



C | A | R | D | I

Fellow

Leadership Programme in Ageing Research

# About CARDI

CARDI, established in 2007, is a non-profit organisation developed by leaders from the ageing field across Ireland, North and South, including age-focused researchers, academics, statutory, voluntary and community sector representatives with support from The Atlantic Philanthropies. It is hosted by the Institute of Public Health in Ireland.

CARDI was established to provide a mechanism for greater collaboration among age researchers, for wider dissemination of ageing research information and to advance a research agenda relevant to the needs of older people across the island of Ireland.

Its underlying purpose is to improve the lives of the ever-increasing number of older people in Ireland, North and South, by supporting policy-relevant research. CARDI's strategy 2013–2015 centres on three areas of work:

- stimulating, supporting and developing strategic age research in Ireland, North and South;
- developing skilled leaders on ageing research across the island of Ireland;
- translating and communicating relevant research to help ensure it makes maximum impact on age policy and practice.

CARDI's vision:

"The island of Ireland as a place of excellence in ageing research contributing to the highest possible standard of life for our ageing population."

## Acknowledgement

The CARDI Leadership Programme in Ageing Research is funded by the Health and Social Care Research and Development Division of the Public Health Agency, Northern Ireland (NI), the American Federation for Aging Research's Paul Beeson Career Development Awards in Aging Research for the island of Ireland, and The Atlantic Philanthropies.

# Foreword

*Across the island of Ireland, people are living longer lives and the proportion of our population aged 60 and older is growing. Research can play a vital part in ensuring that people age in a healthier and more active way than previous generations. To help inform this change CARDI (between 2009-2013) funded 32 pieces of all-Ireland research on ageing which produced valuable evidence for policy-makers and practitioners.*

*Our focus is on developing a strong community of researchers in Ireland, North and South, and in particular supporting the development of next-generation leadership engaged in high-quality and policy-relevant research into ageing issues.*

*In 2013 we launched the CARDI Leadership Programme in Ageing Research. This programme has invested over €2 million to support nine post-doctoral Fellows to carry out high-quality research into aspects of ageing and undertake training and development. The aim is to foster a new generation of leaders in ageing research.*

*CARDI is delighted to provide this support to a group of early-career researchers from a range of backgrounds and is confident that the resulting research will add to the existing knowledge and evidence base about ageing in Ireland, North and South.*

*We would like to take this opportunity to thank the funders of the programme: the Health and Social Care Research and Development Division of the Public Health Agency, Northern Ireland (NI), the American Federation for Aging Research's Paul Beeson Career Development Awards in Aging Research for the island of Ireland, and The Atlantic Philanthropies.*

*We wish the CARDI Fellows every success.*

**Professor Davis Coakley**  
**Co-Chair of CARDI**

**Professor Bob Stout**  
**Co-Chair of CARDI**

# Overview of Programme

Planning for an ageing society in Ireland, North and South, is essential if we are to unlock the benefits of greater longevity and meet the challenges of the coming decades. We face a three-fold challenge: collecting the data needed, having skilled researchers to lead the analysis of the evidence, and supporting policy-makers and practitioners to use it to best effect.

In 2013 to help address this challenge, CARDI launched a Leadership Programme in Ageing Research aimed at supporting post-doctoral researchers. It is designed to develop a new generation of researchers and support high-quality policy to read policy-relevant research into ageing and older people in Ireland, North and South.

CARDI has supported nine Fellows, two of which are Beeson-sponsored Fellowships. The Fellows were chosen on the basis of the quality of their research proposals, their potential to become leaders in ageing research and the support of their universities and mentors. Support included salaries for three years, funding for research costs, attendance at conferences and travel. Each Fellow has a mentor in their host university who will guide and advise them during their research to help build their expertise, as well as an international mentor nominated by CARDI.

CARDI will also provide support, training and networking opportunities for them to develop their skills and knowledge in ageing research. It will provide international networking opportunities for Fellows including working with The American Federation for Aging Research, Canadian Institutes of Health Research - Institute of Aging, and the European Research Area in Ageing - Future Leaders in Ageing Research in Europe Programme.

# International Scientific **Advisory Panel**

The programme is overseen by the CARDI Steering Group and advised by an International Scientific Advisory Panel consisting of:

**Professor Anne Martin-Matthews (Chair)**

University of British Columbia  
Canada

**Professor William R Hazzard**

J Paul Sticht Center on Aging  
USA

**Professor Carol Jagger**

Institute for Ageing and Health, Newcastle  
University  
UK

**Dr Giovanni Lamura**

National Institute of Health & Science on Ageing  
Italy

# CARDI

## Leadership Fellows:

### Dr Aisling O'Halloran

Employed by Trinity College Dublin

Mentor: **Professor Rose Anne Kenny**



Dr Aisling O'Halloran holds a PhD in cardiovascular disease and genetics from the Royal College of Surgeons in Ireland (RCSI) and a BA (Mod) in Natural Science, specialising in genetics, from Trinity College Dublin. She joined TILDA as a post-doctoral fellow in health research in January 2012 where her research interests included all aspects of frailty, resilience and falls, with an interest in characterising the physiological, cognitive and behavioural factors which predispose or protect older people to these outcomes. She is the research lead on both the Frailty Working Group and the Biomarker Working Group within TILDA. Previously Aisling was the Senior Researcher on the Falls Prevention Strand at the Technology Research for Independent Living (TRIL) Centre at St James's Hospital in Dublin (2010-2011). She has published in high impact journals and presented at scientific and medical conferences both nationally and internationally.

Aisling's research as a CARDI Fellow is on the theme of frailty and older people in Ireland, North and South. Frailty is a driver of functional and cognitive decline, predicting multimorbidity, disability, increased health care utilisation and mortality in older people. However, frailty can be ameliorated through early detection and intervention. This study will use data from TILDA and NICOLA to track transitions along the frailty spectrum from one wave of the surveys to another. This will help to identify risk factors for frailty in older people with the aim of developing new evidence-based targets for the early detection of frailty and suitable interventions. It will also seek to develop estimates of future healthcare needs related to frailty.

*Frailty rates rise with age and 36% of people aged 80+ in Northern Ireland and 15% in the Republic of Ireland are frail. This research will raise awareness and deepen understanding of both the levels of frailty and frailty prevention in Ireland, North and South. The findings will be of interest to researchers, healthcare professionals, policy makers and older people's groups.*

## Dr Mark O'Doherty

Employed by Queen's University Belfast

Mentor: **Professor Frank Kee**



Dr Mark O'Doherty PhD is a post-doctoral research fellow from the UK Clinical Research Collaboration Centre of Excellence for Public Health, Queen's University Belfast, where he obtained his PhD in nutritional and cardiovascular epidemiology in 2009. Mark's post-doctoral training to date has been in cancer epidemiology and healthy ageing, and he has extensive experience in the utilisation and management of large datasets, both in an all-Ireland setting and during his time at the National Cancer Institute, Washington DC, United States. He was core to the strategic organisation of the cardiovascular disease and diabetes Work Package within the EU 7th framework CHANCES Project: Consortium on Health and Ageing: Network of Cohorts in Europe and the United States.

Mark's research as a CARDI Fellow will explore differences in trends in work-related disability and in the way people report disability between nations and across different national health and welfare service contexts. The aim of this research is to develop expertise in the evaluation and assessment of work-related disability among older adults through the use of disability vignettes which will supplement self-reported disability. This approach provides the capacity to compare variations in reporting thresholds with representative data for differing ageing populations from The Irish Longitudinal Study of Ageing (TILDA) and the Northern Ireland Cohort for the Longitudinal Study of Ageing (NICOLA). Only by comparing self-reported disability and health with those confirmed by objective health assessment can we form a better understanding of the degree to which perceptions of work disability are guided by objective health status, by socio-economic environment and by personal characteristics and circumstances.

*As the state pension age increases and larger numbers of older people remain in work the issue of work disability will grow in importance. This research will help us explore implications for policy especially as disability rates among older people are higher in Northern Ireland than elsewhere in the UK or in the Republic of Ireland.*



## Leadership Fellows:

### **Dr Joanne Feeney**

Employed by Queen's University Belfast

Mentors: **Professor Ian Young and  
Professor Rose Anne Kenny**



Dr Joanne Feeney graduated with a PhD from TCD in 2010. Her thesis examined neurocognitive changes in associative and working memory with age, and in relation to the stress hormone cortisol. She also holds a postgraduate diploma in statistics from TCD and a first class honours BSc in pharmacology from UCD (2005). She joined TILDA at TCD in July 2011 where her research interests included the impact of psychological and physiological stress on healthy ageing with a particular focus on neurocognitive and cardiovascular health. Joanne was the lead researcher on the Neurocognitive Working Group within TILDA overseeing the cognitive and mental health domains of the study. She also chaired the Vision Working Group and contributed to research linking retinal health and brain function.

For the CARDI Leadership Programme she will explore the impact of stress on the neurocognitive and cardiovascular health of older adults in the North and South of Ireland, using data from NICOLA and TILDA. The experience of severe or persistent psychological stress can alter immune mediators, trigger inflammatory processes and increase oxidative stress, damaging brain and cardiovascular health. Determining the impact of stress on neurocognitive and cardiovascular health is important in order to help uncover potential pathways to, and early indicators of, disease and disability.

*A better understanding of the role of stress and the varying cultural and historical experiences of people in Ireland, North and South, can help to predict and manage age-related disease. Identifying early pathways and risk factors linking stress exposure to disease and disability can help inform the design of interventions and educate the public about protective measures.*



## Dr Joanna McHugh

Employed by Queen's University Belfast

Mentors: **Professor Frank Kee with Professors Brian Lawlor, Rose Anne Kenny and Ian Robertson**



Dr Joanna McHugh completed her PhD research at Trinity College's Institute of Neuroscience (2007-2010) where her thesis concerned social and emotional perception. She also holds a first class honours BA in Psychology (2006) from University College Dublin. Joanna worked for the Neuro-Enhancement for Independent Lives (NEIL) Research Program as a post-doctoral research fellow before becoming a CARDI Fellow. Her research interests include health behaviours and social functioning in later life, particularly with reference to cognitive outcomes. Within NEIL she coordinated a randomised controlled trial evaluating a novel nutritional and social intervention for socially isolated older adults. Joanna has published 13 peer-reviewed articles in which she was first named author and presented her research at 19 national and international conferences. Prior to joining NEIL, Joanna was senior post-doctoral research fellow on the "Dem@Care" project, an FP7-funded collaborative project investigating the application of sensor technology to supporting health and social behaviours among individuals with dementia (2012-2013).

The focus of her research as part of the CARDI Leadership Programme is the social determinants of cognitive decline among older adults in Ireland, North and South. It will examine the causal links between loneliness, social isolation and cognitive decline, and aims to reveal the mechanisms behind these links studying and comparing longitudinal Irish population studies, TILDA and NICOLA. The project will investigate several factors such as social support, stress, neuro-inflammation and white matter structural integrity to clarify their contributions to the relationship between social isolation and cognitive outcomes in later life.

*Identifying the specific social factors that relate to cognitive decline will be valuable for policy-makers and practitioners alike, and can help inform strategies relating to the promotion of social support for older adults in Ireland, North and South. The knowledge generated from this work can also help inform future evidence-based prevention, diagnostic, therapeutic and other strategies for the prevention of dementia.*

# CARDI

## Leadership Fellows:

### Dr Charlotte Neville

Employed by Queen's University Belfast

Mentor: **Professor Jayne Woodside**



Dr Charlotte Neville obtained her PhD in nutritional epidemiology in the Centre for Public Health, Queen's University Belfast in 2010. She also holds a BSc Honours Degree in Human Nutrition and an MPhil from the University of Ulster. Her research has centred around the role of diet and lifestyle on health and disease outcomes including obesity, cardiovascular disease, musculoskeletal health and cognitive health, ranging from adolescent populations through to older adults. In recent years, Charlotte's research has expanded into lifestyle and ageing. She was trial manager of the Ageing and Dietary Intervention Trial (ADIT) examining the effect of increased fruit and vegetable consumption on measures of immune function and musculoskeletal health in older adults.

In her research as a CARDI Fellow Charlotte will explore the association between fruit and vegetable intake, retinal microvascular health and cognitive decline and dementia risk. Accurate assessment of dietary intake in older populations is vital to unravel the potential role of diet in healthy ageing. The research will examine the efficacy of assessment methods currently used in NICOLA and test other potential dietary assessment methods that may be particularly suited to older people. Her research will also draw on TILDA to examine the topic of dietary intake and its link to dementia in older people.

*In 2012 it was estimated that there were 35.6 million people worldwide with dementia and that the number will approximately double every 20 years because of growing life expectancy. The ability to identify those at high risk of dementia at an early stage and set in place strategies to reduce age-related morbidity and chronic disease prevalence can help encourage healthy ageing, and have financial and societal benefits.*

## Dr Claire McEvoy

Employed by Queen's University Belfast

Mentors: **Professor Jayne Woodside with  
Dr Bernadette McGuinness and  
Professor Kristine Yaffe**



Dr Claire McEvoy worked as a clinical dietitian before moving to a research post in the Centre for Public Health, Queen's University Belfast. She holds an MPhil and gained her PhD at Queen's University Belfast in 2012 for a thesis on fruit, vegetable and dietary patterns in relation to vascular and eye health. Claire has an interest in the application of mixed methodology to novel approaches to encourage and sustain dietary behaviour change for disease prevention and has managed two clinical trials to date: the Fruit, Vegetable and Insulin Resistance Study (FIRST) and the Trial to Encourage Adoption and Maintenance of a Mediterranean Diet (TEAM-MED). She has published nine (first-author) peer reviewed journal articles and five book chapters, and has presented her work at national and international conferences.

As a Beeson-sponsored CARDI Fellow, Claire will investigate the Mediterranean diet (MD) and cognitive decline – strengthening the evidence base and encouraging behaviour change. Her research will seek to determine the association between MD at baseline and cognitive decline and dementia risk over time in several prospective cohort studies; this will include techniques such as neuro-imaging. She will also further develop educational materials designed for participants with mild cognitive impairment to encourage dietary change towards an MD. Her Fellowship will include a year-long study visit to the prestigious Kristine Yaffe Lab at the University of California, San Francisco, where she will undertake training in nutritional epidemiology and cognitive assessment, as well as contributing to the work of the lab.

*It has been estimated that up to a half of dementia cases may result from potentially modifiable risk factors. Targeting these factors, including diet, could lead to a significant reduction in dementia cases. This research aims to increase our knowledge on how diet may contribute to cognitive health and to inform effective future strategies to prevent and treat cognitive disorders in older adults.*

# CARDI

## Leadership Fellows:

### Dr Matthew O'Connell

Employed by Trinity College Dublin

Mentors: **Professor Rose-Anne Kenny with Professors Richard Reilly, Cathal Walsh and Peter Passmore**



Dr Matthew O'Connell completed a PhD at the University of Manchester in November 2011 on *Frailty and anabolic hormones in ageing men*, which involved work on the observational European Male Ageing Study (EMAS) and a clinical trial of testosterone therapy in frail men. Matthew held a post-doctoral position in Manchester looking at longitudinal changes in sex hormone levels in the EMAS. He joined The Irish Longitudinal Study on Ageing (TILDA) as a Research Fellow in January 2012 and became Chair of the frailty research group and theme lead on physiological ageing, frailty and functional decline, designing and piloting studies of new health assessments for Wave 3. Matthew also had lead responsibility for all Computer Aided Personal Interview (CAPI) design. He has held grants from the Health Research Board (2010-15) and CARDI (2013-14) and was first author of six journal articles.

Matthew's Beeson-sponsored CARDI Fellowship will allow him to explore novel physiological determinants of functional decline across Ireland, drawing on survey findings and health assessments from both TILDA and its equivalent, NICOLA (Northern Ireland Cohort Longitudinal Study of Ageing). He will use these data to quantify four-year change in key functional measures, particularly muscle strength and mobility and identify and validate physiological markers related to falls, disability and mortality. Mark will then assess the relationship between the markers and functional performance; explore potential mechanisms linking neuro-cardiovascular behaviour and functional decline at the level of the brain; and compare health of older people, North and South.

*Insights from the study will directly inform clinical practice in falls and blackout clinics. Data on patterns of decline and cross-national variations in health will assist government efforts, North and South, to promote healthy ageing. Matthew will specifically work with clinical colleagues to translate findings into opportunities for screening and intervention, and with colleagues on bio-engineering to explore opportunities for innovation and technology development.*

## Dr Céline De Looze

Employed by Trinity College Dublin

Mentors: **Professor Richard Reilly with  
Professor Brian Lawlor**



Dr Céline De Looze is a phonetician by training, with expertise in speech prosody, discourse and dialogue. She completed her PhD in 2010 at the Laboratoire Parole et Langage, Aix-Marseille University in France on the thesis *Analysis and interpretation of the temporal span of prosodic variations in French and in English*. Afterwards she worked as a research fellow carrying out prosodic analyses on Parkinson speech, a project funded by the French National Research Agency. Céline has just completed post-doctoral research on the Science Foundation Ireland-funded FASTNET project (Focus on Actions in Social Talk: Network-Enabling Technology) at the Phonetics and Speech Laboratory, TCD, where she specialised in signal social processing. She has worked at the interface between academia and entrepreneurship e.g. at CrewFactors Ltd, which has a patent pending for communications training to airline staff. Céline has presented her research findings at international conferences in ten different countries, as well as contributing to journal articles.

During her CARDI Fellowship Céline will study mild cognitive impairment and psychosocial outcomes by characterising interpersonal communications between older people and carers. The research will evaluate verbal and non-verbal communication between people with mild cognitive impairment and carers. This will seek to provide a detailed characterisation of communication strategies; determine whether the ability of the person with MCI can be used as a marker of MCI; and evaluate the impact of carers' communication strategies on the quality of interaction and on the mental state of older people and carers.

*The research is based on the premise that the older person may have difficulties in communicating due, for example, to aphasia or apathy and that the carer's communication strategy may affect the patient's self-esteem and result in social withdrawal or depression. The project will contribute to more objective, non-invasive evaluations of MCI which are both time and cost effective. It also has the potential to offer evidence-based care practices to support older people with MCI and their carers.*

# CARDI

## Leadership Fellows:

### Dr Sheena McHugh

Employed by University College Cork

Mentors: **Professor Patricia Kearney**  
**with Dr Suzanne Timmons and Professor**  
**Rose-Anne Kenny**



Dr Sheena McHugh completed a four year structured PhD Scholars programme in Health Services Research at UCC funded by the Health Research Board in 2012. Her thesis was *The Quality of Diabetes Care in the Community: Practice, Policy and Culture*. Sheena was principal research analyst with the Diabetes in General Practice Initiative and lead researcher on a Department of Health commissioned review of the national breast screening programme. She spent two years as a Health Research Board Post-doctoral Research Fellow, leading a work package examining health service use by older people. In January 2015 she led a mixed-method evaluation of the National Clinical Care Programme for Diabetes. She is a supervisor on this qualitative study of the attitudes to diet and physical activity of women at risk of gestational diabetes and their care providers. As well as presenting her findings at international conferences, Sheena has published nine journal articles and a book chapter as first author.

Sheena's Fellowship will be devoted to the topic *Preventing falls in older people with diabetes: development and feasibility of a multifactorial intervention in primary care*. She will establish the rate and risk of falls and fear of falling among older people with diabetes in Ireland and compare with the USA. Using this evidence, Sheena will develop the multifactorial falls prevention programme, including the implementation context in order to tailor strategies to local circumstances. The objective is to pilot and evaluate the implementation, acceptability and sustainability of the intervention in order to secure funding for a larger-scale trial.

*Population ageing is a major driver for conditions such as diabetes, which increases the risk of falls. Multifactorial falls prevention interventions have been shown to benefit older people but few studies have studied the needs of those with chronic conditions such as diabetes. The research has the potential to deliver the first primary care-based falls prevention programme for older people with diabetes in Ireland.*

## **CARDI Steering Group**

**Professor Davis Coakley**

Co-Chair of CARDI

**Professor Robert Stout**

Co-Chair of CARDI

**Owen Metcalfe**

Institute of Public Health

**Professor Eamon O'Shea**

Irish Centre for Social Gerontology

**Robin Webster**

Age Action Ireland

**Dr Roger O'Sullivan**

Director of CARDI





Centre for Ageing Research  
and Development in Ireland

**Centre for Ageing Research  
and Development in Ireland**

Forestview  
Purdy's Lane  
Belfast BT8 7AR  
**Tel:** +44 (0) 28 9069 0066

5th Floor, Bishop's Square  
Redmond's Hill  
Dublin 2  
**Tel:** +353 (0) 1 478 6308  
**Email:** [leadership@cardi.ie](mailto:leadership@cardi.ie)  
**Web:** [www.cardi.ie](http://www.cardi.ie)