

**Galway Neuroscience Centre**

## **Summer Research Symposium**

**Friday 1<sup>st</sup> July 2022**

**Small Lecture Theatre (B001), Human Biology Building**

<b>Time</b>	
09:20	<b>Dr. Derek Morris:</b> Welcome to GNC Summer Research Symposium
	<b>Session 1 Chair: Dr. Derek Morris</b>
09:30	<b>Dr. Tom Burke</b> <i>School of Psychology</i> <b>“Social Cognition: when you don't have a map, any road will do”</b>
10:00	<b>Dr. Ciara Egan</b> <i>School of Psychology</i> <b>“Should diamonds sparkle or dazzle? Phonological repetition in semantic processing”</b>
10:30	<b>Dr. Bharat Tripathi</b> <i>School of Mathematical &amp; Statistical Sciences</i> <b>“Role of shear shock waves in traumatic brain injury”</b>
11:00	<b>Tea and Coffee Break</b>
	<b>Session 2 Chair: Dr. Michelle Roche</b>
11:30	<b>Dr. Andrea Kwakowsky</b> <i>School of Medicine</i> <b>“Finding new therapeutic strategies for neurodegenerative disorders”</b>
12:00	<b>Dr. Ronan Fleming</b> <i>School of Medicine</i> <b>“Mechanistic computational modelling of Parkinson's disease”</b>
12:30	<b>Dr. Emer McGrath</b> <i>School of Medicine &amp; University Hospital Galway</i> <b>“Predicting dementia risk”</b>
13:00	<b>Dr. Michelle Roche:</b> Closing remarks

## Speaker Bios

### Dr. Tom Burke

Dr. Tom Burke is a Clinical Psychologist and Lecturer/Assistant Professor in Neuropsychology at NUIG. Tom received his PhD in Neuropsychology at Trinity College Dublin in 2016, after completing his BSc and MPsychSc in Psychology. He then completed his Clinical Psychology training at University College Dublin in 2019 and became a Visiting Research Fellow in neuropsychology and neuroimaging at the Royal College of Surgeons in Ireland, and an Adjunct Assistant Professor at University College Dublin. For his research he was awarded the PSI Division of Neuropsychology's Early Carer Award in 2015; UCD's Clinical Psychology Medal in 2019; and the PSI Early Career Award in 2019. Tom's research interests relate to the cognitive neuropsychology and clinical neuroscience of movement disorders, psychiatric conditions, and neurodegenerative conditions, with particular interest in social cognition and executive function as well as the development of psychological supports for people and their caregivers.



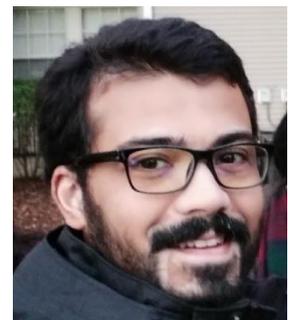
### Dr. Ciara Egan



Dr Ciara Egan is a Lecturer/Assistant Professor in Clinical Neuroscience within the School of Psychology. Prior to her appointment she completed her PhD in Cognitive Neuroscience at Bangor University, and following this worked as a researcher at the University of Oxford studying cerebral asymmetries. She is currently Course Coordinator for the MSc in Clinical Neuroscience, and her research focuses on the cognitive neuroscience of language, with a particular focus on neurodevelopmental disorders.

### Dr. Bharat Tripathi

Dr. Tripathi's main research interest is in the development of computational models, with increasing emphasis on deep learning, for biomedical problems involving nonlinear-acoustic and nonlinear-shear waves in fluids and solids. He conducts research to bring together physics and scientific computing with statistics. The overarching theme of his research mission is the amalgamation of these three fields to model the propagation of information and motion of soft materials in the real world, especially for biomedical applications. He has a diverse academic experience from three world-class institutions, with MSc from IIT Bombay, India, PhD from Sorbonne Université, France and Postdoc from UNC-CH, USA with outstanding achievements including University Gold Medal. He is experienced in developing state-of-the-art approximation methods for solving physical problems spanning various disciplines using high performance computing across different languages and platforms.



### **Dr. Andrea Kwakowsky**

Dr Andrea Kwakowsky's primary research interest is in the molecular and cellular basis of brain function in Alzheimer's disease (AD), Huntington's disease (HD) and Multiple sclerosis (MS). Dr Kwakowsky's lab has a particular interest in GABA, glutamate, oestrogen signalling and neuroinflammation in normal brain function, and changes associated with age-related pathological conditions. This research involves multi-disciplinary studies using invaluable human tissue, animal models, and advanced scientific technologies including, the newest molecular and imaging techniques. Dr Kwakowsky is a graduate of Eötvös Loránd University, Budapest, Hungary (MSc and PhD). She has held academic positions at the Institute of Experimental Medicine, Hungary (Junior Research Fellow), University of Otago, New Zealand (Postdoctoral Fellow/Research Fellow/PI), and the University of Auckland, New Zealand (Senior Research Fellow/PI) before taking up a Lectureship (Assistant Professor) at the National University of Ireland Galway. She was awarded prestigious fellowships from the Hungarian Academy of Sciences, Aotearoa Foundation, Alzheimer's New Zealand, and the Freemasons New Zealand. Dr Kwakowsky's ultimate goal is to find novel drug targets and therapeutic strategies for AD and other neurodegenerative diseases.



### **Dr. Ronan Fleming**



Dr. Fleming is an Associate Professor in the School of Medicine, and also holds an appointment as an Assistant Professor at the Leiden Academic Centre for Drug Research in Leiden University. Dr. Fleming leads the Systems Biochemistry Group, an interdisciplinary research group of mathematical, computational and experimental biologists. The fundamental interest is to develop scalable mathematical and numerical analysis techniques that increase the predictive fidelity of biomolecular network models, by incorporating physico-chemical constraints, motivated by optimality principles. Their applied interest is in the aetiopathogenesis and amelioration of neurodegenerative disease, especially inherited metabolic diseases, and Parkinson's disease. Model predictions are used for optimal experimental design and compared with quantitative experimental data, including that obtained from microfluidic cell cultures of dopaminergic neurons, derived from normal and Parkinsonian human subjects using stem cell biology techniques.

### **Dr. Emer McGrath**

Emer McGrath is an Associate Professor in the School of Medicine at NUI Galway and Consultant Neurologist at University Hospital Galway. Associate Professor McGrath received her medical degree from NUI Galway. She completed a PhD in clinical epidemiology and biostatistics at NUI Galway with a focus on vascular brain disorders and was co-PI and lead for the SLEPT clinical trial. She completed Higher Specialist Training in Neurology at Harvard Medical School, Massachusetts General Hospital and Brigham & Women's Hospital followed by a postdoctoral clinical research fellowship in neurovascular cognitive disorders at the Framingham Heart Study, Boston University. She was on faculty at Harvard Medical School and Consultant Neurologist at Brigham & Women's Hospital in Boston before returning to Galway in 2020. Associate Professor McGrath currently holds a Health Research Board of Ireland Clinician Scientist Career Award and is an investigator with the world-renowned Framingham Heart Study. Her research work focuses on clinical epidemiology of neurovascular cognitive disorders, blood biomarkers for dementia and clinical trials in dementia and clinical neuroscience.

