural Indonesia: Filling the gaps in meeting the needs of older persons
Supervisor: Dr Iwu Utomo
Co-supervisors: Professor Peter McDonald, Dr Arianne Utomo and Dr Brian Houle

KOFI AWUVIRY-NEWTON

Thesis: Needing, providing and supporting care: A mixed-methods study of older adults' functional abilities and care needs, caregivers' lived experiences, and social workers contributions in the lives of older adults in Ghana
Supervisor: Professor Julie Byles
Co-supervisors: Dr Meredith Tavener and Dr Kylie Wales

JENNIFER CULPH

Thesis: The experience of implementing a reablement program for people living with dementia across different health contexts
Supervisor: Professor Lindy Clemson
Co-supervisors: Dr Kate Laver and Dr Justin Scanlan

ARPITA DAS

Thesis: Nutrient intake and its effects on health outcomes and mortality among older men living in Australia: The Concord Health and Ageing in Men Project
Supervisor: Dr Vasant Hirani
Co-supervisor: Professor Robert Cumming

KATE MILLEDGE

Thesis: Study of the interrelationships between dietary intake, oral health, and frailty among older Australian men
Supervisor: A/Professor Vasant Hirani
Co-supervisors: Emeritus Professor Robert Cumming and Dr Fiona O'Leary

JANET MACCORA

Thesis: Interrogating the association between education and later-life cognition
Supervisor: Scientia Professor Kaarin Anstey and A/Professor Ruth Peters
Co-supervisor: Professor John McCallum

PHITAWAT POONPOLKUL

Thesis: Essays on demographic changes and macroeconomic implications
Supervisor: Professor Warwick McKibbin
Co-supervisors: Dr Larry Liu and Professor Renee McKibbin

MIJANUR RAHMAN

Thesis: Modelling trajectories of aged care use among older Australian women
Supervisor: Professor Julie Byles
Co-supervisor: A/Professor Liz Holliday

RESEARCH TRAINING AND MENTORING

ABUL RIZVI

Thesis: Evolution of Australian immigration policy
Supervisor: Honorary Professor Peter McDonald
Co-supervisor: A/ Professor Jeromey Temple

GEORGE SMYRNIS

Thesis: The effects of wealth and income projections on retirement decision making
Supervisor: Professor Susan Thorp

MICHELLE TEW

Thesis: Advancing health economic evaluation methodologies for health policy design in vulnerable populations
Supervisor: Professor Philip Clarke

BEFIKADU L. WUBISHET

Thesis: Health care utilisation and health economics of diabetes among Australian women
Supervisor: Professor Julie Byles
Co-supervisors: Dr Melissa Harris, Ms Danielle Lang and Dr Shamasunder Acharya

XIAO XU

Thesis: Variable annuity guaranteed benefits: An integrated study of financial modelling, actuarial valuation and deep learning
Supervisor: Professor Michael Sherris
Co-supervisors: A/Professor Jonathan Ziveyi and Professor Jennifer Alonso Garcia

PHD STUDENTS

In addition to those who submitted their PhD theses in 2020, the students listed below were also affiliated with CEPAR:

TSENSUREN BATSUURI

Thesis: Economic and environmental implications of an asymmetric global demographic transition
Supervisor: Professor Warwick McKibbin
Co-supervisors: Professor Creina Day and Dr Larry Liu

JACINTA BORILOVIC

Thesis: Evaluating the use of technologies to support older Australians to age in place
Supervisor: A/Professor Kate O'Loughlin
Co-supervisors: Professor Lindy Clemson and Dr Meryl Lovarini

NUR CAHYADI

Thesis: Health, long-term care and unmet needs: In search of sustainable support for older people in Indonesia
Supervisor: Dr Collin Payne
Co-supervisors: Dr Brian Houle and Dr Firman Kartaadipoetra

MENGXUE CHEN

Thesis: Health inequalities in China with its rapid demographic and socioeconomic changes
Supervisor: Professor Zhongwei Zhao
Co-supervisors: A/Professor Vladimir Canudas-Romo and Dr Adrian Hayes

SHU CHEN

Thesis: Financing long-term care services and insurance: Evidence from China
Supervisor: Dr Katja Hanewald
Co-supervisors: Professors Bingqin Li and Hazel Bateman

SOL CHUNG

Thesis: Mortgage choice behaviour and consumption response to natural disasters in Australia
Supervisor: Professor Susan Thorp
Co-supervisor: Dr Many Zhang

MARK COOPER-STANBURY

Thesis: Equity for our elderly: The supply and demand factors associated with equitable access to residential aged care
Supervisor: A/Professor Jeromey Temple
Co-supervisor: Professor Briony Dow

DANIEL DINALE

Thesis: Varieties of gendered capitalism: Understanding variations in cross-national female employment outcomes
Supervisor: Professor Marian Baird
Co-supervisor: Dr Chris F Wright

DOROTHY DUDLEY

Thesis: Understanding personal goals in retirement and their relationship with life satisfaction: An Australian perspective
Supervisor: A/Professor Kate O'Loughlin
Co-supervisors: Drs Vanessa Loh and Sophie Lewis

NICOLE EE

Thesis: The impact of social engagement on cognitive health and wellbeing in older adulthood: An investigation of barriers, enablers and mechanisms
Supervisors: Professor Kaarin Anstey and Dr Ruth Peters
Co-supervisor: Dr Fiona Matthews

ROSHEN FERNANDO

Thesis: Relationship between antimicrobial resistance and demographics: Key to mitigate global economic consequences
Supervisor: Professor Warwick McKibbin
Co-supervisors: Dr Larry Liu and Professor Renee McKibbin

LISA GULESSERIAN	Thesis: Uber fathers, flexible work and gender roles Supervisor: Professor Marian Baird Co-supervisor: Dr Alex Veen	SALVATORY KESSY	Thesis: Longevity risk models and actuarial applications with data analytics techniques Supervisor: Professor Michael Sherris Co-supervisors: Dr Andrés Villegas and A/Professor Jonathan Ziveyi
MITIKU HAMBISA	Thesis: Assessment of healthy ageing in the 1921-26 birth cohort of the Australian Longitudinal Study on Women's Health (ALSWH): Using driving as operational indicator of ageing well Supervisor: Professor Julie Byles Co-supervisor: Dr Xenia Dolja-Gore	LILIPRAMAWANTY KEWOK LIWIN	Thesis: Morbidity and mortality related to type 2 diabetes in Indonesia: Understanding the role of demographic changes Supervisor: Dr Collin Payne Co-supervisors: A/Professors Brian Houle and Vladimir Canudas Romo and Dr Matthew Kelly
ALEXANDRA HERRON	Thesis: The conundrum of informal eldercare for worker-carers and their workplaces Supervisor: Professor Julie Byles Co-supervisor: Dr Xenia Dolja-Gore	TRANG LE	Thesis: Modelling policy toward ageing in emerging economies: Indonesia and beyond Supervisor: Scientia Professor John Piggott Co-supervisors: Dr George Kudrna and A/Professor Loretti I. Dobrescu
TIN LONG HO	Thesis: Behavioural insights for retirement financial planning Supervisors: Professor Hazel Bateman and Dr Katja Hanewald Co-supervisor: Professor Hanming Fang	EBONY LEWIS	Thesis: Frailty and cognition across the adult life course Supervisors: A/Professor Ruth Peters and Scientia Professor Kaarin Anstey Co-supervisor: Professor Kenneth Rockwood
ALIZA HUNT	Thesis: Meaning Behind the metric: Understanding mental health in two samples of rural Indonesian elder. Supervisors: Professors Peter McDonald, Phil Batterham and Zachary Steel Co-supervisor: Dr Steve McEachern	YULONG LI	Thesis: Health status, mortality heterogeneity and implications for post-retirement product innovation Supervisors: Professor Michael Sherris and A/Professor Jonathan Ziveyi Co-supervisor: Dr Andrés Villegas
HOÀNG THỊ NHẬT HUYỀN	Thesis: Modelling policy toward ageing in emerging economies: Indonesia and beyond Supervisors: Professor John Piggott Co-supervisor: Dr George Kudrna and A/Professor Loretti I. Dobrescu	JAMES LIAN	Thesis: The impact of childhood adversity on late-life psychopathology Supervisor: Professor Kaarin Anstey Co-supervisor: Dr Kim Kiely
KERRY HWANG	Thesis: Ageing of older migrant Australians: An analysis harnessing population level datasets Supervisor: A/Professor Jeromey Temple Co-supervisors: A/Professors Bianca Brijnath and Dina LoGiudice	MITCHELL MCMASTER	Thesis: BBL-CD: A randomised controlled trial of multidomain dementia prevention for cognitive decline Supervisor: Professor Kaarin Anstey Co-supervisors: Professor Linda Clare, Dr Sarang Kim and A/Professor Nicolas Cherbuin
LUCINDA ILES	Thesis: An investigation into leadership behaviour in age diversity Supervisor: Professor Sharon Parker Co-supervisor: Dr Daniela Andrei	CATHY MONRO	Thesis: The changing nature of aged care in Australia: A qualitative description study of aged care reform impact on residential aged care providers, clients and families Supervisor: A/Professor Kate O'Loughlin Co-supervisors: A/Professor Lynette Mackenzie and Dr Sanetta Du Toit
DOREEN KABUCHE	Thesis: Longevity risk: Retirement income product innovation and risk management strategies Supervisor: Professor Michael Sherris Co-supervisors: A/Professor Jonathan Ziveyi and Dr Andrés Villegas		

RESEARCH TRAINING AND MENTORING

THI MINH HANG NGUYEN

Thesis: Machine learning tools for nested simulations
Supervisor: A/Professor Jonathan Ziveyi
Co-supervisors: Dr Andrés Villegas and Professor Michael Sherris

MAATHUMAI RANJAN

Thesis: The impact of disability schemes on the outcomes of people living with a disability
Supervisors: A/Professor Bernard Wong and Dr Katja Hanewald
Co-supervisor: Professor Michael Sherris

JAMES MAHMUD RICE

Thesis: Extensions to the Australian National Transfer Accounts
Supervisor: A/Professor Jeromey Temple
Co-supervisor: Professor Peter McDonald

DAVID RODGERS

Thesis: Demographic change and optimal policy responses
Supervisor: Professor Alan Woodland
Co-supervisor: Dr George Kudrna

DINBERU SHEBESHI

Thesis: Modelling the incidence of admission of older women to hospital, and the impact of comorbidity and frailty on hospital use
Supervisor: Professor Julie Byles
Co-supervisor: Dr Xenia Dolja-Gore

YAFEI SI

Thesis: Three essays on health, health care, and healthy ageing
Supervisors: Dr Katja Hanewald and Professors Bingqin Li and Hazel Bateman

MICHELLE KUNDAI VHUDZIJENA

Thesis: Mortality and morbidity predictive modelling with socio-economic factors
Supervisors: Professor Michael Sherris and Dr Andrés Villegas
Co-supervisor: A/Professor Jonathan Ziveyi

CHENG WAN

Thesis: Behavioural insights for retirement financial planning in China
Supervisor: Professor Hazel Bateman
Co-supervisors: Dr Katja Hanewald and Professor Hanming Fang

DANIEL WHEADON

Thesis: Means testing the Age Pension in Australia
Supervisor: Professor Alan Woodland
Co-supervisor: Dr George Kudrna

YUCHEN XIE

Thesis: Navigating aged care services for older Australians and their families: The consumer perspective
Supervisor: Scientia Professor Kaarin Anstey
Co-supervisors: A/Professor Myra Hamilton and Professor Carmelle Peisah

EVA ZELLMAN

Thesis: Enhancing age diversity and inclusion in the workplace: Age inclusion HR interventions that actually work
Supervisor: Dr Daniela Andrei
Co-supervisor: Professor Sharon Parker

WEIHONG ZHANG

Thesis: Gait, cognition and falls - from theory to practice
Supervisor: A/Professor Lee-Fay Low
Co-supervisors: Professor Lindy Clemson and Dr Josephine Gwynn

HONOURS STUDENTS

In 2020 the following Honours students were affiliated with CEPAR:

BEN CHIDIAC

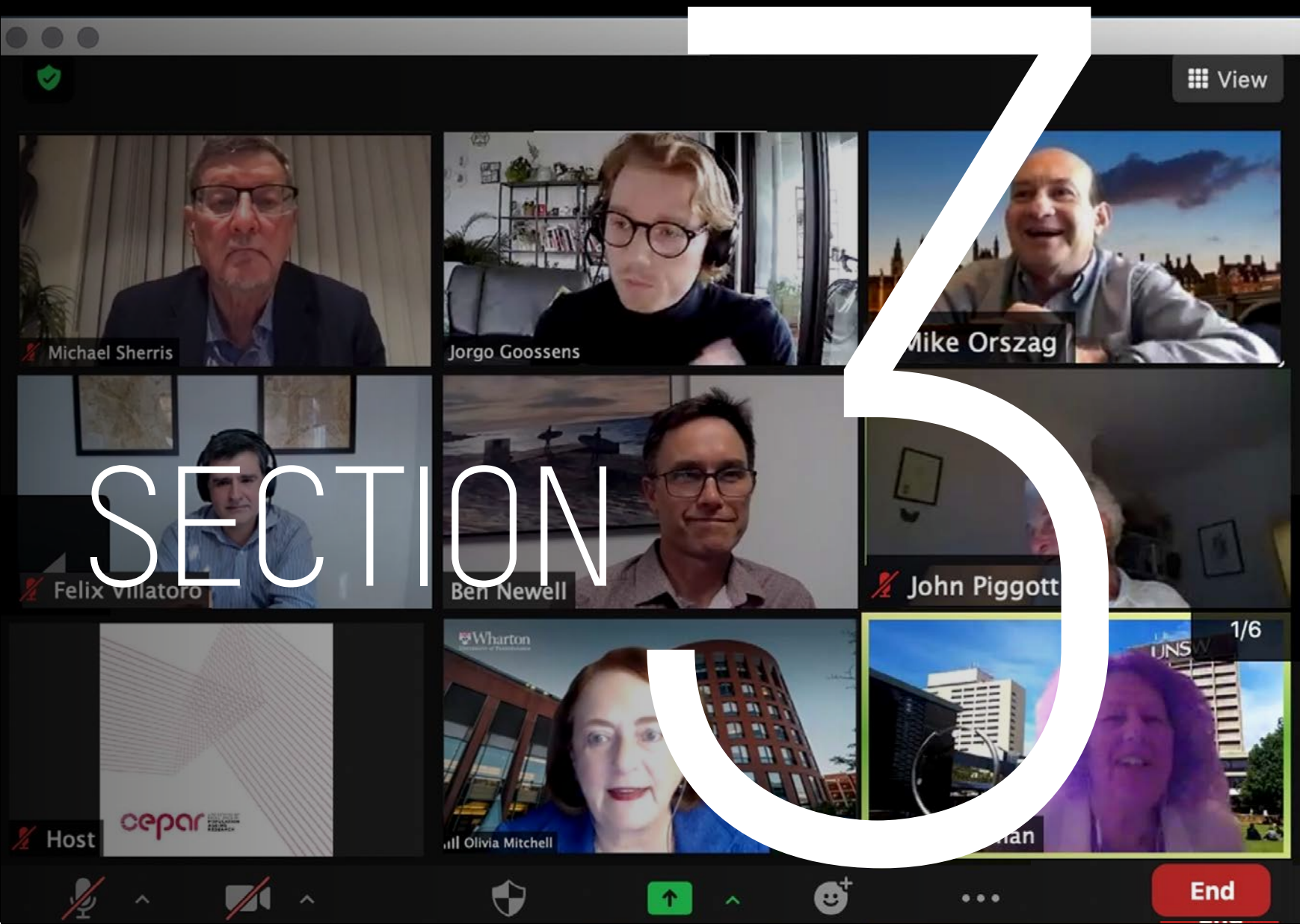
Thesis: Investigating genetic moderators of the effect of brain reserve on cognitive decline
Supervisors: Professor Kaarin Anstey and Dr Sophie Andrews

DANIEL KONTOROVICH

Thesis: The best mirror is an old friend – the impact of imagined contact with a same-aged peer on older adults' mathematical test performance under stereotype threat
Supervisors: Professor Kaarin Anstey and Dr Craig Sinclair

BOFANG TAN

Thesis: What is the smoothest retirement income product?
Supervisors: A/Professors Anthony Asher, Jonathan Ziveyi and Dr Heloise Labit Hardy



SECTION

EXTERNAL LINKAGES

EXTERNAL LINKAGES GLOBAL-PANDEMIC-STYLE: INVITED SPEAKERS AND CHAIRS AT THE SPECIAL SESSION ON PENSIONS AND COVID-19, HOSTED VIA ZOOM BY CEPAR IN DECEMBER 2020.

INDUSTRY & GOVERNMENT LINKS

IN 2020, CEPAR ORGANISED SEVERAL EVENTS DESIGNED TO PROVIDE PLATFORMS FOR DISCUSSION BETWEEN RESEARCHERS, POLICYMAKERS AND INDUSTRY PRACTITIONERS.

EVENTS

28TH COLLOQUIUM ON PENSIONS AND RETIREMENT RESEARCH

The Colloquium, co-hosted by CEPAR and the School of Risk & Actuarial Studies in the UNSW Business School, is a unique annual event, bringing together academics, government and industry to discuss the latest research on pensions, superannuation and retirement.

In 2020, over 100 representatives from the wider research community, government and industry participated in the 28th Colloquium on Pensions and Retirement Research, which was held both in person and online due to COVID-19 restrictions in place at the time. On 7 December, the Colloquium took place with local onsite presenters and delegates at UNSW Sydney, which was live-streamed for offsite delegates, and on 8-9 December it was held entirely online via interactive Zoom sessions. The feedback was very positive.

Convened by CEPAR Deputy Director Hazel Bateman, the Colloquium comprised high-level talks and presentations on pensions, superannuation and retirement in a post-COVID-19 world, including a plenary talk on a six-component integrated approach to addressing the retirement funding challenge, by Nobel Prize winner Professor Robert C. Merton of the MIT Sloan School of Management. His address was particularly topical in light of the



CI MICHAEL SHERRIS PRESENTING AT THE 28TH COLLOQUIUM ON PENSIONS AND RETIREMENT RESEARCH.

coronavirus shock that has had an unprecedented impact on lifetime income and consumption.

Also very topical was a Panel, focused on the Australian Government's Retirement Income Review, which was chaired by CEPAR Advisory Board Chair Marc de Cure. The final Retirement Income Review Report, released just two weeks prior to the event, was the focus of discussion by the invited panellists: Review Commissioner Professor Deborah Ralston, Aware Super CEO Deanne Stewart, Household Capital CEO Joshua Funder and CEPAR Director John Piggott.

Further Colloquium sessions covered latest research from over 40 presenters from around the world (Australia, Europe, North and South America), on the impact of COVID-19; retirement incomes, savings and outcomes; investment strategies; housing assets in retirement; pension and fiscal policies; mortality; ageing; and funding challenges and decisions.

Plenary sessions featured talks by CEPAR Chief Investigator Michael Sherris on *'Portfolio Management for Insurers and Pension Funds and COVID-19'* and CEPAR Associate Investigators Ben Newell on *'Determinants of Early-Access to Superannuation'*; Susan Thorp on *'Motivated Saving: The Impact of Projections on Retirement Saving'*; and Shang Wu on *'Portfolio Choice for Retirement Savings'*.

Five additional CEPAR personnel and seven CEPAR students presented their latest research findings on pensions, superannuation and retirement in a post-COVID-19 world.

The prize for the Best PhD Paper Presentation was awarded to CEPAR PhD Candidate Cheng Wan for his research on *'Optimal Portfolio Choice with Longevity and Health Insurance: A Developing Country Context'*.

ROUNDTABLE ON HOUSING AND AGEING

In March 2020, CEPAR hosted the third of its roundtables, moderated by CEPAR Advisory Board Chair Marc de Cure. The theme was Housing and Ageing. Chief Investigators Hazel Bateman, Peter McDonald, Michael Sherris and John Piggott, Senior Research Fellows George Kudrna and Rafal Chomik, and representatives from the Australian Human Rights Commission (AHRC), COTA, the Department of Social Services (DSS), MLC Wealth, NSW and Commonwealth Treasuries, and the Reserve Bank of Australia participated in a discussion designed to identify issues of particular concern to government, industry and the wider community as well as knowledge gaps and possible future research directions. The program featured presentations from Senior Research Fellow Rafal Chomik, on housing and ageing to set the scene; CEPAR Advisory Board members The Hon Kay Patterson AO (AHRC) and Ian Yates AM (COTA) on housing assets and security; and from partner organisation representatives Michelle Dowdell (Treasury) and Andrew Whitecross (DSS) on ageing and housing dynamics.

INFLUENCING POLICY AND PRACTICE

In addition to participating in CEPAR outreach events, CEPAR personnel contributed to the development of government policy and business and community practice in a number of ways in 2020.

SUBMISSIONS AND EXPERT ADVICE

CEPAR personnel provided expert advice on a range of matters in 2020, with major contributions in the areas of retirement incomes, aged care, fertility trends, immigration policy and international development policy.

CEPAR's submission in February to the Australian Government's Retirement Income Review included major contributions from Hazel Bateman, Rafal Chomik, Marc de Cure, Michael Keane, George

Kudrna, John Piggott, Michael Sherris, and Alan Woodland. Several meetings of CEPAR personnel with both Commissioners and the Secretariat also took place. The Final Review Report published in November by the Treasury mentioned CEPAR over thirty times and included references to 20 publications authored by CEPAR personnel.

Hazel Bateman consulted extensively with the superannuation industry, including Aware Super, Household Capital and Cbus, and is collaborating with MLC on the development of a Retirement Confidence/Preparedness Index. Along with John Piggott, she participated in COTA's Roundtable on Consumer-Focused Retirement Incomes.

Rafal Chomik, John Piggott and Michael Sherris made three written submissions to the Royal Commission into Aged Care Quality and Safety's consultation on Financing Aged Care and Piggott and Sherris also provided expert evidence. Julie Byles and co-author Emily Princehorn also made a submission to the Royal Commission's consultation on Aged Care Program Redesign: Services for the Future.

Peter McDonald's report on fertility trends in Australia was published by the Treasury's Centre for Population. He also briefed the Commonwealth Department of the Treasury and the NSW Department of Planning and Environment on projected fertility rates.

Throughout the year, McDonald also provided expert advice on migration policy both in Australia and abroad. This included participation in the Department of Home Affairs workshop on migration policy in the wake of COVID-19 as part of its Annual Industry Summit and a roundtable on the Australian Migration Program for 2020-21 organised by the Department in January; participation in a Roundtable on Migration Strategy with the Acting Minister for Immigration; briefing the Business Council of Australia on immigration policy for Australia; and a discussion with Minister Tokuro Furuya of the Embassy of

Japan, on the applicability of Australian immigration policy to Japan.

In February, various CEPAR personnel contributed to a CEPAR submission to the Department of Foreign Affairs and Trade's consultation on new international development policy. And Warwick McKibbin participated in a roundtable dialogue with Vietnamese officials convened by the Department of Foreign Affairs and Trade. Throughout the year he also met with representatives of the Federal Reserve Board, the Bank of England Advisory Committee and the Australian Commonwealth Treasury.

MEMBERSHIP OF ADVISORY GROUPS AND BOARDS

Kaarin Anstey served as a member of the Commonwealth Department of Health's Ageing and Aged Care Mission Executive Advisory Panel and the Australian Institute of Health and Welfare's Dementia in Australia Working Group. She also contributed to World Health Organisation guidelines on risk reduction for cognitive decline and dementia.

Hazel Bateman was appointed to the Advisory Board of the Conexus Institute which seeks to become a catalyst for change in the Australian retirement sector by connecting industry, academia, regulators and policymakers. She also serves as a member of UniSuper's Consultative Committee and Mercer's Global Pension Index Advisory Board.

Fiona Blyth served as Senior Advisor for a North Coast Primary Health Network project focused on the development of a system dynamics model to inform a healthy ageing strategy.

George Kudrna continued to serve as a member of the Commonwealth Treasury's Steering Group for Treasury's DLGA model.

Peter McDonald and Tom Wilson provided advice as members of the NSW's Department of Planning, Industry and Environment's Expert Population Advisory Group and McDonald presented on

INDUSTRY & GOVERNMENT LINKS

fertility trends at the Department's Population Matters Forum. McDonald continued to serve as a member of the Asian Demographic Research Institute Advisory Board.

Warwick McKibbin was appointed to the Australian Treasury Expert Panel on COVID-19.

John Piggott was appointed to the Population Expert Panel of the Australian Government's Centre for Population. He and John Beard continued to serve as members of the US National Academy of Medicine's International Commission on Creating a Global Roadmap for Healthy Longevity, along with fifteen other thought leaders, from both the public and private sectors.

Jerome Temple served on the Australian Institute of Health and Welfare's Aged Care Data Advisory Group and the NHMRC National Institute for Dementia Research's CALD review advisory group.

PRESENTATIONS

Highlights included an online plenary by Kaarin Anstey to the Alzheimer's Association International Conference on Global Guidelines for Dementia Risk Reduction which attracted over 10,000 participants, as well as presentations to the Commonwealth Department of Health's Primary Health Care Reform Taskforce National Dementia Workshop on dementia prevention and risk reduction in the primary care setting, and a joint Dementia Workshop on identifying people at risk for targeted interventions co-hosted by the Qatar Ministry of Health and the World Health Organisation.

Marian Baird shared her reflections on the Respect@Work Report' with the Australian Human Rights Commission; Myra Hamilton presented to Carers NSW on the experiences and impacts of being a young carer; and Sharon Parker addressed the Australian Attorney-General's Office Industrial Relations Reform Working Group on mental health in the workplace.

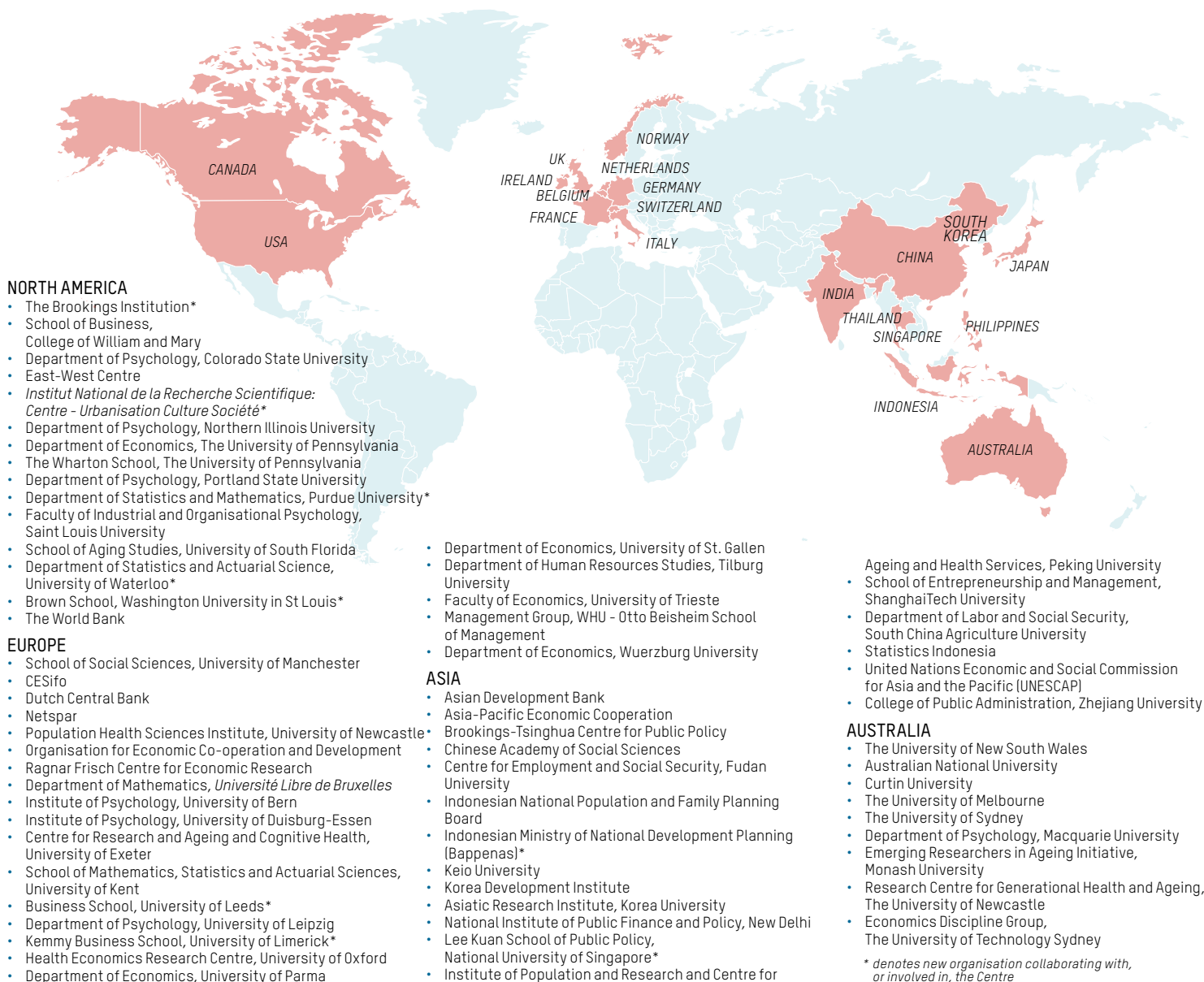


CI JOHN PIGGOTT AND CEPAR PROFESSORIAL FELLOW JOHN BEARD AT THE FEBRUARY MEETING OF THE GLOBAL ROADMAP FOR HEALTHY LONGEVITY COMMITTEE OF THE US NATIONAL ACADEMY OF MEDICINE.

Michael Sherris, Katja Hanewald and Tin Long Ho shared their research at the 2020 All-Actuaries Virtual Summit: Sherris on multi-factor continuous time mortality modelling and Hanewald and Ho on the demand for reverse mortgages.

NATIONAL & INTERNATIONAL LINKS

CEPAR'S CONNECTIONS WITH SPECIALIST GROUPS AND NETWORKS, BOTH NATIONALLY AND INTERNATIONALLY, ARE EXTENSIVE.



NATIONAL & INTERNATIONAL LINKS

CEPAR'S STRATEGIC RESPONSE TO COVID-19 SOCIAL RESTRICTIONS AND BORDER CLOSURES INCLUDED A MOVE FROM LIVE TO ONLINE EVENTS AND GREATER PARTICIPATION IN ONLINE EVENTS ORGANISED BY OTHER SPECIALIST GROUPS TO ENSURE A CONTINUED DIALOGUE WITH NATIONAL AND INTERNATIONAL COLLEAGUES. IN PARTICULAR, CEPAR'S LEADERSHIP OF A NUMBER OF VIRTUAL EVENTS ASSOCIATED WITH THE INTERNATIONAL PENSION RESEARCH ASSOCIATION EXTENDED OUR GLOBAL REACH IN 2020.

NATIONAL LINKAGES

CEPAR Chief Investigators and Australian-based Associate Investigators (AIs) connect the Centre with premier research groups around the country and its national outreach and engagement programs are designed to provide opportunities for all researchers focused on the issue of population ageing to come together to share research findings.

The Centre's *CEPAR Affiliates Scheme* aims to widen CEPAR's reach by providing a mechanism for researchers not eligible to become AIs to engage with CEPAR. In particular, it provides a mechanism for researchers based in industry and government to connect with the Centre.

CEPAR's Forum on Healthy Ageing played a major role in bringing together researchers focused on this issue from around the country. Hosted in collaboration with the UNSW Ageing Futures Institute, the event attracted 65 delegates, including representatives from industry, government and community groups.

Inspired by the UN's declaration of the 2020s as the 'decade of healthy ageing', the Forum brought together participants from multiple disciplines to explore concepts and measurement of healthy ageing as well as economic, environmental and social enablers. One of the aims of the event was to foster national collaboration, particularly across disciplines, and sectors. Participants included delegates from UNSW Sydney, NeuRA, ANU, the University of Melbourne, the University of Newcastle, the University of Queensland, the University of Sydney, and the University of Western Sydney as well as the Medibank Better Health Foundation, the Department of Health, the Dementia Centre, National Seniors Australia, Vocera and Guide Dogs NSW.

Highlights included CEPAR epidemiologist and former Director of WHO's Department of Ageing and Life Course, Professor John Beard, on the concept of healthy ageing and how to measure it; the University of Queensland's Professor Brenda Gannon on the economics of healthy ageing; and Laureate Professor Alan Lopez from the University of Melbourne on the impact of risk factors during adulthood and older ages on both mortality and disability.



CEPAR PROFESSORIAL FELLOW JOHN BEARD PRESENTING AT THE FORUM ON HEALTHY AGEING.

Other events in 2020 which served to strengthen our links with key researchers and research groups nationally as well as provide opportunities for emerging researchers to come together included the Annual Colloquium on Pensions and Retirement Research (see page 86) and the Pension, Retirement and Ageing Seminar Series. The series, jointly hosted by CEPAR and the School of Risk and Actuarial Studies at UNSW Sydney, attracted participants from a variety of universities and disciplines in 2020, including the CEPAR nodes as well as Macquarie University, NeuRA, and the University of Adelaide. The switch to online delivery from April 2020 resulted in greater participation across the nation, with the invitation acceptance rate increasing by more than 60%. Participants from industry and government included representatives of the Department of Social Services, Treasury and the Australian Securities and Investment Commission. Consideration is now being given to the idea of offering a dual-mode seminar series in the future in order to capitalise on both the networking opportunities of a face-to-face meeting as well as the inclusiveness and accessibility of an online event.

INTERNATIONAL LINKAGES

CEPAR Partner and Associate Investigators provide exceptional opportunities for CEPAR to engage with leading international groups. The Centre's strong links with specialist groups working on a range of issues pertinent to the challenges of population ageing provide the foundation for joint workshops, grant applications to fund collaborative research programs, and other initiatives.

In 2020, CEPAR played a leading role in uniting pension researchers across the globe following the establishment of the International Pension Research Association (IPRA), with CEPAR Chief Investigator Hazel Bateman as its inaugural President. Three major online events attracted

strong interest from the international research community, providing a forum to share insights and experiences and to maintain and expand connections in a climate of border restrictions.

Regionally, CEPAR remains strongly committed to expanding its linkages. In 2019 CEPAR established the Ageing Asia Research Hub (AARH), partially supported by a large grant from the UNSW Business School, to expand the work previously undertaken by the Australia-China Population Ageing Research Hub. A major objective of the Hub is to build connection between the UNSW Sydney node of CEPAR and leading research institutions in Asia. A planned workshop on Population Ageing and the Chinese Economy to be held in Shanghai jointly hosted by the AARH and ShanghaiTech was postponed to 2021 as a result of border closures. In addition, a new linkage grant project, focused on Indonesia but with strong potential for application to other Southeast Asian nations, strengthens CEPAR's collaboration with The World Bank and establishes a new connection with the Indonesian Ministry of National Development Planning (Bappenas). The project is led by CEPAR Senior Research Fellow George Kudrna and focuses on policy modelling for ageing in emerging economies.

CEPAR's ongoing membership of the Steering Group of the Association of Pacific Rim Universities (APRU) Population Ageing Research Hub strongly positions the Centre to lead regional collaborative initiatives in ageing research.

LEADERSHIP OF INTERNATIONAL ASSOCIATIONS AND HUBS

THE INTERNATIONAL PENSION RESEARCH ASSOCIATION (IPRA)

The International Pension Research Association (IPRA) is a new international organisation established with the aim of improving the quality and impact of research on pensions and related ageing issues to optimise social and economic outcomes for an ageing world.

Its inaugural executive committee comprises representatives of the four founding organisations: CEPAR; the Pension Research Council at the Wharton School of the University of Pennsylvania; the Network for Studies on Pensions, Aging, and Retirement (Netspar) at Tilburg University; and the OECD.

With CEPAR Chief Investigator Hazel Bateman serving as the Association's inaugural President, CEPAR has played a major role in 2020 in supporting IPRA in its vision to become the global voice of research in the fields of pensions, ageing and retirement. In addition to establishing the IPRA website, which serves to promote the organisation and its activities, CEPAR has also spearheaded the organisation of three highly successful online IPRA events: an international conference; a webinar on 'Procrastination, Retirement Savings, and Annuities' featuring the University of Illinois's Professor Jeff Brown; and a special session on 'Pensions and COVID-19: The Global Experience' which was held in conjunction with the 28th Colloquium.

Over 160 participants from 57 countries came together to hear from experts on pension challenges and opportunities at the IPRA conference, organised and co-hosted online by CEPAR in collaboration with the other founding members. Held on 26 June 2020, the conference was the fifth in the series of annual global meetings previously organised by the International Network for Pensions, Aging and Retirement Research, IPRA's precursor (which was also spearheaded by the four founding members of IPRA).

The international conference brings together academics, policymakers and industry practitioners from around the globe to discuss and debate the most pressing pension and retirement issues. With 75% of this year's audience drawn from government and industry, the conference provided a key opportunity to

NATIONAL & INTERNATIONAL LINKS

share the latest developments in pensions and retirement research with a view to influencing the development of policy and practice.

The diverse one-day program featured CEPAR Partner Investigator (PI) and world-renowned pension expert Professor Olivia S. Mitchell who discussed how an environment of persistent low returns influences saving, investing and retirement behaviours, compared to past 'normal' financial conditions. The program also examined such issues as sustainable finance, regulatory challenges, pension awareness through social media, overcoming barriers to a supportive, safe and healthy retirement, and current policy issues.

Jeffrey Brown, Dean of Gies College of Business, and professor in the Department of Finance, at the University of Illinois, delivered the inaugural IPRA webinar. The presentation on 'Procrastination, Retirement Savings, and Annuities' drew an audience of 124 participants from 47 countries. Attracting researchers, policymakers, industry practitioners and pension regulators from around the globe, the event provided an opportunity for engagement with individuals interested in the topic and served to build the profile of IPRA and, by extension, CEPAR.

As an example, the event registration process generated over 150 new subscribers to the CEPAR mailing list.

'Pensions and COVID-19: The Global Experience' was the theme of the IPRA special session of the 28th Colloquium of Pensions and Retirement Research co-hosted by CEPAR and the UNSW School of Risk and Actuarial Studies held on 14 December 2020. Featuring presentations by CEPAR CI Michael Sherris, PI Olivia S. Mitchell and AI Ben Newell, as well as international perspectives, the event attracted over 110 participants from 57 countries and again was instrumental in raising the profile of both CEPAR and the annual Colloquium.

Professor Mitchell's keynote address, *Building Better Retirement Systems in the Wake of the Global Pandemic*, assessed the status quo prior to the spread of the coronavirus, evaluated how retirement systems are faring in the wake of the shock, and examined insurance and financial market products that may render retirement systems more resilient for the world's ageing population.

THE APRU POPULATION AGEING RESEARCH HUB

Launched in 2015 at UNSW Sydney, The Association of Pacific Rim Universities' (APRU) Population Ageing Research Hub brings together world class researchers from different disciplines and provides opportunities for increased research collaboration on the topic of population ageing in the region.

Hosted by CEPAR/UNSW Sydney for the period 2015 -2017, with John Piggott acting as Chair and CIs McDonald and Cumming serving as two of ten members on the Steering Group, the Hub has been a key component of CEPAR's international linkages strategy.

From 2018 to 2020 the Hub was hosted by Keio University in Japan with Professor Atsushi Seike taking over the duties of Steering Group Chair. CEPAR remains actively involved in the Hub with CIs Piggott and McDonald remaining on the Steering Group. APRU remains an important conduit to connection in the region. From 2021, The Hub will be hosted by the University of Indonesia.



PROFESSOR
OLIVIA S. MITCHELL
BA Harvard, MA PhD
Wisconsin-Madison
PARTNER INVESTIGATOR

Dr Olivia S. Mitchell is International Foundation of Employee Benefit Plans Professor, and Professor of Business Economics/Policy and Insurance/Risk Management, at the Wharton School of the University of Pennsylvania. At Wharton, she is also the Executive Director of the Pension Research Council and the Boettner Center on Pensions and Retirement Research, a Fellow of the Wharton Financial Institutions Center, and a Fellow of the Leonard Davis Institute; she also serves on the Board of the Penn Aging Research Center. Concurrently Dr Mitchell is a Research Associate at the National Bureau of Economic Research and a Co-Investigator for the Health and Retirement Study at the University of Michigan.

Dr Mitchell's main areas of research and teaching are international private and public insurance, risk management, public finance, and compensation and

pensions. Her extensive publications (over 300 books and articles) analyse pensions and healthcare systems, wealth, health, work, wellbeing, household financial decision making, and retirement. She served on President Bush's Commission to Strengthen Social Security, the US Department of Labor's ERISA Advisory Council, and served as Vice President of the American Economic Association. She has addressed many groups including the World Economic Forum; the International Monetary Fund; the Investment Company Institute; the White House Conference on Social Security; and the President's Economic Forum. She is listed in the top 10 women economists of the world in 2020.

Professor Mitchell delivered the keynote address at the IPRA special session of the 28th Colloquium of Pensions and Retirement Research.

AGEING ASIA RESEARCH HUB

Driving the Centre's engagement with Asia is CEPAR's Ageing Asia Research Hub which pursues a multidisciplinary research program in three key related strands: healthy ageing; retirement incomes; and long-term care (see pages 72-76 for further details). Together, they will deliver new insights into priority reform areas, and the policy strategies to best suit the changing economic and demographic structure.

Led by John Piggott as the Hub's Director and Drs Katja Hanewald and Bei Lu as Directors of Research and Outreach respectively, the Hub also comprises five professorial fellows, five research fellows/senior research associates and four PhD students. The professorial fellows shape the development and growth of the Hub's research program and facilitate linkages with high quality organisations in the region.

To achieve major impact in the region, the Hub leverages CEPAR's existing collaborative relationships with leading universities and organisations in the region as well as its partnerships with the World Bank, the Department of Foreign Affairs and Trade and Willis Towers Watson. With collaborative research projects established in China, Indonesia, Singapore, Thailand and Vietnam, and connections with organisations such as the Asian Development Bank and the East-West Centre, the Hub seeks external partners, both within Australia and internationally, to develop specific research projects.

INTERNATIONAL COLLABORATIONS

CEPAR Personnel collaborate with an extensive range of national and international research groups. Two examples are provided below.

POLICY MODELLING FOR AGEING IN EMERGING ECONOMIES: THE CASE OF INDONESIA

A recently awarded ARC Linkage Project grant, for a project to be conducted in collaboration with the World Bank and the Indonesian Ministry of National Development Planning (Bappenas), will support major social and economic policy development in a rapidly ageing region by creating a major and enduring policy analysis resource for the Asian region.

The project aims to develop a cutting-edge economic policy model to capture salient structural characteristics of emerging economies, generating a powerful analytic instrument for policy analysis in the context of an ageing demographic, and calibrate this structure to the Indonesian economy, providing policymakers with a new, powerful and relevant instrument for policy analysis. It will also establish an extensive outreach program to facilitate knowledge transfer to stakeholders in the region. This will include model calibration to other economies. Both these will be delivered by working closely with its industry partners. The World Bank has a major investment in building technical capacity in Indonesia, one of its most important clients. Bappenas will provide expert knowledge of the Indonesian economy, detailed data, and advice on policy issues, as well as connection with high-level policymakers from a range of portfolios. Bappenas will also be a test-bed for workshops and capacity building programs that are an integral part of the project.

Once developed, the model has enormous potential as an aid to policy development across the region. This project includes within its scope

the development of data frames and protocols, allowing for calibration and application to other emerging economies in Southeast Asia.

The knowledge generated through model application to specific policy issues has the potential to improve the economic welfare of many millions of people.

A DYNAMIC MICROSIMULATION MODEL OF THE OLDER POPULATION

In 2020 CEPAR entered into a collaboration with the *Institut National de la Recherche Scientifique: Centre - Urbanisation Culture Société (INRS)* in Canada to support the construction of a dynamic microsimulation model of the older population in Australia. INRS has developed a dynamic microsimulation model for Canada and all 28 EU countries and their involvement will be invaluable in the development of an Australian model which aligns with the INRS model.

To be developed over the next two years, the basic CEPAR model will simultaneously project demographic (age, sex, place of residence, place of birth, immigrant status, age at immigration), ethnocultural (language spoken at home, English proficiency, race/ethnicity, religion) and socioeconomic (education, literacy, labour force participation) characteristics of the Australian population.

Once the basic model of the population has been developed, there is the potential to create additional modules, in collaboration with other CEPAR researchers, to project policy relevant results. For example, modules focused on disability prevalence, healthy ageing, or the future ageing labour market.

NATIONAL & INTERNATIONAL LINKS

INTERNATIONAL VISITORS & VISITS

Visits to collaborators at international institutions and the hosting of visitors from abroad has been a key feature of Centre life over the past decade with both incoming and outgoing visitors ranging from experts with distinguished reputations in their fields to early career researchers interested in developing research programs in the area of population ageing. Typically, the Centre's visitors participate in a range of CEPAR events and activities, contribute to the development and execution of research projects, and bring an international perspective to bear on the research program.

Border restrictions meant that this aspect of Centre life in 2020 was suspended with effect from March 2020. Visits in early 2020 are detailed below.

CEPAR hosted visits from the following researchers in 2020:

DR MALIKI BAPPENAS

Indonesian Ministry of National Development Planning,
Indonesia
21 February

PROFESSOR CAROL JAGGER

Newcastle University, UK
23 February – 11 March

DR MIKE ORSZAG

Willis Towers Watson, UK
13 February – 1 March

INTERNATIONAL VISIT

JOHN PIGGOTT

National Academy of Medicine (NAM), Washington DC
3 – 7 February

NATIONAL & INTERNATIONAL LINKS

SECTION

ANNUAL REPORT 2019

UNSW
SYDNEY

Australian
National
University

THE UNIVERSITY OF
MELBOURNE

Curtin University

THE UNIVERSITY OF
SYDNEY

Australian Government
Australian Research Council

ARC CENTRE OF
EXCELLENCE IN
POPULATION
AGEING
RESEARCH

report

2019

ARC CENTRE OF
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POPULATION
AGEING
RESEARCH

THE UNIVERSITY OF
SYDNEY

Australian Government
Australian Research Council

ARC CENTRE OF
EXCELLENCE IN
POPULATION
AGEING
RESEARCH

PERFORMANCE INDICATORS
& FINANCIAL STATEMENT

2020 KEY PERFORMANCE INDICATORS

MEASURE	2020 TARGET	2020 RESULT
Refereed journal articles	150	170
Book chapters	8	12
Working papers	20	26
Percentage appearing in top tier journals ²	30%	50.58%
Training courses held/offered by the Centre		
• Research ethics and compliance workshop	1	1
• Gender equity and diversity workshop	1	1
• ECR methodology workshop	1	1
• Emerging Researchers in Ageing workshop(s) ³	1	0
• Continuous time and financial modelling applications workshop ⁴	1	0
Workshops/conferences held/offered by the Centre ⁵	5	4
Additional researchers working on Centre research		
• Postdoctoral researchers	2	3
• Honours students	5	3
• PhD students	14	15
• Masters by research students	0	0
• Masters by coursework students	0	0
Associate Investigators	2	10
Postgraduate completions	4	13
Mentoring programs	3	4
Presentations/briefings		
• Public	15	22
• Government (parliamentarians and departments/agencies at both state and federal level)	45	55
• Industry/business/end users	20	44
New organisations collaborating with, or involved in, the Centre	2	9
Students mentored through the ERA program	800	900
Translational documents published	6	6

² Percentage of publications, indexed in Scopus and/or the Australian Business Deans Council (ABDC) Journal Quality List, included in the top 10% of journals by Scopus SciVal CiteScore Percentile or ranked by the ABDC as A or A*.

³ 2020 ERA conference cancelled due to pandemic. Funds that were to be used to support the ERA conference were instead used to support the participation of ECRs in the 53rd AAG conference and to co-host, in collaboration with the AAG Student and Early Career Group, two AAG pre-conference workshops (see p 80).

⁴ 2020 Workshop postponed to 2021 due to the pandemic.

⁵ Several planned conferences and workshops were postponed until 2021 due to the pandemic. These included the CEPAR Policy Dialogue, the third CEPAR Workshop on Data Linkage, a symposium on Indigenous Ageing, A workshop on Populating Ageing in Shanghai to be co-hosted in collaboration with Shanghai Tech, and a workshop on Understanding and Overcoming Confusion in Consumer Financial Decision Making.

A1 BOOK

- 1 C. Jagger, E.M. Crimmins, Y. Saito, R.T. De Carvalho Yokota, H. Van Oyen and J.M. Robine (Eds.) (2020). *International Handbook of Health Expectancies*. Springer.

B BOOK CHAPTERS

- 1 Anstey, K.J., Kiely, K.M. and Ee, N. (2020). Cognitive and Mental Health Expectancies. In Jagger, C., Crimmins, E.M., Van Oyen, H., Robine, J.M. and Saito, Y (Eds). *International Handbook of Health Expectancies*. Springer.
- 2 Baird, M. and Heron, A. (2020). The Life Cycle of Women's Employment in Australia and Inequality Markers. In R. D. Lansbury, A. Johnson & D. van den Broek (Eds.) *Contemporary Issues in Work and Organisations: Actors and Institutions*. Routledge: UK.
- 3 Deng, Y. (2020). Medicaid for People with Disabilities. In Gu, D. and Dupre, M. (Eds.) *Encyclopedia of Gerontology and Population Aging*. Springer, Cham.
- 4 Gerpott, F. H. & Fasbender, U. (2020). Intergenerational Learning in Age-diverse Meetings: A Social Comparison Perspective. In Meinecke, A. L., Allen, J. A., & Lehmann-Willenbrock, N. (Eds.) *Managing Meetings in Organizations*. Bingley, UK.
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- 10 Robine, J.M., Jagger, C., Crimmins, E.M., Saito, Y. and Van Oyen, H. (2020). Trends in Health Expectancies. In Jagger, C., Crimmins, E.M., Van Oyen, H., Robine, J.M. and Saito, Y (Eds). *International Handbook of Health Expectancies*. (pp. 19-34). Springer.
- 11 Robine, J.M., Crimmins, E.M., Jagger, C., Saito, Y., Tiene De Carvalho Yokota, R. and Van Oyen, H. (2020). Conclusions and Future Directions. In Jagger, C., Crimmins, E.M., Van Oyen, H., Robine, J.M. and Saito, Y (Eds). *International Handbook of Health Expectancies*. (pp.295-298). Springer.
- 12 Wilson, T. (2020). Population Growth. In Kobayashi, A. (Ed). *International Encyclopedia of Human Geography* (2nd edition). Elsevier.

C1 JOURNAL ARTICLES: ARTICLES IN SCHOLARLY REFEREED JOURNALS

- 1 Abbas, S.S., Majeed, T., Nair, B.R., Forder, P., Weaver, N. and Byles, J. (2020). Burden of Atrial Fibrillation and Stroke Risk among Octogenarian and Nonagenarian Women in Australia. *Annals of Epidemiology*. 44, 31-37 e2. doi: 10.1016/j.annepidem.2020.02.004.
- 2 Abbas, S.S., Majeed, T., Nair, B.R., Forder, P.M., Weaver, N. and Byles, J.E. (2020). Patterns of Medications for Atrial Fibrillation among Older Women: Results from the Australian Longitudinal Study on Women's Health. *Journal of Cardiovascular Pharmacology and Therapeutics*. doi: 10.1177/1074248420947278. [Available online 6 August 6 2020].
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- 4 Andrews, S., Goate, A. and Anstey K.J. (2020). Association Between Alcohol Consumption and Alzheimer's Disease: A Mendelian Randomization Study. *Alzheimer's & Dementia*. 16 (2), 345-353. doi: 10.1016/j.jalz.2019.09.086.
- 5 Andrews, S.C., Curtin, D., Hawi, Z., Wongtrakun, J., Stout, J.C., and Coxon, J.P. (2020). Intensity Matters: High-Intensity Interval Exercise Enhances Motor Cortex Plasticity More than Moderate Exercise. *Cerebral Cortex*. 30 (1), 101-112. doi:10.1093/cercor/bh2075.
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- 9 Anstey, K.J., Eramudugolla, R., Huque, H., Horswill, M., Kiely, K., Black, A., Wood, J. (2020). Validation of Brief Screening Tools to Identify Impaired Driving among Older Adults in Australia. *JAMA Network Open*. 3 (6), 208-263. doi: 10.1001/jamanetworkopen.2020.8263.
- 10 Anstey, K.J., Peters, R., Zheng, L., Barnes, D.E., Brayne, C., Brodaty, H., Chalmers, J., Clare, L., Dixon, R.A., Dodge, H., Lautenschlager, N.T., Middleton, L., Qiu, C., Rees, G., Shahar, S. and Yaffe, K. (2020). Future Directions for Dementia Risk Reduction and Prevention Research: An International Research Network on Dementia Prevention Consensus. *Journal of Alzheimer's Disease*. 78(1), 3-12. doi: 10.3233/JAD-200674.
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- 12 Awuviry-Newton, K., Tavener, M., Wales, K. and Byles, J. (2020). Interpretative Phenomenological Analysis of the Lived Experiences of Older Adults Regarding their Functional Activities in Ghana. *Journal of Primary Care and Community Health*. 11.
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RESEARCH OUTPUTS

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- Liu, W. (2020). Demographic Change, Carbon Convergence and Climate Policy. CEPAR Working Paper Series 2020/08.
- Liu, W. and McKibbin, W. (2020). Macroeconomic Impacts of Global Demographic Change on Australia. CEPAR Working Paper Series 2020/07.
- Liu, W. and Poonpolkul, P. (2020). Demographic Impacts on Life Cycle Portfolios and Financial Market Structures. CEPAR Working Paper Series 2020/05.
- Liu, W. and McKibbin, W. (2020). Global Macroeconomic Impacts of Demographic Change. CEPAR Working Paper Series 2020/06.
- Lu, B., Hong, M., Feng, G., Piggott, J. and Mayraz, G. (2020). The Impact of Cost-Sharing on Hospital Expenditure in China: A Regression Discontinuity Approach. CEPAR Working Paper Series 2020/26

- 15 Lu, Q., Hanewald, K., Villegas, A.M. and Wang, X. (2020). Subnational Old-age Mortality Modelling: Accounting for Underreporting in a Bayesian Framework. CEPAR Working Paper Series 2020/23.
- 16 McKibbin, W. and Fernando, R. (2020). Global macroeconomic scenarios of the COVID-19 pandemic. CEPAR Working Paper Series 2020/19.
- 17 Mitchell, O.S. (2020). Building Better Retirement Systems in the Wake of the Global Pandemic. CEPAR Working Paper Series 2020/13.
- 18 Olivo-Villabrille, M. (2020). The Marital Earnings Premium: An IV Approach. CEPAR Working Paper Series 2020/30.
- 19 Poonpolkul, P. (2020). Age-Dependent Risk Aversion: Re-evaluating Fiscal Policy. Volume 88, 2020. CAMA Working Paper Series.
- 20 Rice, J.M., Temple, J.B. and McDonald, P.F. (2020). Intergenerational Inequality and the Intergenerational State. CEPAR Working Paper Series 2020/10.
- 21 Tran, C. and Wende, S. (2020). Incidence of Capital Income Taxation in a Lifecycle Economy with Firm Heterogeneity. CEPAR Working Paper Series 2020/29.
- 22 Yu, D., Lu, B. and Piggott, J. (2020). Alcohol Drinking and Population Health: Evidence from China's Older Adults. CEPAR Working Paper Series, WP2020/32.
- 23 Wang, Q., Hanewald, K. and Wang, X. (2020). Multi-State Health Transition Modeling Using Neural Networks. CEPAR Working Paper Series WP2020/25.
- 24 Wu, S., Bateman, H., Stevens, R. and Thorp, S. (2020). Flexible insurance for informal long-term care: An experimental study of demand. CEPAR Working Paper Series 2020/11.
- 25 Zheng, W., Lyu, Y., Jia, R. and Hanewald, K. (2020). The Impact of Expected Pensions on Consumption: Evidence from China. CEPAR Working Paper Series 2020/03.
- 26 Zhou, X., Sherris, M., Ziveyi, J. and Xu, M. (2020). Financial Engineering: A Flexible Longevity Bond to Manage Individual Longevity Risk. CEPAR Working Paper Series 2020/04.

CEPAR TRANSLATIONAL DOCUMENTS

- 1 Bateman, H., Campo, R., Constable, D., Dobrescu, I., Goodwin, A., Liu, J., Newell, B. and Thorp, S. (September 2020). CEPAR Industry Report. 20K now or 50K later? What's Driving People's Decisions to Withdraw their Super.
- 2 Bateman, H., Chomik, R., de Cure, M., Keane, M., Kudrna, G., Piggott, J., Sherris, M. and Woodland, A. (February 2020). CEPAR Submission to the Retirement Income Review.
- 3 Chomik, R. COVID-19 and the Demographic Distribution of Health and Economic Risks. CEPAR Fact Sheet.
- 4 Chomik, R. and Piggott, J. (2020). Submission to the Royal Commission on Aged Care Quality and Safety. Age Care Financing.
- 5 Hanewald, K., and Piggott, J. (2020). CEPAR submission to the DFAT consultation on new international development policy.
- 6 Sherris, M. (2020). Submission to the Royal Commission on Aged Care Quality and Safety. Age Care Financing.

OTHER OUTPUTS

- 1 Baird, M. and Hamilton, M. (March 2020). Submission to the Inquiry by the Senate Community Affairs Legislation Committee into the Paid Parental Leave Amendment (Flexibility Measures) Bill 2020.
- 2 Baird, M., Gulesserian, L., Hamilton, M. and Williams, A. (2020) Poster. Employers, COVID-19 and Mature Workers. CEPAR Workshop 2020. Online.
- 3 Baird, M. and Hill, E. (February 2020). Report. COVID-19 and Women's Economic Participation: A Rapid Analysis on COVID-19 and Implications for Women's Economic Participation. The University of Sydney Business School.
- 4 Baldassar, L., Hill, E., Hamilton, M., Brennan, D., Dymand, T., Withers, M., Stevens, C. and Kintominas, A. (March 2020). Submission to the Select Committee on Temporary Migration. The Impact Temporary Migration has on the Australian Economy, Wages and Jobs, Social Cohesion and Workplace Rights and Conditions.
- 5 Bateman, B., Funder, J., Hanewald, K. and Ho, T.L. (2020). Poster. Demand for Reverse Mortgages: Behavioral Expectations. CEPAR Workshop 2020. Online.
- 6 Batsuuri, T. (2020). Poster. Economic and Environmental Implications of a Demographic Transition in a Life Cycle Model. CEPAR Workshop 2020. Online.
- 7 Byles, J. and Princehorn, E. (2020). Submission to Royal Commission into Aged Care Quality and Safety. Aged Care Program Redesign: Services for The Future.

- 8 Byles, J., Dow, B., Cornell, V., Lowthian, J. and Tavener, M. (2020). Editorial. Covid-19: Control Measures must be Equitable and Inclusive. BMJ. doi: 10.1136/bmj.m1141. (Available online 20 March 2020).
- 9 Dobson, A., Forder, P., Hockey, R., Egan, N., Cavenagh, D., Waller, M., Xu, Z., Anderson, A., Byrnes, E., Barnes, I., Loxton, D., Byles, J. and Mishra, G. (May 2020). Report prepared for the Australian Government Department of Health. The Impact of Multiple Chronic Conditions: Findings from the Australian Longitudinal Study on Women's Health.
- 10 Eberhardt, E. (2020). Poster. Substitutes or Complements – How Mortgages and Voluntary Super Contributions Fit in One Household Portfolio. CEPAR Workshop 2020. Online.
- 11 Green, L., Tavener, M. and Byles, J. (January 2020). Submission to the Royal Commission into Aged Care Quality and Safety. Aged Care Program Redesign: Services for the Future.
- 12 Group of Eight (Taskforce Members included CEPAR researchers Ee, N., McKibbin, W., Payne, C., Piggott, J. and Whiteford, P.) (July 2020). COVID-19 Roadmap to Recovery – A Report for the Nation. Group of Eight Australia.
- 13 Hoang, H. (2020). Poster. Life-cycle Model of Pension Reform in Emerging Economies: The Case of Vietnam. CEPAR Workshop 2020. Online.
- 14 Huang, Z., Sherris, M., Villegas, A. and Ziveyi, J. (2020). The Application of Affine Processes in Multi-Cohort Mortality Risk Models. Living to 100 Symposium Monograph.
- 15 Hill, E. and Baird, M. (June 2020). COVID-19, Economic Crisis and Gender Equality in Asia. East Asia Forum.
- 16 Iles, L. (2020). Poster. Maximising the Value of Age Diversity: A Qualitative Exploration. CEPAR Workshop 2020. Online.
- 17 Khalatbari Soltani, S. (November 2020). Poster. The Prospective Association between Socioeconomic Status and Falls Among Community-dwelling Older Men. CEPAR Workshop 2020. Online.
- 18 Kudrna, G. (2020). Poster. Wealth and Homeownership in Germany and Australia: The Role of Tax and Retirement Income Policy. CEPAR Workshop 2020. Online.
- 19 Krahe, K., Sherris, M., Villegas, A. and Ziveyi, J. (2020). A Value-Based Longevity Index for Hedging Retirement Income Portfolios. 2020 Living to 100 Symposium Monograph.
- 20 Le, T. (2020). Poster. Fertility, Human Capital and Intergenerational Transfers in Developing Countries. CEPAR Workshop 2020. Online.

- 21 Loxton, D., Forder, P., Townsend, N., Thomson, C., Mishra, G., Tooth, L. and Byles, J. (2020). Report. ALSWH COVID-19 Survey, Report 1: Survey 1, 29 April 2020.
- 22 Loxton, D., Forder, P., Townsend, N., Barnes, I., Byrnes, E., Mishra, G., Tooth, L. and Byles, J. (2020). Report. ALSWH COVID-19 Survey, Report 2: Survey 2, 13 May 2020.
- 23 Loxton, D., Forder, P., Townsend, N., Barnes, I., Byrnes, E., Mishra, G., Tooth, L. and Byles, J. (2020). Report. ALSWH COVID-19 Survey, Report 3: Survey 3, 27 May 2020.
- 24 Loxton, D., Forder, P., Townsend, N., Barnes, I., Byrnes, E., Mishra, G., Tooth, L. and Byles, J. (2020). Report. ALSWH COVID-19 Survey, Report 4: Survey 4, 10 June 2020.
- 25 Loxton, D., Forder, P., Townsend, N., Barnes, I., Byrnes, E., Mishra, G., Tooth, L. and Byles, J. (2020). Report. ALSWH COVID-19 Survey, Report 4: Survey 5, 19 August 2020.
- 26 McDonald, P. (2020). A Projection of Australia's Future Fertility Rates. Centre for Population Research Papers. The Australian Government, Canberra.
- 27 Meyricke, R., Miller, H. and Dixie, L. (2020). Mind the Gap – The Australian Actuaries Intergenerational Equity Index. Actuaries Institute Green Paper.
- 28 Piggott, J. and Chomik, R. (2020). Ageing and its Economic Implications. Social Development Policy Paper 2020/01. UNESCAP.
- 29 Poonpolkul, P. (2020) Poster. Age-Dependent Risk Aversion: Re-evaluating Fiscal Policy Impacts of Population Ageing. CEPAR Workshop 2020. Online.
- 30 Taksa, L., Paterson, R. and Paterson, W. (January 2020). Biomedical Engineering: A Critical Workforce in Healthcare Delivery. An Evidence Check Rapid Review Brokered by the Sax Institute for the NSW Ministry of Health.
- 31 Wan, C., Bateman, H., Hanewald, K. and Fang, H. (2020). Poster. Optimal Portfolio Choice with Longevity and Health Insurance: A Developing Country Context. CEPAR Workshop 2020. Online.
- 32 Williams, A. (October 2020). Could Work be a Protective Factor for Mature Workers during COVID-19. Research finding from the MWOS 2020 COVID T1 survey.
- 33 Williams, A. (October 2020). Mature Workers Adapt to Working from Home During COVID. Research finding from the MWOS 2020 COVID T1 Survey.
- 34 Williams, A. (October 2020). Employment Experiences During COVID-19. Research Finding from the MWOS 2020 COVID T1 survey.
- 35 Williams, A. (2020). Review of Policies and Practices For Mature Workers for City of Swan.
- 36 Williams, A. (2020). Review of Policies and Practices For Mature Workers for City of Swan.
- 37 Williams, A. (2020). Review of Policies and Practices For Mature Workers for City of Stirling.
- 38 Williams, A. (2020). Review of Policies and Practices For Mature Workers for City of South Perth.
- 39 Williams, A. (2020). Review of Policies and Practices For Mature Workers for State Government Agency.
- 40 Williams, A. (2020). Review of Policies and Practices For Mature Workers for State Government Department.
- 41 Xu, X. (2020). Poster. Deep Reinforcement Learning for Variable Annuities Hedging. CEPAR Workshop 2020. Online.
- 42 Zellman, E. and Petery, G. (2020). Poster. The Importance of Organisational Mentoring and Reverse Mentoring Programs to Work-Related Outcomes. CEPAR Workshop 2020. Online.
- 8 Bateman, H. (August 2020). Life Insurance, Decision States and the Role of Personal Values. World Risk and Insurance Economics Congress. New York, USA. Online.
- 9 Beard, J. (January 2020). Healthy Ageing and how to Measure it. Forum on Healthy Ageing. UNSW Sydney.
- 10 Byles, J. (January 2020). Healthy Ageing: A Multi-dimensional Perspective Contrasting Measures of Older People's Abilities Against their own Experiences. Forum on Healthy Ageing. UNSW Sydney.
- 11 Byles, J. (November 2020). Healthy Ageing at Very Old Ages – Perspectives of Women from the Australian Longitudinal Study on Women's Health. 53rd AAG Annual Conference. Online.
- 12 Byles, J. and Rahman, M. (November 2020). Impact of Life-style Factors on Health Life Expectancy from Mid-to-older Age: Evidence from Australian Longitudinal Study on Women's Health. 53rd AAG Annual Conference. Online.
- 13 Cooper-Stanbury, M. (November 2020). The Curious Incidence of Increasing Length of Stay in Residential Aged Care. AAG 53rd Annual Conference. Online.
- 14 Deng, Y. (January 2020). Delay Pension Age or Reduce Pension Benefit? Implications for Labor Supply and Individual Welfare. The North American Winter Meeting of the Econometric Society San Diego. San Diego, USA.
- 15 Eberhardt, I. (2020). Follow the Rating: How Disclosure Affects Retirement Income Product Choices in a Discrete Choice Experiment. Netspar's International Pension Workshop 2020, Leiden, Netherlands, January 2020 and World Risk and Insurance Economics Congress, New York, USA, Online, August 2020.
- 16 Fiebig, D. (2020) Is there a role for subjective health measures? Forum on Healthy Ageing. UNSW Sydney.
- 17 Gerpott, F. (August 2020). A Dual Pathway Model of the Effects of Two Age Diversity Training Programs. 80th Annual Meeting of the Academy of Management (AOM). Online.
- 18 Hambisa Mitsuku, T. (November 2020). Predictors of Driving Among Oldest-old Australian Women: Findings from the Australian Longitudinal Study on Women's Health based on the World Health Organization's Approach to Healthy Ageing. 53rd AAG Annual Conference. Online.
- 19 Hanewald, K. (August 2020). Bayesian Hierarchical Multi-population Mortality Modelling for China's Provinces. 55th Actuarial Research Conference and World Risk and Insurance Economics Congress. Both online.

E4 UNPUBLISHED CONFERENCE PRESENTATIONS

- 1 Alonso Garcia, J. (January 2020). Heterogeneity in Longevity and Redistribution of Pension Wealth. Workshop on Longevity Heterogeneity and Pension Design and Pension Design. UCLouvain. Ottignies-Louvain-la-Neuve, Belgium.
- 2 Alonso Garcia, J. (August 2020). Taxation and Policyholder Behavior: The Case of Guaranteed Minimum Accumulation Benefits. Annual Meeting of the Swiss Actuarial Association. St Gallen, Switzerland.
- 3 Anstey, K. (July 2020). Epidemiology and Data Linkage in the COVID ERA: The PATH Through Life, Study Workshop Presentation. Australian Digital Health Institute National Workshop. Online.
- 4 Anstey, K. (October 2020). Gender Differences in Cognitive Ageing: Description, Causes, and Consequences. Australian Psychological Society National Conference. Online.
- 5 Anstey, K. (October 2020). How Close are we to the Holy Grail of Dementia Prevention? Canadian Consortium on Neurodegeneration in Ageing. Online.
- 6 Anstey, K. (February 2020). Economic, Social and Environmental Enablers of Healthy Brain and Cognitive Ageing. Forum on Healthy Ageing. UNSW Sydney.
- 7 Baird, M. (August 2020). Tackling Gender Inequality through Law; Improving Accountability for Gender-Responsive Laws at the Domestic Level. ASSA Virtual Workshop. Australia. Online.

RESEARCH OUTPUTS

- 20 Ho, T. L. (August 2020). Long-term Care Financing using Home Equity Release: Evidence from an Experimental Study. World Risk and Insurance Economics Congress. New York, USA. Online.
- 21 Huang, Z. (January 2020). The Application of Affine Processes in Multi-Cohort Mortality Risk Models. Living to 100 Symposium. Orlando, Florida USA.
- 22 Keane, M. (2020). Recent Research on Labor Supply: Implications for Tax and Transfer Policy. 5th International Conference of European Association of Labour Economists, Society of Labor Economists and Asian and Australasian Society of Labour Economics. Berlin, Germany. Online.
- 23 Kessy, S. (August 2020). Stacked Regression Ensemble Learning for Mortality Forecasting. Actuarial Research Virtual Conference. Online.
- 24 McDonald, P. (November 2020). Economic Implications of Alternative Pathways of Fertility in Asian countries. Population and Sustainable Development Conference. Colombo, Sri Lanka. Online.
- 25 McKibbin, W. (December 2020). Macroeconomic Policy Adjustments due to COVID-19: Scenarios to 2030 with a Focus on Asia. 2020 ADBI Annual Conference: 'The Impacts of the COVID-19 Pandemic and its Policy Implications'. Online.
- 26 McKibbin, W. (July 2020). Global Macroeconomic Scenarios of the COVID-19 Pandemic. Mason Online Pandemic Modeling Forum. Online.
- 27 McKibbin, W. (November 2020). Is there a Global Re-set Post COVID? UBS Conference on Economic Outlook.
- 28 O'Loughlin, K. (2020). Sustainable Care International Review of Leave Policies. Work and Family Researchers Network 2020 Conference. Online.
- 29 O'Loughlin, K. (June 2020). Symposium on Innovation for Sustainable Care: International Perspectives from Industry and Practice. Transforming Care Conference. Copenhagen, Denmark. Online.
- 30 O'Loughlin, K. (June 2020). Combining Work and Care: Workplace Support and its Contribution to Sustainable Care Arrangements. Transforming Care Conference. Copenhagen, Denmark. Online.
- 31 Parker, S. (August 2020). Multilevel Perspectives on the Antecedents of Work Design. Academy of Management Proceedings. Online.
- 32 Parker, S. (September 2020). Employee Work, Well-being, and Productivity During Covid-19 (and Beyond). The SMART Work Design Model Australian Higher Education Industrial Association (AHEIA) COVID-19 Recovery Conference. Online.
- 33 Parker, S. (June 2020). When do Job Crafting Interventions Work? The Moderating Roles of Workload, Intervention Intensity, and Participation. Institute of Work Psychology International Conference 2020. Sheffield, America. Online.
- 34 Petery, G. (April 2020). Organizational Approaches to the Effective Management of an Age-diverse Workforce. The 35th Annual Conference for the Society for Industrial-Organizational Psychology, Austin, Texas, America. Online.
- 35 Petery, G. (April 2020). Challenges for the Structure and Nature of Future Work. The 35th Annual Conference for the Society for Industrial-Organizational Psychology. Austin, Texas, America. Online.
- 36 Petery, G. (April 2020). Ignite! Hot Topics for the Future of Work: The Future (Age Diverse) Workforce. The 35th Annual Conference for the Society for Industrial-Organizational Psychology. Austin, Texas, America. Online.
- 37 Piggott, J. (February 2020). Forum on Healthy Ageing. UNSW Sydney.
- 38 Piggott, J. and Chomik, R. (2020). Demographic and Technological Change: Two Megatrends Shaping the Labour Market in Asia. International Academic Conference on Economic and Social Impacts of Population Ageing: China in a Global Perspective, 30 November – 3 December 2020 and 2nd Annual Nikkei Super Active Ageing Society Conference, 17 November 2020. Both online.
- 39 Piggott, J. (November 2020). The Pension Superannuation System in Australia: Reforms and COVID-19 Impact. Webinar. Interamerican Development Bank Network for Pensions in Latin America and the Caribbean. Online.
- 40 Piggott, J. (February 2020). Measuring Up: International Indices of Ageing. National Academy of Medicine Workshop on Health Care and Public Health Systems for Healthy Longevity. Singapore.
- 41 Sherris, M. (August 2020). Developments in Multi-Factor and Multi-Cohort Continuous Time Mortality Modelling. Actuarial Research Virtual Conference. Online.
- 42 Sherris, M. (January 2020). Modelling Health Status and Functional Disability: An Actuarial Perspective. Forum on Healthy Ageing. UNSW Sydney.
- 43 Sherris, M. (January 2020). Managed Volatility Strategies for Pooled Annuity Products. WRIA Annual Meeting 2020. Puerto Vallarta, Mexico.
- 44 Villegas, A. (January 2020). Socio-economic Differences in Mortality: Implications for the Future of Mortality Analysis. Living to 100 Symposium. Orlando, Florida, USA.
- 45 Villegas, A. (January 2020). Mortality Modelling. Living to 100 Symposium. Orlando, Florida, USA.
- 46 Villegas, A. (October 2020). Innovations in the Design of Longevity Insurance Products. ICPM Discussion Forum. Sydney, Australia.
- 47 Wan, C. (August 2020). Optimal Portfolio Choice with Longevity and Health Insurance Products in a Developing Country Context. World Risk and Insurance Economics Congress. New York, USA. Online.
- 48 Yiengprugsawan, V. (January 2020). Social Capital Dynamics and Healthy Ageing. Forum on Healthy Ageing. UNSW Sydney.
- 49 Ziveyi, J. (January 2020). A Value-Based Longevity Index for Hedging Retirement Income Portfolios. Living to 100 Symposium. Orlando, Florida, America

SEMINAR PRESENTATIONS

- 1 Alonso García, J. (February 2020). Continuous Time Model for Notional Defined Contribution Pension Schemes: Liquidity and Solvency. Groupe de Travail: Actuariat et Risques Contemporains - Olivier Lopez, Caroline Hillairet et Christophe Dutang. Université Pierre et Marie Curie. Paris, France.
- 2 Alonso García, J. (June 2020). Optimal Mix Between Pay-as-you-go and Funding for DC Pension Schemes in an Overlapping Generations Model. IFAM Seminars, University of Liverpool. Liverpool, UK. Online.
- 3 Alonso García, J. (November 2020). Incorporating Taxation in the Valuation of Variable Annuity Contracts: The Case of the Guaranteed Minimum Accumulation Benefit. Department of Mathematics and Statistics, Colloquium. University of North Carolina. Charlotte, NC, USA. Online.
- 4 Andrews, S. (2020). The Role of Automatic Habit in Physical Activity Behaviours in Older People: A New Target for Lifestyle Interventions for Cognitive Health? Neuroscience Research Australia Seminar Series. Sydney, Australia.
- 5 Anstey, K. (July 2020). Epidemiology and Data Linkage in the COVID Era: the PATH Through Life Study. Australian Digital Health Institute.
- 6 Anstey, K. (February 2020). Women in Science - Personal Journeys and Avoiding the Leaky Pipe. UNSW Women in Science Seminar. Sydney, Australia.
- 7 Anstey, K. (September 2020). Dietary Risk Factors for Dementia. Nutrition Australia NSW and SHARE Webinar. Online.
- 8 Baird, M. (July 2020). Using Data Transparency to Advance Equality. ASSA seminar. Australia.

- 9 Bateman, H. (October 2020). Learning to Value Annuities: The Role of Information and Engagement. One World Actuarial Research Seminar (OWARS). Online.
- 10 Batsuuri, T. (May 2020). Macroeconomic and Environmental Implications of a Demographic Transition in a life-cycle model. CAMA Seminar. Online.
- 11 Byles, J. (June 2020). A Caring World - Responding to the Impact of the Coronavirus on Long-term Care. ILC Global Alliance Webinar. Online.
- 12 Byles, J. (July 2020). A Decade of Healthy Ageing? What Good Looks Like and how we get There? International Longevity Centre UK Webinar. Online.
- 13 Hanewald, K. (2020). Long-term Care Insurance Financing using Home Equity Release: Evidence from an Experimental Study. Australian National University, Research School of Finance, Actuarial Studies and Statistics Seminar, March, Canberra, Australia; UNSW Sydney, Superannuation, Retirement and Ageing Seminar, April, Sydney, Australia; Modern Risk Society, Seminar, June, Online; One World Actuarial Research Seminar (OWARS), May, Online; and University of Tasmania, School of Economics and Finance, Research Seminar, May, Online.
- 14 Keane, M. (October 2020). Health Shocks and the Evolution of Earnings over the Life-Cycle. Universitat Autònoma de Barcelona. Online.
- 15 Khalatbari Soltani, S. (June 2020). The Contribution of Health-related Behaviours and Psychosocial Factors to Socioeconomic Inequalities in Mortality among older Australian Men. CEPAR Cross-nodal Seminar Series. Online.
- 16 McDonald, P. (June 2020). The Impact of the COVID-19 Pandemic on Australia's International Migration. Organised by Flinders University and the Australian Population Association. Online.
- 17 McDonald, P. (October 2020). Estimating and Projecting Australia's Sexual Minority Population. ANU School of Demography Webinar Series. Online.
- 18 Olivo Villabrilie, M. (May 2020). Assortative Marriages and Household Income Inequality. University of Manitoba. Online.
- 19 Parker, S. (May 2020). SMART Work at Home. Australasian Research Management Society Professional Development Webinar Series. Online.
- 20 Poonpolkul, P. (May 2020). Demographic Impacts on Life Cycle Portfolios and Financial Market Structures. CAMA seminar. Online.
- 21 Poonpolkul, P. (September 2020). Age-dependent Risk Aversion: Re-evaluating Fiscal Policy Impacts of Population Ageing. CAMA seminar. Online.
- 22 Shanker, A. (September 2020). Structural Parameter Tuning for High Dimensional Dynamic Programming. UNSW ResTech Seminar Series. Online.
- 23 Sinclair, C. (July 2020). The Role of Executive Functions and Reward Sensitivity among Sub-types of Older Adults with Deliberative and Impulsive Decision-making Styles under Explicit Risk Conditions. CEPAR Pensions, Retirement and Ageing Seminar Series. Online.
- 24 Yiengprugsawan, V. (August 2020). Pain and its Impact on Functional Health: 7-year Longitudinal Findings among Middle-aged and Older Adults in Indonesia, Pensions, Retirement and Ageing Seminar Series. Sydney, Australia. Online.

COMMUNICATIONS, EDUCATION & COMMUNITY OUTREACH

30,268

WEBSITE HITS IN 2020
83,988 PAGE VIEWS

346

MEDIA ARTICLES
IN PRINT, RADIO,
TV & ONLINE MEDIA

20

MEDIA RELEASES
IN 2020

3,194

SOCIAL MEDIA FOLLOWERS
ON TWITTER, LINKEDIN,
YOUTUBE & FACEBOOK

IN 2020 THE CENTRE CONTINUED TO ENGAGE IN AN ONGOING DIALOGUE WITH, AND TRANSLATE ITS RESEARCH IN FORMS ACCESSIBLE TO, GOVERNMENT, INDUSTRY, ACADEMIA AND THE COMMUNITY.

WEBSITE AND RESOURCES

CEPAR's website continued to be a key element of the Centre's public profile, and steadily attracted new users. 19,772 people visited the website for 30,268 sessions. In particular, CEPAR further increased its reach overseas. The promotion of its international events and activities to overseas networks, in particular in the USA, as well as appearances of CEPAR researchers in international media and at global online fora resulted in an increase in website visitors from overseas. The largest proportion of website visitors was from the US, followed by visitors from Australia, Japan and the UK. 67 news items were published on the webpage. People, Events and Publications were the top three most visited subpages of the site in 2020.

In 2020, CEPAR focused on expanding and enhancing the Centre's website and the profile of its Ageing Asia Research Hub. A key initiative was the development of the 'Opportunities' webpages to provide more details of the career development, travel and funding opportunities available to students and fellows as well

as details of graduate student and fellow placements to support CEPAR's recruitment initiatives. Marketing collateral pitched at ECRs and students was also developed.

A major addition to the website in 2020 was the *CEPAR Population Ageing Futures Data Archive*. Created by a team led by CEPAR researchers Jeromey Temple and Tom Wilson, the *CEPAR Population Ageing Futures Data Archive* comprises sets of data projections and estimates related to the composition and diversity of Australia's older population. In 2020, the Archive contained detailed projections for the Aboriginal and Torres Strait Islander population and Australia's migrant populations as well as estimates of Australia's 'oldest-old' population. In 2021, the Centre will be releasing, on a rolling basis, further projections in relation to English language proficiency, religiosity, sexual minority populations, dementia and detailed sub-national estimates of future ageing.

Progress was also made on the web development of the Metadata Database on Ageing, led by Temple, which will be made available on the CEPAR Resources site. The Database includes metadata on Australian sample surveys that are relevant to ageing and will assist researchers in identifying data collected for their specific research interest in ageing as well as understanding how the data is collected and how it can be accessed.

In 2020, CEPAR also developed and launched a subsite and marketing brochure to promote its newly formed Ageing Asia Research Hub,

a successor to the Australia-China Population Ageing Hub which was established at CEPAR's UNSW Sydney node. The subsite is housed on the CEPAR website to leverage existing website traffic in order to extend the Hub's exposure. With the aim of connecting with high-quality research organisations, the Hub's webpages and brochure feature profiles of its researchers and information about its research program, collaborations, workshops and other engagement programs.

NEWSLETTERS AND SOCIAL MEDIA

Another channel of communication with the Centre's external stakeholders and the wider community is via CEPAR's newsletters and social media presence.

The CEPAR newsletter is designed to provide subscribers with a regular update on CEPAR's activities in population ageing research. It is augmented by a special interest newsletter, launched in 2020, focused on research about the mature workforce and organisations. In total, CEPAR distributed 12 newsletter campaigns to over 1.7k subscribers in 2020 (up from 1.5k subscribers in 2019).

The Centre has a social media presence on Twitter, LinkedIn, YouTube and Facebook, with over 3.1k followers and channel subscribers. CEPAR is most active on Twitter (@CEPAR_research) and LinkedIn and in 2020 increased its total number of social media followers by 24% compared to the previous year.

In 2020, CEPAR published over 20 edited video recordings of webinar, conference and public talks onto its YouTube channel. These were featured in newly created playlists associated with the *Pensions, Retirement and Ageing Webinar Series*, *CEPAR Cross Nodal Webinar Series*, the *Colloquium on Pensions and Retirement Research*, and the *International Pension Research Association Conferences and Webinars*.

MEDIA

In 2020, CEPAR's media strategy continued to focus on promoting the Centre's research findings and activities as well as providing expert commentary on public policy issues. This year contributions were particularly strong in the areas of mature workforce participation in organisations, retirement incomes, macroeconomics, and aged care.

In addition, the Centre publicised its resources and reports which were released during the year, such as the fact sheet on COVID-19 and the demographic distribution of health and economic risks, its industry report on the key drivers of people's decisions to withdraw some or all of their superannuation savings under the COVID-19 Superannuation Early Release Scheme (see page 114), and several submissions prepared in response to Australian government reviews (see page 87).

In 2020, 20 media releases were issued by CEPAR, its university nodes and partners covering Centre research and expertise, resulting in CEPAR researchers being featured in national and global print and broadcast media. A full list of media mentions is provided on pages 117-120.

Regular appearances and op-eds by CEPAR researchers in the media, such as *The Australian Financial Review*, and commentary in online publications, such as *The Conversation*, additionally raised the profile of the Centre and its researchers as well as the issue of population ageing. [See Feature Box: Leading the Debate.]

MEDIA HIGHLIGHTS

MACRO-DEMOGRAPHIC DYNAMICS & POPULATION AGEING POLICY

Throughout the year, CI Peter McDonald was featured in national news commenting on Australia's future population, including *The Sydney Morning Herald*, *The Australian* and *SBS*. His latest projection of Australia's fertility rates was featured in global media including *The Sydney Morning Herald*, *The Australian*, *Xinhua*, *The New Lens International*, *SkyNews* and *3AW*. He was also featured in *The Saturday Paper* on population decline and the economy.

CI's Warwick McKibbin and Peter McDonald were interviewed and featured by a number of media outlets, including the *ABC* and *The Australian*, in the lead-up to the Federal Budget announcements, as well as afterwards for analysis.

Senior Research Fellow George Kudrna's research on taxation, pensions and super was featured by several news outlets throughout the year and his working paper, with CEPAR Associate Investigator Hans Fehr, on homeownership in Australia and Germany was reported on in the *National Tribune*.



CI PETER McDONALD (LEFT) APPEARED ON SKYNEWS TO SPEAK ABOUT AUSTRALIA'S FERTILITY RATE.

MEDIA HIGHLIGHTS

DECISION MAKING, EXPECTATIONS AND COGNITIVE AGEING

CI Kaarin Anstey's research on cognitive health was featured by global media including *CNN* and *CBS*. She was also featured on the *ABC's Health Report with Dr Norman Swan*, in relation to her findings from a randomised trial into a cocktail of non-drug interventions which can help people whose thinking and memory are impaired or declining.



CI KAARIN ANSTEY'S RESEARCH ON COGNITIVE HEALTH WAS FEATURED BY GLOBAL MEDIA INCLUDING CNN.

ORGANISATIONS AND THE MATURE WORKFORCE

In 2020, media continued to report on the industry report *Maximising Potential: Findings from the Mature Workers in Organisations Survey (MWOS)* which was released in late 2019. The report was featured by *The Sydney Morning Herald*, *The Australian Financial Review's BOSS Magazine*, *SBS World News*, and more.

CI Marian Baird was featured by several news outlets, including the *ABC*, *The Sydney Morning Herald*, *The Age*, and *The Australian*, in relation to how jobs should be redesigned to suit older workers and how changes to paid parental leave could provide new flexibility and advantages.

CI Sharon Parker's research on work design and mature workforce participation during COVID-19 was featured in several media, including *SBS* and *The Australian*.



CI SHARON PARKER WAS INTERVIEWED ON SBS NEWS ABOUT CEPAR'S INDUSTRY REPORT *MAXIMISING POTENTIAL: FINDINGS FROM THE MATURE WORKERS IN ORGANISATIONS SURVEY (MWOS)*.

SUSTAINABLE WELLBEING IN LATER LIFE

CI Hazel Bateman's research on regulated retirement drawdowns was featured in special interest media, including *Professional Planner*. Her industry report on early access to superannuation savings was featured by major news outlets and special interest media, including *The Strait Times*, *ABC 7.30*, *The Sydney Morning Herald*, *Money*

Management, *Financial Standard*, *SMSF Adviser*, *Super Review*, *Investor Daily*, and more.

Director John Piggott's and CI Michael Sherris' evidence and submissions to the Royal Commission into Aged Care Quality and Safety, and their recommendations for aged care financing were featured by national media including *The Sydney Morning Herald*, *The Brisbane Times*, *WA Today*, and *The Weekly Source*.

Research conducted by CI Michael Sherris and Research Fellow Mengyi Xu on how pension fund managers can utilise portfolio insurance strategies to protect people's later life savings from downside risk was featured in *BusinessThink* and *Financial Standard*.



CI JOHN PIGGOTT'S EXPERTISE WAS FREQUENTLY SOUGHT BY NEWS OUTLETS, INCLUDING *THE AUSTRALIAN FINANCIAL REVIEW*.



CI HAZEL BATEMAN'S AND AI SUSAN THORP'S INDUSTRY REPORT ON EARLY ACCESS TO SUPERANNUATION WAS FEATURED ON THE ABC'S *7.30 REPORT*. PICTURED: SUSAN THORP

LEADING THE DEBATE

CEPAR RESEARCHERS PUBLISHED THREE ARTICLES IN *THE CONVERSATION*:

- *Give people and businesses money now they can pay back later (if and when they can)*
Warwick McKibbin et al. – 29 March
- *Only 25% of older Australians have an advance care plan. Coronavirus makes it even more important*
Craig Sinclair – 26 August
- *At the heart of the broken model for funding aged care is broken trust. Here's how to fix it*
Rafal Chomik – 22 October

CEPAR RESEARCHERS PUBLISHED TEN OP-EDS AND COMMENTARIES:

- *Time to revisit Paid Parental Leave scheme*
Marian Baird
The Sydney Morning Herald
31 January
- *Working over Paid Parental Leave*
Marian Baird
The Sydney Morning Herald
3 February
- *How to understand the risks of 100,000 viral deaths*
Warwick McKibbin
The Australian Financial Review
5 March
- *Carers need respite from care. COVID-19's limiting the options & pushing many to breaking point*
Myra Hamilton
Women's Agenda
4 May
- *Working from home is nothing new to mothers*
Marian Baird and Myra Hamilton
The Sydney Morning Herald
8 May
- *How to keep JobKeeper going*
John Piggott
The Australian Financial Review
4 May
- *COVID-19 places spotlight on dying alone*
Myra Hamilton et al.
Australian Ageing Agenda
27 May
- *A pilot Revenue-Contingent Loan for the JobKeeper transition*
John Piggott
Pearls and Irritations
20 July
- *There's one easy way to create a new baby boom*
Marian Baird and Daniel Dinale
The Canberra Times
10 August
- *Age-dependent risk aversion: Re-evaluating fiscal policy impact of population ageing*
Phitawat Poonpolkul
Austaxpolicy
14 December

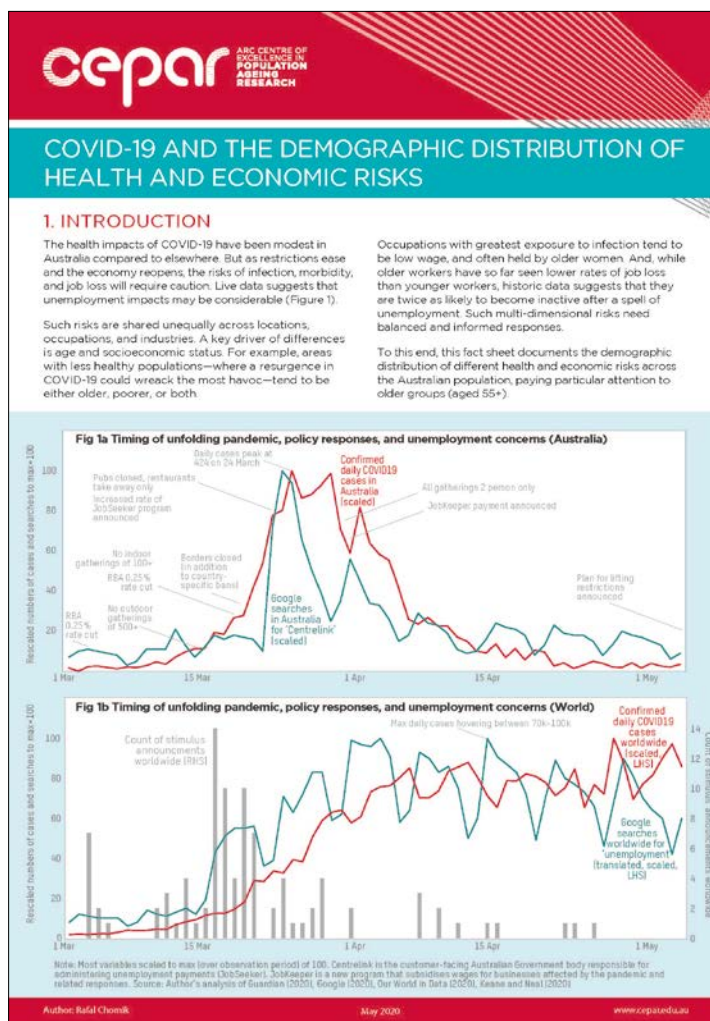
FACT SHEETS AND RESEARCH BRIEFS

The Centre's research briefs and fact sheets integrate research findings to present a synthesis of evidence pertaining to a particular area of knowledge or policy issue. Informed by a multidisciplinary knowledge base, the briefs are written and presented in a format accessible to academia, business, the media and government, whereas fact sheets are designed to provide short informative summaries of key issues relevant to population ageing targeted at a general audience. These are not advocacy documents – instead they seek to be authoritative in their discussion of relevant research findings and provide a knowledge base for decision makers.

CEPAR research briefs retained ongoing popularity as a resource in 2020, with briefs being viewed over 1.9k times. The top four research briefs of interest among website visitors were the 2019 released brief *Housing in an ageing Australia*, and the 2018 released briefs *Retirement income in Australia, Parts I to III*.

In 2020, a research brief on organisations and the mature workforce was progressed with a view to officially releasing it on the day of the Policy Dialogue on Mature Workers in Organisations. The event, to be held in Canberra in the first half of 2021, will include a presentation by research brief lead author Rafal Chomik on some of the key research findings published in the brief to representatives from government, industry, academia and community.

In 2020, CEPAR released a fact sheet on *COVID-19 and the demographic distribution of health and economic risks*. It provides a current snapshot of the risks of workplace infection exposure, morbidity, and job losses across the Australian population, particularly for people aged 55 years and over. As COVID-19 restrictions ease and the economy reopens, the risks of infection,



IN 2020 CEPAR PUBLISHED A FACT SHEET ON COVID-19 AND THE DEMOGRAPHIC DISTRIBUTION OF HEALTH AND ECONOMIC RISKS.

morbidity, and job loss will require caution; the fact sheet analyses Australian live data from the beginning of the pandemic and shows such risks are shared unequally across locations, occupations, and industries. It also finds that a key driver of differences is age and socioeconomic status. The fact sheet was distributed to stakeholders and policymakers and

was featured by several media outlets and organisations including *The Sydney Morning Herald*, *BusinessThink*, and the *ABC*

GOVERNMENT SUBMISSIONS

In 2020, CEPAR published a total of five government submissions in response to three government reviews: the Retirement Income Review; the Department of Foreign Affairs and Trade's proposed new international development policy; and the Royal Commission into Aged Care Quality and Safety. All submissions provided an opportunity to influence policy and industry practice and several news organisations reported on some of the recommendations contained in the submissions by quoting CEPAR or its researchers, including the *ABC*, *The Guardian*, *The Australian Financial Review*, *The Sydney Morning Herald*, *Modern Australia*, *Weekend Times*. Several CEPAR research findings were cited in background and final reports published by the Royal Commission into Aged Care Quality and Safety and the Retirement Income Review (see page 87).

INDUSTRY REPORT SERIES

The CEPAR Industry Report Series translates research findings for business practitioners. In 2020 an industry report on early access to superannuation was released and progress was made on a report focused on how Australian workplaces are adapting to change during the pandemic, which is set to be released in early 2021.

CEPAR CI Hazel Bateman and CEPAR Associate Investigators Loretti I. Dobrescu, Junhao Liu, Ben Newell, and Susan Thorp, in collaboration with superannuation fund Cbus, released in August 2020 the industry report *'20K now or 50K later? What's driving people's decision to withdraw their super?'*, examining decision-making around superannuation withdrawal under the Australian Government's COVID-19 Superannuation Early Release Scheme, which resulted in significant media coverage. The researchers conducted and analysed a survey of over 3,000 Cbus members,

to understand the operation and effect of the Scheme. The study found that urgent short-term need for funds drove people's decisions to withdraw some or all of their superannuation savings and also revealed that many people who withdrew their super early were uncertain about the long-term consequences of their decision. Major news outlets and special interest media reported, including the *ABC*, *The Sydney Morning Herald*, *The Strait Times*, *Money Management*, *Financial Standard*, *Super Review*, and more.

PUBLIC TALKS

Several CEPAR researchers presented in public forums in 2020. Highlights are provided below.

CI Kaarin Anstey was invited by the UNSW Women's Wellbeing Academy to talk in a podcast about the impact of COVID-19 on the wellbeing of ageing women, covering topics from carer roles, dementia, current difficulties and also positive outcomes.

CI Marian Baird delivered a plenary on gender equality in the workplace as part of the Workplace Wellness Festival.

Professorial Fellow John Beard was invited to speak on healthy longevity as a panellist at the World Economic Forum Annual Meeting in Davos, Switzerland.

CI Peter McDonald and Principal Research Fellow Dr Tom Wilson were invited by the Australian Population Association and the Australian National University to present at their Australian Population Webinar Series, on the impact of COVID-19 on Australian fertility rates, and on local area estimates and geographical patterns of Australia's sexual minority population.

CI John Piggott was invited by Columbia University's Health and Aging Policy Fellowship Program to talk in a webinar about global perspectives on the economic security and financial wellbeing of older adults.

CEPAR also hosted monthly cross nodal webinars for Centre personnel where CEPAR researchers presented their latest research. Provided permission was given, recordings of the talks were publicised afterwards and are available on the CEPAR website and its YouTube channel:

Intergenerational Inequality and the Intergenerational State

James Mahmud Rice, CEPAR, The University of Melbourne

The Contribution of Health-related Behaviours and Psychosocial Factors to Socioeconomic Inequalities in Mortality among Older Australian men

Dr Saman Khalatbari Soltani, CEPAR, The University of Sydney

Follow the Rating? How Disclosure Affects Retirement Income Product Choices in a Discrete Choice Experiment

Inka Eberhardt, CEPAR, UNSW Sydney

Consumer Panic in the COVID-19 Pandemic

Dr Timothy Neal, CEPAR, UNSW Sydney

Wealth and Homeownership in Germany and Australia: The Role of Tax and Retirement Income Policy

Dr George Kudrna, CEPAR, UNSW Sydney

Pain and its Impact on Functional Health: 7-year Longitudinal Findings among Middle-Aged and Older Adults in Indonesia

Dr Vas Yiengprugsawan, CEPAR, UNSW Sydney

From Future WORK Selves to Future OLD Selves: How Representations Reflecting Hopes and Aspirations for Late Career/Retirement Relate to Work and Career Behaviours

Dr Daniela Andrei, CEPAR, Curtin University

A full list of public talks is provided on page 121.

ADDITIONAL PUBLICITY FOR COVID-19 EXPERTISE

In 2020, the expertise of the CEPAR Chief Investigator team was in high demand by the media in relation to COVID-19 and its demographic, epidemiological, psychological, social and economic impacts. Highlights include:

CI Warwick McKibbin's global modelling of the macroeconomic impacts of the pandemic has received global media attention across the US, Europe, Asia and Australia. Major media and news outlets reported throughout the year, including *The Economist*, *The New York Times*, *CNN*, *Bloomberg*, *Business Insider*, *Houston Chronicle*, *Canada Press*, *The Guardian*, *News24*, *Financen CH*, *The Japan Times*, *NHK World Japan*, *New Straits Times*, *Times of India*, *The Economic Times*, *ABC*, *The Australian Financial Review*, *The Canberra Times*, *Channel 9*, and more.



CI WARWICK MCKIBBIN APPEARED FREQUENTLY IN GLOBAL MEDIA, INCLUDING ON THE ABC'S *THE BUSINESS*.

CI Michael Keane's modelling on global consumer panic was featured by the *ABC*, *The Sydney Morning Herald*, *The Guardian*, *Nine News*, *The Herald Sun*, *The Australian*, *VICE*, and others.

CI Sharon Parker's research on remote management and working from home practices in the COVID era was featured by *The Australian*, *Sky News* and a number of podcasts.

ADDITIONAL PUBLICITY FOR COVID-19 EXPERTISE

CIs John Piggott and Warwick McKibbin and PhD Student Nicole Ee were invited to join the taskforce 'Roadmap to Recovery' convened by the Group of Eight (Go8) universities. The expert taskforce developed an independent, evidence-based report with a set of actionable recommendations for the government on responding to the challenge of recovering from the pandemic shutdown. The report 'Roadmap to Recovery A Report for the Nation' was presented to the Australian government and other key decisionmakers in April 2020, which was featured in *The Sydney Morning Herald*. CI Piggott commented on a roadmap to economic recovery in several media outlets, including the *ABC*, *The Australian Financial Review*, *The Sydney Morning Herald*, *The Australian*, *Channel 9*, *Channel 7*, and more.

CEPAR MEMBERS OF THE GO8 TASKFORCE 'ROADMAP TO RECOVERY' WERE FEATURED IN *THE AUSTRALIAN*.

THE WEEKEND AUSTRALIAN, APRIL 18-19, 2020

5

COVID-19 PANDEMIC

Secret brains trust ponders national dilemma

Continued from Page 1

brightest minds across the Go8 and work collectively on the challenging issues we are all trying to grapple with," says Go8 chief executive Vicki Thomson.

"These are hard decisions. Government has to make these tough decisions on a good evidence base and that's what we providing them."

The taskforce includes experts from many disciplines — including obvious ones such as medicine and epidemiology — but also across the range of health sciences, economics, psychology, political science, education and social sciences.

Members split up the problem into 10 interrelated questions, all of which flowed from the first: Which model Australia should follow: eradication or controlled suppression of the disease?

Other questions looked at how and when to relax social distancing; should there be uniform approaches across Australia; how to restructure the health system; rules for border protection and travel; preparations for re-opening schools, businesses and public gatherings; supporting mental health; addressing needs of indigenous people; special consideration for groups such as older people, rural people and gender-diverse people; and how to communicate decisions so they gain public support and co-operation.

Two weeks into a three-week timeline, draft reports are complete in each of the 10 areas. In the coming week they will be condensed into a single report, put to the Go8 board for approval and, in record speed for university researchers, handed to the government just after Ascot Day. "That's almost the opposite of the DNA of academia. But we have to adapt. No one needs a report six months from now," says Shitji Kapur, University of Melbourne medical dean who, with Ms Thomson, co-chairs the taskforce.

In order to download such a high volume of complex information, analyse consequences, and package recommendations into a succinct report, Professor Kapur turned to a software solution he had never heard of. And it came from inside his university at the HUNT Laboratory for Intelligence Research. The Hunt Lab has developed a computer platform called SWARM, with funding from the US government's Intelligence Advanced Research Projects Activity (IARPA) which reports to the Director of National Intelligence.

SWARM is designed to enable a team of intelligence analysts to rapidly come to a consensus view and produce a short report when faced with a complex array of information. Beside the fact team members operate anonymously

analyses. Someone says 'I'd prefer to draft it this way.' They put up a draft, others have their say and make their ratings. The better contributions just float to the top." Professor Kapur says the anonymity helped the initial conversations to be a little more frank and open — the usual social dominance was mitigated.

He also says it was a deliberate decision to ask younger researchers, not just the grey eminences, to join the taskforce. "We wanted diversity of opinion and... the younger generation of academics to bring a different kind of thinking."

Nicole Ee, a PhD student at UNSW researching ageing and cognition, is one of the junior members and pushed for clear guidelines on physical distancing for aged people that took their views into account. She says approaches to visits in aged-care homes have not been consistent. "Some have banned visitation completely, others have allowed it on compassionate grounds."

Ms Ee would like to see the elderly consulted on their views, with a visit able to be made with appropriate precautions, including distancing and use of personal protective equipment. Ms Ee says



ADAM YIP/AARON FRANCIS



McGorry



McKibbin



Australian Government
Defence Honours & Awards Appals

Chair, Defence Honours & Awards Appeals Tribunal

The Defence Honours and Awards Appeals Tribunal is a statutory body established under the Defence Honours and Awards Appeals Tribunal Act 1975.

PRINT (NEWSPAPERS AND MAGAZINES)

Jobs must be redesigned to suit older workers – featuring Marian Baird – *The Sydney Morning Herald* 5 January

It's boomer time for the 'luckiest of Australians' – featuring Peter McDonald – *The Australian* 5 January

The end of retirement – featuring Olivia S. Mitchell – *The Wall Street Journal* 10 January

'Retirement' might be at an end but aging and infirmity are not – featuring Olivia S Mitchell – *Forbes* 10 January

The four-day workweek: Pathway to productivity or unpaid work? – featuring Marian Baird – *The Sydney Morning Herald* 12 January

Melbourne is set to become the country's most populous city by 2026 – with vast ramifications – featuring Peter McDonald – *The Age* 25 January

OPAN chief among those honoured for contributions to aged care – featuring John Piggott and Robert Cumming – *Community Care Review, Australian Ageing Agenda* 26 January

Time to revisit Paid Parental Leave scheme – featuring Marian Baird – *The Sydney Morning Herald* 31 January

Call for parents to get flexible leave for kids at school – featuring Marian Baird – *Daily Telegraph* 1 February

Working over paid parental leave – featuring Marian Baird – *The Sydney Morning Herald* 3 February

Older workers are more adaptable than you think – featuring Marian Baird and Sharon Parker – *The Australian Financial Review* 4 February

Damaging for jobs: Australian business says the four-day week wouldn't work – featuring Marian Baird – *The Sydney Morning Herald* 7 February

New Tricks – featuring Marian Baird – *The Australian Financial Review* 14 February

Why we should move closer to the ideas of New Work when implementing new technologies – featuring Sharon Parker – *PERSONAL Quarterly* 28 February

Super freeze 'unwise' in low-rate environment – featuring John Piggott and Rafal Chomik – *The Australian Financial Review* 27 February

Growing anger over age pension 'taper trap' – featuring CEPAR – *The Australian Financial Review* 4 March

How to understand the risks of 100,000 viral deaths – by Warwick McKibbin – *The Australian Financial Review* 5 March

'HECS'-style loans backed for coronavirus relief – featuring Warwick McKibbin – *The Australian Financial Review* 20 March

Economist pushes HECS scheme with zero-interest loans for everyone – featuring Warwick McKibbin – *The Canberra Times* 20 March

Pure target-date fund investors see significantly more gains – featuring Olivia Mitchell – *Pensions and Investments* 27 March

Royal Commission urges qualified staff to be deployed to aged care facilities – featuring Julie Byles – *The Sydney Morning Herald* 27 March

How the pandemic is making the retirement crisis worse – and what to do about it – featuring Olivia Mitchell – *Forbes* 30 April

How to get unemployed men back at work? Give them 'female' jobs – featuring Marian Baird – *The Australian Financial Review* 1 May

Over-cooked: a new twist in the national tale – featuring Peter McDonald – *The Sydney Morning Herald* 2 May

Cutting immigration would hurt the economy and communities: Morrison – featuring Peter McDonald – *The Sydney Morning Herald* 5 May

Working from home is nothing new to mothers – by Marian Baird and Myra Hamilton – *The Sydney Morning Herald* 8 May

HECS-style loans for businesses could help transition from JobKeeper – featuring John Piggott – *The Sydney Morning Herald, The Age, WA Today, The Brisbane Times* 14 May

JobKeeper transition should be through HECS style loans – featuring John Piggott – *Canberra Times* 14 May

Uni style loans could ease subsidy exit – featuring John Piggott – *Canberra Times* 14 May

JobKeeper to loan proposed – featuring John Piggott – *West Australian* 14 May

Loan scheme to ease JobKeeper transition – featuring John Piggott – *Kingscote Islander* 14 May

JobKeeper transition should be through HECS style loans – featuring John Piggott – *Mandurah Mail, Port Augusta, Lakes Mail, Victor Harbor Times, Northern Argus, Coastal Leader, Watcha News, Eyre Peninsula Tribune, Murray Valley, Parkes Champion-Post, Cowra Guardian, Kiama Independent, Narooma News, Murray Valley Standard, Bellingen Courier, Naracoorte Herald, Tenterfield Star, Port Stephens Examiner, Riverina Leader, Braidwood Times, Singleton Argus, Dungog Chronicle, Fairfield Champion, Macarthur Advertiser, The Queanbeyan Age, Moree Champion, Boorowa News, Gloucester Advocate, Canowindra News, Crookwell Gazette, The Rural, Town & Country Magazine, Hawkesbury Gazette, The Advocate (Hepburn), West Coast Sentinel, Narromine News, Esperance Express, Eden Magnet, Wollondilly Advertiser, Avon Valley Advocate, Port Pirie Recorder, Advertiser Lake Times, St George & Sutherland Shire Leader, Busselton Mail, Muswellbrook Chronicle, Collie Mail, Donnybrook-Bridgetown Mail, Jimboomba Times, Blue Mountains Gazette, Barossa & Light Herald, Newcastle Star, Wellington Times, Liverpool Champion, Flinders News* 14 May

Foreign students show Morrison at his most flexible – and stubborn – featuring Peter McDonald – *The Sydney Morning Herald* 16 May

Covid-19 places spotlight on dying alone – by Myra Hamilton – *Australian Ageing Agenda* 27 May

Coronavirus: 'We have workers to plug the skills gap' – featuring Peter McDonald – *The Australian* 1 June

Frydenberg welcomes rush to access super – featuring John Piggott – *The Australian* 1 June

It's lift-off soon, but can we handle the baggage? – featuring Peter McDonald – *The Australian* 2 June

Immigration sweet spot to enhance skills and growth – featuring Peter McDonald – *The Australian* 2 June

Coronavirus: Visa restrictions are a bar to career prospects for migrants – featuring Peter McDonald – *The Australian* 3 June

Should you tap retirement funds in a crisis? Increasingly people say yes – featuring Olivia Mitchell – *The Wall Street Journal* 4 June

Coronavirus: Frydenberg welcomes rush to access super – featuring John Piggott – *The Australian* 10 June

Out of work mums losing parent payment – featuring Marian Baird – *NT News, Adelaide Now, Cairns Post, Geelong Advertiser, Gold Coast Bulletin, Herald Sun, The Courier Mail, The Daily Telegraph, The Mercury, Townsville Bulletin, The Weekly Times* 12 June

Higher super will cost jobs, wages: Industry Super paper – featuring CEPAR – *The Australian Financial Review* 15 June

Economist backs HECS-style loans to replace Jobkeeper – featuring Warwick McKibbin – *The Canberra Times* 26 June

The world is heading for a population crisis but not the one it was expecting – featuring Peter McDonald – *The Sydney Morning Herald* 21 July

To what extent can a country's wealth be influenced by public policies such as tax, pension and super? – featuring George Kudrna – *The National Tribune* 7 August

There's one easy way to create a new baby boom – by Marian Baird, Daniel Dinale – *The Canberra Times* 10 August

Second stage of super withdrawals boosts non-essential spending – featuring Susan Thorp – *The Sydney Morning Herald* 17 August

Coronavirus: As the young lose their jobs, should older workers be forced to retire? – featuring Sharon Parker and Rafal Chomik – *The Australian* 22 August

Baby Boomers won't cop it: Ken Henry's aged care warning – featuring John Piggott – *The Sydney Morning Herald* 17 September

COMMUNICATIONS, EDUCATION & COMMUNITY OUTREACH

Aged care forms so complex they bamboozled the former treasurer – featuring John Piggott – *The Brisbane Times, WA Today* 17 September

‘Astounding’ expenditure looms in recession–busting federal budget – featuring Peter McDonald – *The Age* 20 September

Baby slump: Australian newborn deficit to hit budget bottom line – featuring Peter McDonald – *Brisbane Times* 22 September

Australians withdraw billions from their retirement savings to cope with Covid-19 – featuring Hazel Bateman – *The Strait Times* 27 September

ATO cracks down on early release super applicants who do not qualify – featuring CEPAR – *The Sydney Morning Herald, Brisbane Times* 7 October

‘Once they see your grey hair, that’s it’: How the federal budget ignored women – featuring Marian Baird – *The Sydney Morning Herald, Brisbane Times* 7 October

Budget 2020: Parental path not so inviting as baby drought bites – featuring Peter McDonald – *The Australian* 8 October

Population decline and the economy – featuring Peter McDonald – *The Saturday Paper* 28 November

No children doesn’t mean more savings for single women – featuring Myra Hamilton – *The Sydney Morning Herald* 29 November

The three retirement pillars: How the experts are grappling with the retirement income review – featuring John Piggott – *The Sydney Morning Herald, Brisbane Times* 5 December

Simple steps to protect super for when it is needed most – featuring Rafal Chomik – *The Australian Financial Review* 9 December

Coronavirus: Little by little, our cities come back to life – featuring Marian Baird – *The Australian* 15 December

How to tap into home equity without losing the roof over your head – featuring Rafal Chomik – *The Australian Financial Review* 17 December

Australia needs a policy refresh to support higher fertility – featuring Peter McDonald – *The Australian* 23 December

A bigger Australia won’t solve ageing bulge – featuring Peter McDonald – *The Australian* 26 December

TELEVISION, RADIO & PODCASTS

Interview about the need to consider parents’ access to flexible leave arrangements to help reduce stress on working families – featuring Marian Baird – *2SM Sydney* 3 February

Equal parental leave planned in Finland – featuring Marian Baird – *6PR Perth* 6 February

Older unemployed and underemployed workers struggling to find roles due to ageism in recruiting – featuring CEPAR – *ABC News* 7 February

Interview about changes to the paid parental leave scheme and impact – featuring Marian Baird – *ABC Radio Sydney* 7 February

Focus with Jessica Strutt – featuring Sharon Parker – *ABC Radio Perth* 7 March

The Business Interview – featuring Warwick McKibbin – *ABC* 12 March

Older workers feel excluded from the workforce – featuring Sharon Parker – *SBS World News, SBS Radio, SBS TV* – 21 March

ABC The Drive Interview – featuring Rafal Chomik – *ABC* 7 April

Older people in Australia want to be part of today’s workforce, despite coronavirus challenges – featuring Sharon Parker – *SBS News* 10 April

Focus with Jessica Strutt – featuring Sharon Parker – *ABC Radio Perth* 20 April

Peter McDonald’s work on international migration referred to by the Prime Minister in his National Press Club Address – featuring Peter McDonald – *National Press Club* 26 April

Australians being granted early access to superannuation – featuring Susan Thorp – *ABC TV News* 27 April

Focus with Jessica Strutt – featuring Sharon Parker – *ABC Radio Perth* 27 April

Focus with Jessica Strutt – featuring Sharon Parker – *ABC Radio Perth* 4 May

Focus with Jessica Strutt – featuring Sharon Parker – *ABC Radio Perth* 11 May

Focus with Jessica Strutt – featuring Sharon Parker – *ABC Radio Perth* 18 May

A Shift from Work Culture to Work from Home Culture? – featuring Sharon Parker – *2SER Community Radio* 27 May

Proactivity reduces sense of job security – featuring Sharon Parker – *On the Record RTRFM* 9 June

Interview about the disproportionate impact of the economic downturn on women – featuring Marian Baird – *ABC TV News* 10 June

The Business Interview – featuring Warwick McKibbin – *ABC* 14 June

Sunday Extra with Julian Morrow – featuring Myra Hamilton – *ABC Radio National* 14 June

Victoria struggles to contain COVID-19 outbreak in care homes – featuring Fiona Stanway – *ABC Radio National* July

Moderate drinking may improve cognitive health for older adults, study says – featuring Kaarin Anstey – *CNN, CBS* 1 July

Interview about how changes to paid parental leave could provide new flexibility and advantages for families – featuring Marian Baird – *ABC Radio Sydney* 2 July

Study finds over 55s who lost jobs due to pandemic have low chance of finding new roles – featuring John Piggott – *ABC News Radio* 11 July

Older workers facing discrimination in the workplace throughout the pandemic – featuring Marian Baird – *ABC Radio National* 13 July

ABC News interview – featuring Warwick McKibbin – *ABC* 14 July

The Drum interview – featuring John Piggott – *ABC* 23 July

Extended Interview – featuring Sharon Parker – *Sky News* 29 July

Focus with Cassie McCullagh – featuring Myra Hamilton – *ABC Radio Sydney* 3 August

Superannuation guarantee is being increased from 9.5 percent to 10 percent next year – featuring Susan Thorp – *SBS TV* 19 August

ABC 7.30 Report: The Australians accessing their super early during the pandemic – featuring Susan Thorp – *ABC* 1 September

Interview about research into people utilizing the early superannuation access scheme – featuring Susan Thorp – *ABC Radio Cairns* 25 September

Unemployment reaches a 22-year high just as JobKeeper and JobSeeker cuts take effect – featuring Sharon Parker – *The Project Channel 10* 27 September

Australian fertility trends – featuring Peter McDonald – *SBS News* 27 September

Interview with Norman Swan on the Health Report: Risk reduction for mild cognitive impairment – featuring Kaarin Anstey – *ABC Radio National* 28 September

The Business Interview – featuring Warwick McKibbin – *ABC* 29 September

How the budget ignored women – featuring Marian Baird – *ABC Radio Adelaide, ABC North West SA* 8 October

Union push for aged care worker wage rise – featuring Rafal Chomik – *ABC AM* 12 November

The Business Interview – featuring Warwick McKibbin – *ABC* 30 November

Australia’s overall economic growth lies in ‘productivity and population growth’ – featuring Peter McDonald – *SkyNews* 29 December

ONLINE

Are people retiring earlier or later? Both are true – and it says a lot about the youngest generations entering and defining the workforce – featuring Olivia S. Mitchell – *Business Insider* 18 January

Seniors deal with the harsh reality of debt – featuring Olivia S. Mitchell – *Reuters* 30 January

Pension minimums ‘nudge’ retirees to spend less, not more – featuring Hazel Bateman – *Professional Planner* 11 February

Climate change: Could your super fund be liable? – featuring Rafal Chomik and George Kudrna – *UNSW Newsroom* 12 February

Pension crisis, a worldwide phenomenon – featuring Rafal Chomik – *Publimento* 13 February

This one change can improve your retirement wealth by 50% – featuring Olivia S. Mitchell – *Marketwatch* 22 February

From obesity to loneliness, how can the middle-aged secure an extra 30 years of health? – featuring James Nazroo – *The Telegraph* 1 March

Fact check: Are superannuation tax breaks fair, or do they favour the rich? – featuring George Kudrna – *ABC News* 3 March

Give people and business money now they can pay back later (if and when they can) – featuring Warwick McKibbin – *The Conversation* 29 March

Trading retirement income for cash now: should you withdraw \$20,000 from your super? – featuring Rafal Chomik – *The National Tribune* 6 April

An upcoming social policy framework can help reduce poverty in Indonesia’s rapidly ageing population – featuring George Kudrna and John Piggott – *UNSW Newsroom* 22 April

The secret of ‘free’ childcare: grandparents – featuring Marian Baird and Myra Hamilton – *Broad Agenda* 30 April

Employment experts say over-45s face discrimination in Australian job market, workforce at risk of losing knowledge experience – featuring Marian Baird – *ABC News* 1 May

Carers need respite from care. COVID-19’s limiting the options & pushing many to breaking point – by Myra Hamilton – *Women’s Agenda* 4 May

How to lower retirement risk at a turbulent time – featuring Olivia Mitchell – *Morningstar* 6 May

Lockdown leads to more time in the bedroom, but babies won’t follow – featuring Peter McDonald – *The News Daily* 13 May

How to keep JobKeeper going – by John Piggott – *The Australian Financial Review* 14 May

Loan scheme to ease JobKeeper transition – featuring John Piggott – *Yahoo! Finance Australia*, *9News.com.au*, *7news.com.au*, *The Senior*, *Cessnock Advertiser*, *Eden Magnet*, *Fairfield Champion*, *Yahoo! News Australia*, *Barossa & Light Herald*, *Braidwood Times*, *Wollondilly Advertiser*, *Port Pirie Recorder*, *The Advocate*, *Town & Country Magazine*, *Moree Champion*, *Singleton Argus*, *Port Stephens Examiner*, *beaundeserttimes.com.au*, *The Senior*, *Muswellbrook Chronicle*, *Flinders News*, *Dungog Chronicle*, *Canowindra News*, *Blue Mountains Gazette*, *West Coast Sentinel*, *Narromine News*, *Boorowa News*, *The Queanbeyan Age*, *Liverpool Champion*, *Busselton Mail*, *Crookwell Gazette*, *Gloucester Advocate*, *Avon Valley Advocate*, *Tenterfield Star*, *Esperance Express*, *The Rural*, *St George & Sutherland Shire Leader*, *Wellington Times*, *advertiserlaketimes.com.au*, *Riverina Leader*, *redlandcitybulletin.com.au*, *Ballarat Courier*, *Illawarra Mercury*, *Tasmanian Examiner*, *Bendigo Advertiser*, *Warrambool Standard*, *Northern Daily Leader*, *Central Western Daily*, *Port Macquarie News*, *Wagga Wagga Daily Advertiser*, *The North West Star*, *Bathurst Western Advocate*, *Bega District News*, *Daily Liberal*, *Goulburn Post*, *Batemans Bay Post*, *South Coast Register*, *Maitland Mercury*, *Southern Highland News*, *Wimmera Mail Times*, *The Armidale Express*, *Manning River Times*, *Macleay Argus*, *Mudgee Guardian*, *Lithgow Mercury*, *Milton Ulladulla Times*, *The Ararat Advertiser*, *Namoi Valley Independent*, *Cootamundra Herald*, *Leeton Irrigator*, *The Area News*, *Coly Point Observer*, *Eastern Riverina Chronicle*, *Harden Express*, *Southern Cross*, *The Stawell Times-News*, *Canberra Times*, *Katherine Times*, *Newcastle Herald*, *Shepparton News Online*, *benallaensign.com.au*, *campaspenews.com.au*, *cobramcourier.com.au*, *corowafreepress.com.au*, *kyfreepress.com.au*, *mcivortimes.com.au*, *riverineherald.com.au*, *seymourtelegraph.com.au*, *southernriverinanews.com.au*, *taturaguardian.com.au*, *yarrawongchronicle.com.au* 14 May

HECS-style loans for businesses could help transition from JobKeeper – featuring John Piggott – *10daily.com.au* 14 May

Fact Sheet provides a snapshot of ongoing health and economic risks caused by COVID-19 in Australia – featuring Rafal Chomik – *Mirage News* 22 May

Pink-collar recession: How the covid-19 crisis could set back a generation of women – featuring Marian Baird – *The Guardian* 24 May

5 Ideas from a retirement expert’s new paper, for annuity sellers – featuring Olivia S. Mitchell – *ThinkAdvisor* 2 June

New Study calls for assessment of unsafe older drivers – featuring Kaarin Anstey – *Senior Drivers Australia* 8 June

Out of work mums losing parent payment – featuring Marian Baird – *News.com.au* 12 June

Australia’s ageing population means our roads could get less safe, but researchers have a solution – featuring Kaarin Anstey – *The New Daily* 17 June

How can we build better retirement systems in the wake of COVID-19? Wharton’s Mitchell has some ideas – featuring Olivia Mitchell – *Benefits Pro* 19 June

New study backs testing of older drivers to identify safety issues – featuring Kaarin Anstey – *Your Life Choices* 22 June

International conference on pension challenges and opportunities – featuring Hazel Bateman – *Mirage News* 26 June

Moderate drinking may improve cognitive health for older adults, study says – featuring Kaarin Anstey – *Independent Tribune* 29 June

Coronavirus reveals the precarious position of women in ‘disposable workforce’ – featuring Marian Baird – *ABC News* 30 June

Superannuation versus wages: Will workers really end up paying for their own super rise? – featuring CEPAR – *The Guardian* 1 July

What does the roadmap to recovery look like for Australia? – featuring John Piggott – *BusinessThink* 8 July

How to hedge your superannuation fund against recession risk – featuring Mengyi Xu and Michael Sherris – *BusinessThink UNSW* 5 August

To what extent can a country’s wealth be influenced by public policies such as tax, pension and super? – featuring George Kudrna – *UNSW Newsroom* 7 August

Coronavirus pandemic baby boom or bust? History and economics offer answers – featuring Peter McDonald – *ABC News* 19 August

Overcoming cultural difference in end-of-life planning – featuring Craig Sinclair – *Retail Pharmacy Magazine*, *Retail Pharmacy Assistants* 25 August

Only 25% of older Australians have an advance care plan. Coronavirus makes it even more important – by Craig Sinclair – *The Conversation*, *republished by UNSW Newsroom* 26 August

Sydney experts explain what we can do to close the gender pay gap – featuring Marian Baird – *The University of Sydney Newsroom* 27 August

Many withdrawing super early underestimate impact on retirement balance – featuring CEPAR – *ABC*, *Head Topics*, *savings.com.au* 2 September

Working from home: Blessing or curse? Professor Sharon Parker has the answers (yes, there’s more than one) – featuring Sharon Parker – *Seriously Social* 7 September

Royal Commission: “Absolute madness” to have taxpayer funded aged care for those who can afford to pay for their own care – featuring Michael Sherris and John Piggott – *The Weekly Source* 16 September

The growing complexity and diversity of Taiwanese families – featuring Peter McDonald – *The News Lens International* 19 September

Portfolio insurance provides strong protection: Research – featuring Mengyi Xu – *Financial Standard* 19 September

COMMUNICATIONS, EDUCATION & COMMUNITY OUTREACH

Opinion: Hope to retire someday? See if you can answer these six simple questions – featuring Olivia S. Mitchell – *MarketWatch* 23 September

Migration and income growth: policy changes to drive Australia's recovery – featuring John Piggott – *BusinessThink* 25 September

SMSF changes unlikely to mushroom new funds – featuring Susan Thorp – *Financial Standard* 25 September

Early super raiders unclear on long-term impacts – featuring Hazel Bateman – *SMSF Adviser* 26 September

Many who accessed ERS unsure of impact: Research – featuring Hazel Bateman – *Financial Standard* 26 September

Australian birth rate set to fall amid coronavirus recession: Report – featuring Peter McDonald – *Xinhua* 26 September

Early super grabbers uncertain on retirement consequences – featuring Hazel Bateman – *InvestorDaily* 26 September

Urgent short-term needs drive super early release – featuring Hazel Bateman – *Super Review, Money Management* 26 September

Saving for retirement just got harder in a sour fall 2020 economy – featuring Olivia S. Mitchell – *Forbes* 27 September

Diet, exercise and brain training – the cocktail that could help prevent dementia – featuring Kaarin Anstey – *ABC News* 28 September

Many people withdrawing super early don't understand the long-term consequences – featuring Hazel Bateman – *Savings.com.au* 30 September

BAME communities and manual workers at greater risk of Covid-19 mortality research shows – featuring James Nazroo – *Mancunian Matters* 2 October

How COVID-19 will change Australia's policy landscape – featuring John Piggott – *BusinessThink* 8 October

What's driving COVID-19 early super take-out? – featuring CEPAR – *National Seniors* 8 October

Older workers face unemployment crisis exacerbated by JobMaker experts warn – featuring Marian Baird – *ABC News* 15 October

Could super early release be used to pay the mortgage? – featuring CEPAR – *Small Caps* 17 October

At heart of broken model for funding aged care is broken trust. Here's how to fix it – by Rafal Chomik – *The Conversation, republished by UNSW Newsroom, Modern Australia, Weekend Times* 22 October

The Home Stretch: Accessing Home Value to Fund Long-Term Care – by Katja Hanewald – *Long-Term Care News* November

No children doesn't mean more savings for single women – featuring Myra Hamilton – *The World News* 30 November

'Dire straits': Older single women without children more likely to enter financial hardship – featuring Myra Hamilton – *The New Daily* 30 November

Financial realities are grave for older, single women without children, new study shows – featuring Myra Hamilton – *Women's Agenda* 1 December

How should leaders approach innovation in the future? – featuring John Piggott – *BusinessThink* 3 December

Why Australia's fertility rate has plummeted to a historic low – featuring Peter McDonald – *3AW Radio* 10 December

Age-dependent risk aversion: Re-evaluating fiscal policy impact of population ageing – by Phitawat Poonpolkul – *Austaxpolicy* 14 December

PRESENTATIONS/BRIEFINGS

PUBLIC

- 1 Anstey, K. (March 2020). How can we Delay Dementia and Promote Brain Health in Older Adults? Pam Albany Keynote Lecture. NSW Falls Network Annual Conference.
- 2 Anstey, K. (June 2020). Sudoku, Blueberries or Exercise? Learn the Steps to Keep your Brain Healthy. NeuRA Foundation and University of the Third Age Seminar, Central Coast, Australia.
- 3 Anstey, K. (2020). COVID-19 – The Impact on the Wellbeing of Ageing Women. UNSW Women's Wellbeing Academy. Podcast.
- 4 Baird, M. (August 2020). Plenary. Gender Equality in the Workplace - How far have we come, how far have we got to go? Workplace Wellness Festival. Australia.
- 5 Baird, M. (July 20). COVID 19 and Gender Equality. Diversity Council of Australia Webinar. Australia.
- 6 Baird, M. (July 2020). Gender and the Future of Work. Australian Women's Leadership Symposium. Australia.
- 7 Beard, J. (February 2020). Prevention in an Ageing World. Wellcome Collection. London, UK.
- 8 Beard, J. (January 2020). Panel. Healthy Longevity. World Economic Forum Annual Meeting. Davos, Switzerland.
- 9 McDonald, P. (2020). Public Seminar. Effects of COVID-19 on Migration to Australia. Australian Population Association and Flinders University. Online.
- 10 McDonald, P. (November 2020). Public Webinar. The Impact of COVID-19 on Australian Fertility Rates. Australian Population Association and Australian National University Webinar Series.
- 11 McDonald, P. (November 2020). Impact of COVID-19 on Australian Fertility Rates. Australian Population Association 2020 Webinar series. Canberra, Australia. Online.
- 12 McKibbin, W. (March 2020). How Might COVID-19 Affect the Global Economy? Brookings Institution. USA.
- 13 McKibbin, W. (April 2020). Where to from here? Charting a Course for Resilience and Recovery in the COVID-19 Pandemic. Australian Academy of Health and Medical Sciences. Australia. Webinar.
- 14 Parker, S. (June 2020). SMART Work design. Connecting Streams of Workplace Innovation. XXXI IPSIM Innovation Conference. Berlin, Germany. Online.
- 15 Parker, S. (March 2020). From Smart Workers to Smart Work: Creating a Positive Future in the Digital Era. Leadership WA Alumni. Curtin University. Perth, Australia.
- 16 Parker, S. (February 2020). Welcome Address. Bankwest Curtin Economics Centre and Future of Work Institute Future of Work Workshop. Curtin University. Perth, Australia.
- 17 Parker, S. (February 2020). Policy Symposium: Climate Change and Future of Work. Bankwest Curtin Economics Centre and Future of Work Institute Future of Work Workshop. Perth, Australia.
- 18 Parker, S. (May 2020). Digitally-enabled and Flexible Work: How Work Design Must be Considered for Future Success. Shanghai University of Finance and Economics. Online.
- 19 Parker, S. (June 2020). The Future of Work Quality After COVID19: A Focus on Flexible Working. John Curtin Institute of Public Policy Curtin Corner Seminar Series. Online.
- 20 Piggott, J. (June 2020). Population Ageing and the Mature Workforce. Human Rights of Older People: Why Should it Take a Crisis to Talk about the Human Rights of Older People? UNSW Ageing Futures Institute. Online.
- 21 Piggott, J. (September 2020). Aging and Fiscal Sustainability and Adequacy of Social Security Systems. Fridays for the Future of Aging. The 2019-2020 Health and Aging Policy Fellows Webinar Series: Economic Security and Global Aging. Online.
- 22 Wilson, T. (2020). Local Area Estimates and Geographical Patterns of Australia's Sexual Minority Population. Australian Population Association and Australian National University Webinar Series.
- 5 Anstey, K. (2020). Member. Australian Institute of Health and Welfare Dementia in Australia Working Group.
- 6 Baird, M. (September 2020). Reflections on the Respect@Work Report. Australian Human Rights Commission. Australia.
- 7 Bateman, H. (March 2020). Participant. CEPAR Housing and Ageing Roundtable. Sydney, Australia.
- 8 Byles, J. (November 2020). Chronic Conditions and Preventative Health: Diabetes. ALSWH Virtual Symposium for Australian Government Department of Health.
- 9 Byles, J. (November 2020). Healthy Ageing: Wide Window of Opportunity and Long Tail of Prevention. ALSWH Virtual Symposium for Australian Government Department of Health.
- 10 Byles, J. (November 2020). COVID-19: Access to Health Services. ALSWH Virtual Symposium for Australian Government Department of Health.
- 11 Chomik, R. (March 2020). Housing and Ageing: Setting the Scene. CEPAR Roundtable on Housing and Ageing. Sydney, Australia.
- 12 Hamilton, M. (October 2020). The Experiences and Impacts of being a Young Carer. Carers NSW webinar. NSW, Australia.
- 13 Kudrna, G. (March 2020). Participant. CEPAR Housing and Ageing Roundtable. Sydney, Australia.
- 14 Kudrna, G. (2020). Member. Steering Group for Treasury's OLGGA model. The Commonwealth Treasury.
- 15 Kudrna, G. (December 2020). Wealth and Homeownership in Germany and Australia: The Role of Tax and Retirement Income Policy. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 16 McDonald, P. (January 2020). Australian Migration Program for 2020-21. Roundtable, Department of Home Affairs. Melbourne, Australia.
- 17 McDonald, P. (January and May 2020). Projection of Fertility Rates for Australia. Discussions with the Commonwealth Treasury. Online.
- 18 McDonald, P. (March 2020). Applicability of Australian Immigration Policy to Japan. Meeting with Tokuro Furuya, Political Minister, Embassy of Japan. Melbourne, Australia.
- 19 McDonald, P. (March 2020). National Transfer Account. Department of Social Services and the Commonwealth Treasury. Online.

GOVERNMENT⁶

- 1 Anstey, K. (September 2020). Working Remotely can Work for Carers: What Employers have Learned from COVID-19 and how they can Champion Change. Carers Australia.
- 2 Anstey, K. (March 2020). Dementia Prevention and Risk Reduction in the Primary Care Setting. Commonwealth Department Health, Primary Health Care Reform Taskforce National Dementia Workshop. Perth, Australia.
- 3 Anstey, K. (February 2020). Dementia Risk Scores: Identifying People at Risk for Targeted Interventions. Qatar Ministry of Health and the World Health Organisation: Joint Dementia Workshop. Doha, Qatar.
- 4 Anstey, K. (2020). Member. Ageing and Aged Care Mission Executive Advisory Panel. Department of Health. Australia.

⁶ Includes memberships of government committees and groups.

END USER LINKS

- 20 McDonald, P. (March 2020). Participant. CEPAR Housing and Ageing Roundtable. Sydney, Australia.
- 21 McDonald, P. (May 2020). Briefing on Demographic Trends. New South Wales Department of Planning, Industry and Environment.
- 22 McDonald, P. (July 2020). Projections of Australia's Fertility Rate Under COVID-19. Population Expert Panel of the Centre for Population. Commonwealth Treasury. Australia.
- 23 McDonald, P. (August 2020). Briefing with the Chief Economist of the Department of Home Affairs. Department of Home Affairs. Australia.
- 24 McDonald, P. (August 2020). Projections of Australia's Fertility Rate Under COVID-19. Population Advisory Group, NSW Department of Planning and Environment. Australia.
- 25 McDonald, P. (October 2020). Strategic Discussion on Migration. Ministerial Roundtable with the Acting Minister for Immigration. Australia.
- 26 McDonald, P. (October 2020). Projections of Fertility for New South Wales Under COVID-19. NSW Government Population Matters Forum. Australia.
- 27 McDonald, P. (November 2020). Immigration Policy Post-COVID. Department of Home Affairs Annual Industry Summit. Canberra, Australia.
- 28 McDonald, P. (2020). Member. Expert panel to advise on Population Projections for New South Wales. NSW Department of Planning, Industry and the Environment.
- 29 McDonald, P. (2020). Approaches to Australian Immigration Coming out of COVID. Minister Tudge and Department of Home Affairs Officers.
- 30 McKibbin, W. (February 2020). Meeting with Beth Kiser – Associate Director in the Division of Research and Statistics. Federal Reserve Board.
- 31 McKibbin, W. (February 2020). Meeting with IMF China Team about Coronavirus and Potential Impact on the Economy. IMF China.
- 32 McKibbin, W. (March 2020). Meeting. Retirement Income Review. Commonwealth Treasury. Online.
- 33 McKibbin, W. (June 2020). Roundtable participant. DFAT Dialogue with Australian and Vietnamese Officials. DFAT. Australia.
- 34 McKibbin, W. (August 2020). Discussion Regarding the Potential Economic Recovery Path. Treasury.
- 35 McKibbin, W. (November 2020). Meeting. Environment, Industry and Infrastructure Division in the Commonwealth Treasury. Australia.
- 36 McKibbin, W. (November 2020). Meeting with Mark Cully from the Macroeconomic Modelling and Policy Division, Macroeconomic Group, The Commonwealth Treasury. Australia.
- 37 McKibbin, W. (March 2020). COVID-19 Outbreak and the proposed policy responses to Public Health and Macroeconomic Shocks. Prime Minister Scott Morrison and senior public servants. Prime Minister's Office. Canberra.
- 38 Newell, B. (2020). Determinants of Early-Access to Superannuation: Lessons from the Australian Government response to the COVID-19 Pandemic. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 39 Parker, S. (September 2020). Mental Health in the Workplace. Industrial Relations Reform Working Groups. Australian Attorney-General's Office. Australia.
- 40 Piggott, J. (February 2020). Meeting to Discuss CEPAR Submission to Retirement Income Review. The Commonwealth Treasury.
- 41 Piggott, J. (February 2020). Meeting with Victoria Anderson, Executive Director, Centre for Population. The Commonwealth Treasury.
- 42 Piggott, J. (February 2020). Meeting with Jenny Wilkinson, Deputy Secretary Fiscal Group, The Commonwealth Treasury.
- 43 Piggott, J. (March 2020). Participant. CEPAR Housing and Ageing Roundtable. Sydney, Australia.
- 44 Piggott, J. (September 2020). Evidence Given to The Royal Commission on Aged Care Quality and Safety: Funding and Financing Hearing. Online.
- 45 Piggott, J. (2020). Member. Population Expert Panel, Centre for Population, The Commonwealth Treasury.
- 46 Piggott, J. (December 2020). Panel. Retirement Income Review Australia. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 47 Poonpolkul, P. (2020). Age-Dependent Risk Aversion: Re-evaluating Fiscal Policy Impacts of Population Ageing. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 48 Rodgers, D. (2020). Age Dependent Taxation in Australia. The Commonwealth Treasury, and the 28th Colloquium on Pensions and Retirement Research. UNSW Sydney, December 2020.
- 49 Sherris, M. (March 2020). Participant. CEPAR Housing and Ageing Roundtable. Sydney, Australia.
- 50 Sherris, M. (September 2020) Evidence Given to The Royal Commission on Aged Care Quality and Safety: Funding and Financing Hearing. Online.
- 51 Temple, J. (2020). Member. Aged Care Data Advisory Group. Australian Institute of Health and Welfare.
- 52 Wheadon, D. (December 2020). Effects of Means Testing the Age Pension on Populations with Self-Control Preferences. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 53 Williams, A. (September 2020). Mutual Interests in Mature Workforce. Department of Education, Skills and Employment (DESE). Australia.
- 54 Williams, Alison. (September 2020). Findings of Policy Review. Presentation to a State Government Department (name withheld). Australia.
- 55 Wilson, T. (2020). Member. Expert panel to advise on Population Projections for New South Wales. NSW Department of Planning, Industry and the Environment.

INDUSTRY/BUSINESS/END USERS

- 1 Anstey, K. (July 2020). Global Guidelines for Dementia Risk Reduction. Alzheimer's Association International Conference. Online.
- 2 Anstey, K. (July 2020). Plenary. Applying Research in Dementia Risk Reduction to Understanding and Promoting Healthy Ageing. Melbourne Ageing Research Collaboration Annual Symposium.
- 3 Baird, M. (July 2020). Women, Work and COVID. Industrial Relations Society of NSW Webinar. Australia.
- 4 Baird, M. (August 2020). Barriers to Women in the Industry. Women in Renewables. Australia.
- 5 Baird, M. (May 2020). Leading Practices in Parental Leave. Webcast to Willis Towers Watson for the PAIG (Pharmacy Australia Inclusivity Group). Online.
- 6 Bateman, H. (October 2020). Behavioural Barriers to Reverse Mortgage Demand. 2020 Household Capital Third Pillar Forum. Sydney, Australia. Online.
- 7 Bateman, H. (October 2020). Baby Boomer and their Home Equity. 2020 Household Capital Third Pillar Forum. Sydney, Australia. Online
- 8 Bateman, H. (2020). Meeting with the Advisory Board. Conexus Institute.
- 9 Bateman, H. (2020). Development of a Retirement Confidence/Preparedness Index. MLC.
- 10 Bateman, H. (2020). Member. Consultative Committee. UniSuper.
- 11 Bateman, H. (2020). Participant. Consumer Focused Retirement Incomes Roundtable. COTA.
- 12 Bateman, H. (2020). Member. Advisory Board Global Pension Index. Mercer.
- 13 Bateman, H. (2020). Multiple briefings. Cbus.

- 14 Bateman, H. (2020). Multiple briefings. First State Super.
- 15 Bateman, H. (2020). Multiple briefings. Household Capital.
- 16 Bateman, H. and Eberhardt, I. (2020). Presentations. April, May, June, and August. MLC.
- 17 Bateman, H. and Eberhardt, I. (2020). Meetings (fortnightly). Aware Super.
- 18 Bell, D. (December 2020). Scenarios-Based Portfolio Construction: From Theory to Practice. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 19 Byles, J. (May 2020). Ageing, Older People and Aged Care. Houston, we have a Problem - Navigating our way back. Hall and Wilcox Law Firm. Online.
- 20 Byles, J. (July 2020). Social Lives: Life Course Impact of Social Determinants on Women's Health. The Most Recent Trends in Research and Ageing. 6th Annual Melbourne Ageing Research Collaboration (MARC) Symposium: From Cells to Society. Virtual.
- 21 Byles, J. and Nair, B.R. (2020). Healthy Ageing: Planning for a Long and Healthy Life. Hunter Medical Research Institute Facebook Livestream.
- 22 Eberhardt, I. (December 2020). Follow the Rating: How Disclosure Affects Retirement Income Product Choices. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 23 Hanewald, K. (December 2020). Intrinsic Capacity: Validation of a New WHO Concept for Healthy Ageing. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 24 Hanewald, K. and Ho, T.L. (August 2020). Demand for Reverse Mortgages: The Role of Mental Accounting and Choice Bracketing. All-Actuaries Virtual Summit. Online.
- 25 Hanewald, K. (October 2020). Home Equity Release for Families: An International Perspective. 2020 Third Pillar Forum. Online.
- 26 Ho, T.L. (December 200). Demand for Reverse Mortgages: The Role of Mental Accounting and Choice Bracketing. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 27 Illes, L. (October 2020). Organisational Practices Workshop. City of Joondalup. Joondalup, WA, Australia.
- 28 Lu, B. (June 2020). Mature Workers in Organisations Survey Presentation. Zhejiang Lvkang Medical Care Group. China. Online.
- 29 Kessy, S. (December 2020). Stacked Regression Ensemble Learning for Mortality Forecasting. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 30 Liu, J. (December 2020). The Impact of Mortgage Brokers on Consumer Preferences and Perceptions. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 31 McDonald, P. (August 2020). Briefing. Immigration Policy for Australia. Business Council of Australia.
- 32 McKibbin, W. (June 2020). Virtual meeting with the Bank of England Advisory Committee.
- 33 Mitchell, O.S. (December 2020). Building Better Retirement Systems in the Wake of the Global Pandemic. Pensions and COVID-19: The Global Experience. UNSW Sydney. Online.
- 34 Parker, S. (September 2020). Managing Work Through COVID and Beyond: (A Focus On Flexible Working). Association of Australian Medical Research Institutes (AAMRI) Research Strategy Network Day.
- 35 Parker, S. (July 2020). Working from Home During COVID-19 (and beyond). Telethon Kids Institute's Senior Management Team. Online.
- 36 Parker, S. (June 20). Summary of Results and Trends from the CEPAR Employee Survey. Zhejiang Lvkang Medical Care Group. China. Online.
- 37 Parker, S. (October 2020). Invited presentation. Mental Health and Well-being: A Proactive and Preventative Approach. Minesafe International Digital Conference. Online.
- 38 Piggott, J. (2020). Participant. Consumer Focused Retirement Incomes Roundtable. COTA.
- 39 Sherris, M. (December 2020). Portfolio Management for Insurers and Pension Funds and COVID-19: Targeting Volatility for Equity, Balanced and Target-date Funds with Leverage Constraints. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 40 Sherris, M. (August 2020). Developments in Multi-factor Continuous Time Mortality Modelling. 20/20 All-Actuaries Virtual Summit. Virtual.
- 41 Thorp, S. (December 2020). Motivated Saving: The Impact of Projections on Retirement Saving. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 42 Wu, S. (December 2020). Portfolio Choice for Retirement Savings: The Impact of Market Volatility During the COVID-19 Pandemic. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 43 Wan, C. (December 2020). Optimal Portfolio Choice with Longevity and Health Insurance: A Developing Country Context. 28th Colloquium on Pensions and Retirement Research. UNSW Sydney.
- 44 Zozak, L. (October 2020). CEPAR Engagement Overview. City of Stirling, WA. Stirling, WA, Australia.

CENTRE FINANCE

CONSOLIDATED FINANCIAL STATEMENT 2017-2020

INCOME	2017(\$)	2018(\$)	2019(\$)	2020(\$)
ARC Centre Grant distributed as follows:				
University of New South Wales	2,579,024	2,820,862	2,238,139	2,672,888
Australian National University	-	461,452	295,734	306,240
University of Sydney	255,732	792,658	703,982	375,339
University of Melbourne	420,305	509,529	432,930	436,534
University of Western Australia	246,688	-	-173,105	-
Curtin University	-	-	963,965	376,908
University of New South Wales	548,551	719,196	633,874	633,874
Australian National University	-	138,396	70,375	70,375
University of Sydney	83,839	114,522	147,239	126,987
University of Melbourne	73,980	145,975	100,797	100,952
University of Western Australia	54,260	-50,677	-	-
Curtin University	-	-	286,562	96,547
NSW Department of Industry (Research Attraction and Acceleration Program)	NOTE 1 66,000	153,915	165,834	156,919
Department of Foreign Affairs and Trade	30,000	-	-	-
Department of Health	50,000	50,000	50,000	50,000
Department of Social Services	50,000	50,000	50,000	50,000
Medibank	50,000	50,000	50,000	-
National Wealth Management Services Limited	50,000	50,000	50,000	50,000
NSW Treasury	50,000	50,000	50,000	50,000
PwC	40,000	40,000	40,000	40,000
Reserve Bank of Australia	50,000	50,000	50,000	50,000
Willis Towers Watson	65,000	65,000	65,000	65,000
Commonwealth Treasury	-	50,000	50,000	50,000
UNSW Contestable Funds / Strategic Funds / UNSW Business School Funds	-	379,153	521,927	211,271
Superannuation Colloquium Registration Fees	-	21,650	34,876	5,426
Long-term Care Directors Conference Registration Fees	-	12,038	-	-
Economics of Ageing Workshop Sponsorship	-	-	13,394	-
ERA Conference Registration Fees	-	-	7,817	-
International Network for Pensions, Aging and Retirement Research Conference Sponsorship	-	33,902	54,290	-
Total Income	4,763,379	6,707,571	6,953,630	5,975,260

EXPENDITURE	2017(\$)	2018(\$)	2019(\$)	2020(\$)
Salaries	61,325	3,239,416	5,142,693	5,385,044
Scholarships	-	158,812	210,442	226,629
Travel	2,872	336,156	519,799	52,917
Emerging Researchers in Ageing initiative: annual contribution	-	80,000	70,000	80,000
Events	335	124,216	120,642	33,499
Other research related expenses	581	45,035	179,712	218,410
Recruitment and relocation expenses	3,034	22,753	27,597	3,459
Centre administration, consumables and I.T. maintenance	145	27,837	63,321	44,009
Equipment	-	19,855	49,398	14,232
Website, branding and marketing	4,978	50,190	59,317	26,815
Total Expenditure	73,270	4,104,270	6,442,922	6,085,014
Opening balance at the beginning of the year		4,690,109	7,293,409	7,804,117
Closing balance as at year end	4,690,109	7,293,409	7,804,117	7,694,363

NOTE 1: A total of \$1,000,000 was received in 2017, covering the period 2017-2023. \$157K is reported for 2020 and includes annual interest payments of \$3K.

ESTIMATES OF FUTURE INCOME AND EXPENDITURE

INCOME

The Centre's main source of funds in 2021 will be the Australian Research Council (ARC). The administering and collaborating organisations, as well as the partner organisations will make contributions at their contracted rates. The UNSW Business School will provide in 2021 an additional \$200K to support the hiring of research personnel associated with new research on developing policy and business responses to Asia's ageing demographic. In total, we estimate 2021 Centre income to be around \$6.05 million.

EXPENDITURE

In 2021 the Centre plans to fund a range of initiatives as detailed in the 2021 activity plan provided on pages 8-10. Salaries for ECRs will continue to account for a large portion of the Centre budget. We anticipate that we will spend about \$6.5 million in total, of which approximately \$5.5 million will be allocated to salaries and scholarship stipends.

PERSONNEL

It is anticipated that the Centre will spend approximately \$4.6 million in 2021 on research personnel, most of whom will be ECRs.

It is expected that 32 students will be supported by CEPAR scholarships in 2021 at a total cost of \$206,700. This includes scholarships for undergraduate and PhD students.

MENTORING OPPORTUNITIES FOR ECRS AND STUDENTS

CEPAR will continue to support the Emerging Researchers in Ageing (ERA) initiative in 2021 as well as offer workshops for ECRs and PhD students.

Uncertainty around the future of pandemic-related border restrictions means it is difficult to anticipate whether fellows and students will be able to make use of CEPAR travel funding schemes related to conference participation and extended visits to collaborating and partner institutions in 2021. Estimates are based on domestic travel only.

The anticipated cost of these initiatives in 2021 is approximately \$150,000.

COLLABORATION, OUTREACH AND DISSEMINATION OF RESEARCH FINDINGS

Conferences and workshops showcase the Centre's research, increase our international footprint, and provide opportunities for our industry partners to engage with the Centre. Our research briefs and fact sheets translate research for a wider audience. Travel and social restrictions related to COVID-19 developments will impact the scale and nature of planned events as well as the means by which international speakers participate. Estimates are based on our expectation that most events will be presented in hybrid mode (i.e. in person and virtually) and only domestic speakers will participate in person.

It is expected that these activities will be supported by a combination of industry and collaborating university funds. Total estimated expenditure for these activities in 2021 is \$375K.

OTHER

Approximately \$845,000 will be spent on supporting the operation of the Centre. This includes salaries for administrative personnel, equipment, materials and other costs associated with the running of the Centre.

An estimated additional \$320,000 will be spent on other research related activities including surveys.

NEW GRANTS AWARDED TO RESEARCH TEAMS WHICH INCLUDED CEPAR CHIEF INVESTIGATORS

ANSTEY, K.J.

Road Safety Innovation Fund:

Identifying measures sensitive to declining safety due to progressive driver decline from dementia to better inform drivers, families and clinicians and support the development of appropriate in-vehicle road safety devices and apps

Total amount awarded: \$182,793

ANSTEY, K.J., REGAN, M., KIELY, K., VELONAKI, M., CRATCHLEY, S., ROSS, L. AND MCCALLUM, J.

ARC Linkage Project:

Ageing drivers: Cognitive ageing and technology

Total amount awarded: \$682,209

(plus cash and/or in-kind support from Suncorp group limited and National Seniors Australia)

BLACKHAM, A., TEMPLE, J. AND MCDONALD, P.

University of Melbourne COVID19 Impacts on Society Seed Funding:

COVID-19, inequality and the workplace

Total amount awarded: \$5,000

KEANE, M. AND WOODLAND, A.

ARC Discovery Project:

Optimal tax policy meets modern labour supply theory

Total amount awarded: \$1,503,914

KUDRNA, G., PIGGOTT, J. AND MCDONALD P.

ARC Linkage Project:

Policy modelling for ageing in emerging economies: The case of Indonesia

Total amount awarded: \$261,000

(plus cash and/or in-kind support from the World Bank and Bappenas)

THORP, S., DOBRESCU, L., BATEMAN, H., NEWELL, B. AND CAMPO, R.

ARC Linkage Project:

Better communication to solve the under-saving, under-spending puzzle

Total amount awarded: \$392,445

(plus cash and in-kind support from Cbus)

ZIVEYI, J., SHEN, Y., SHERRIS, M. AND TEMPLE, J.

ARC Discovery Project:

Forecasting and financing healthy ageing and aged care in Australia

Total amount awarded: \$386,139

NEW GRANTS AWARDED TO TEAMS INCLUDING CEPAR RESEARCHERS AND ASSOCIATE INVESTIGATORS ON TOPICS RELATED TO POPULATION AGEING

ANDREWS, S.

ARC Discovery Early Career Researcher Award:

Habit formation and change in ageing: Developing a neuropsychological model

Total amount awarded: \$437,623

BERNARD, A., WILSON, T. AND ARGENT, N.

ARC Discovery Project:

Where migrants go: A study of immigrants' post-arrival moves in Australia

Total amount awarded: \$220,311

BYLES, J., MISHRA, G., LOXTON, D. AND TOOTH, L.

Commonwealth Department of Health funding:

The Australian Longitudinal Study on Women's Health

Total amount awarded: \$8,551,568

CRAIG, J., HAMILTON, M., ADAMSON, E. AND

TIMONEN, V.

ARC Discovery Project:

Grandparent childcare: Negotiating work and care across generations

Total amount awarded: \$318,385

FLICKER, L., BESSARAB, D., CUNROW, V., LOGIUDICE, D., MALAY, R., SMITH, K., ATKINSON, D., STRIVENS, E., DOW, B. AND TEMPLE, J.

NHMRC Grant:

Defining and predicting healthy aging in Aboriginal and Torres Strait Islander Populations

Total amount awarded: \$931,199

NEW GRANTS

PAYNE, C.

ARC Discovery Early Career Researcher Award:

Advancing research on healthy longevity in Australia and the Asia-Pacific

Total amount awarded: \$425,394

SHEN, Y.

ARC Discovery Early Career Researcher Award:

Demystifying puzzles in retirement planning

Total amount awarded: \$420,039

SHERRINGTON, C., LORD, S., CROTTY, M., HAINES, T., BYLES, J., SEIBEL, M., CAMERON, I., CLOSE, J., HOWARD, K. AND BAUMAN, A.

National Health and Medical Research Council (NHMRC):

NHMRC Centre of Research Excellence in the Prevention of Fall-related Injuries

Total amount awarded: \$2,500,000

TRAN, C.

ARC Discovery Project:

Lifetime approach to measuring inequality in living standards in Australia

Total amount awarded: \$219,000

WILSON, T., TEMPLE, J., ALEXANDER, M, AND BAKER, J.

ARC Discovery Project:

Developing robust small area population forecasts for planning and policy

Total amount awarded: \$348,536

WILSON, T. AND TEMPLE, J.

MSPGH Internal Grant:

Quantifying the downturn in human mobility associated with COVID-19 in Australia

Total amount awarded: \$16,000

AWARDS, PRIZES & RECOGNITION

DANIELA ANDREI

Awarded the Curtin University Faculty of Business and Law Research and Innovation Award 2019 (joint with CEPAR CI Sharon Parker and co-author Anja van den Broeck)

KAARIN ANSTEY

Elected Fellow of the Royal Society of NSW

Recognised in *PLoS Biology's* 2020 list of the world's top 2% of scientists in her disciplinary field

HAZEL BATEMAN

Appointed to the Advisory Board of the Conexus Institute

TSENDSUREN BATSUURI

Awarded a Fox International Fellowship at Yale University

DAVID BELL

Recipient of the Dean's award for Outstanding PhD Thesis 2020, UNSW Business School, UNSW Sydney

FIONA BLYTH

Recognised in *PLoS Biology's* 2020 list of the world's top 2% of scientists in her disciplinary field

BROOKE BRADY

Appointed as the lead on the data collection stream of UNSW LGBT+ Diversity working group

PHILIP CLARKE

Recognised in *PLoS Biology's* 2020 list of the world's top 2% of scientists in his disciplinary field

ROBERT CUMMING

Awarded title of Emeritus Professor University of Sydney

Appointed as an Officer of the Order of Australia

Recognised in *PLoS Biology's* 2020 list of the world's top 2% of scientists in his disciplinary field

CASSIE CURRYER

Awarded the Hal Kendig Prize for best CEPAR PhD Thesis in 2019

INKA EBERHARDT

Awarded an International Association for Research in Economic Psychology (IAREP) scholarship for the ECMCR Summer School on Behavioral and Neuroscientific Research for Economics, Finance and Accounting

MICHAEL KEANE

Recognised in *PLoS Biology's* 2020 list of the world's top 2% of scientists in his disciplinary field

SAMAN KHALATBARI SOLTANI

Awarded People's Choice Best Poster Prize at the CEPAR Workshop

PETER MCDONALD

Recognised in *PLoS Biology's* 2020 list of the world's top 2% scientists in his disciplinary field

WARWICK MCKIBBIN

Appointed to The Australian Treasury Expert Panel on COVID-19

Appointed to the Editorial Board of the COVID Economics - Vetted and real-time papers, CEPR Press

JAMES NAZROO

Recognised in *PLoS Biology's* 2020 list of the world's top 2% of scientists in his disciplinary field

**PROFESSOR JAMES NAZROO**

BSc MB BS Lond.,
PhD UC Lond.

PARTNER INVESTIGATOR

James Nazroo is Professor of Sociology at the University of Manchester, UK, and Fellow of the British Academy. He also serves as co-Director of the Manchester Institute for Collaborative Research on Ageing and Deputy Director of the Centre on Dynamics of Ethnicity. His research focuses on issues of inequality, social justice and underlying processes of stratification, particularly in relation to ageing and ethnicity. He works on the social determinants of health and wellbeing in later life, social inequalities over the life course, and longitudinal surveys of health and retirement.

He was the lead investigator for the six year interdisciplinary research programme 'Frailty, Resilience and Inequalities in Later Life (fRailtl)' (2011-2017); is a Chief Investigator on the ongoing 'English Longitudinal Study of Ageing (ELSA)'; and was a Partner Investigator on the ARC Discovery grant 'Socioeconomic determinants and health inequalities over the life course' being conducted in collaboration with CEPAR Investigators Kendig, Loh, Byles and O'Loughlin.

AWARDS, PRIZES & RECOGNITION

SHARON PARKER

Recognised in a special report by *The Australian* on Australia's top researchers

Recognised in *PLoS Biology's* 2020 list of the world's top 2% of scientists in her disciplinary field

Acknowledged in *The Australian's* Lifetime Achievers Leaderboard as one of the top 40 researchers for her research in business, economics and management

Recipient of the Australian Business Deans Council (ABDC) Award for Innovation and Excellence in Research

Appointed as a John Curtin Distinguished Professor

JOHN PIGGOTT

Recipient of the Business School Staff Excellence Global Impact award, UNSW Sydney

Appointed as an Officer of the Order of Australia

PHITAWAT POONPOLKUL

Awarded the Judge's Panel Best Poster Prize at the CEPAR Workshop

FIONA STANAWAY

Recipient of the Vice-Chancellor's award for outstanding teaching

CHENG WAN

Recipient of the Best PhD Paper Presentation Award at the 28th Colloquium on Pensions and Retirement Research

DANDAN YU

Recipient of the Dean's award for her PhD thesis titled, Three Essays on Household Decision-making

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