**Dr Nady Braidy, PhD,**

*Senior Lecturer*

**Career summary**

As Senior Lecturer and head of the of the Brain Ageing Research Laboratory within the Centre for Healthy Brain Ageing at UNSW Sydney, my current research projects involve leading multiple projects, collaborating both nationally and internationally, to identify and developing NAD-based neuroprotection, -omics based biomarker discovery, nanotherapeutic and nanodiagnostics, and refining targeted diagnostics for widespread application to human health.

**Research Metrics**

At 8 FTE years post-PhD, I have 152 publications (39 first author/15 senior), 2 books (sole), 10 book chapters (7 first author), 4413 cites overall (h index 42 Scopus), 2.82 average FWCI (median 1.71).

I have an international patent (No. PCT/AU2009/000255)

**Research support**

I have been previously awarded the ARC DECRA (2017-2019), NHMRC ECR Fellowship (2013-2016) and the competitive Viertel Fellowship by Alzheimer’s Australia (2012).

Since my PhD was awarded in November 2011, I have successfully completed three major competitive peer-reviewed research fellowships and project grants totalling more than $2 million from the ARC, NHMRC, Alzheimer’s Australia, and UNSW Sydney.

I have been CI on an NHMRC Project Grant.

I am also co-investigator on the recent nanomedicine research grant which won the DARF-Yulgibar Innovation Award.

I have been CIA on a research grant from CONICYT Chile to develop O. degus as a‘natural’ model to study Alzheimer’s disease.

I have received a total of $2 million in research grant funding and $0.5 million in philanthropic funding.

I have also been CI on 3 UNSW Medicine Research Infrastructure Grant

**Contributions to field of medical research**

I am acknowledged as a world leader in NAD+ metabolism (*Expertscape*). I have been studying NAD+ metabolism for the last 8 years. This field of research was considered ‘minor’ until my demonstration that NAD+ levels decline with age in animals and humans.

I have developed new unique methods to quantify the expression of NAD+ dependent histone deacetylase enzymes known as sirtuins, and the quantification of the NAD+ metabolome.

I was the first scientist to provide a full profile of the NAD+ metabolome in fibroblasts, keratinocytes, oocytes, astrogliomas, and plasma. Looking at the involvement of NAD+ metabolism in health and disease, I have developed an international collaborative network that has allowed me to access all biological samples necessary for biomarker studies. My group has demonstrated the key roles played by NAD+ in neurodegenerative diseases, which not only suggests numerous very promising research but also has significant therapeutic potential

As the world’s ageing population grows, my work will allow us to gain a more comprehensive understanding of the process of ageing, the outcomes of which will inform the development of strategies for healthy ageing. Uniquely, this project will contribute to understanding how raising NAD+ levels can improve healthspan and influence secondary messenger signalling, extracellular trafficking, cognitive decline and ageing.

**Awards & Recognition**

## 2019: Honorary Visiting Professor – Faculty of Medicine, Huzhou University, China

## 2016: National Research Award for Best Research in Health and Social Services Sector – The Research Council Oman

## 2014: The Science and Industry Endowment Fund – Australian Academy of Science Fellowships to the 64th Lindau Nobel Laureate Meetings

**2012:** Dean’s Rising Star Award, Faculty of Medicine, UNSW.

**2012:** International College of Geriatric Psychoneuropharmacology Junior Investigator of the Year, Seville, Spain

**National & International Standing**

My strong national and international profile is demonstrated by annual invitations to present at major conference symposia and workshops (**35**) such as the British Society for Anti-ageing, and International Alzheimer’s Association conference. I have also served on programming and Executive committees for international conferences, including International College for Geriatric Psychopharmacology.

I am also editorial board member of Journal of Alzheimer’s disease, Current Alzheimer Research, CNS and Neurological Disorders – Drug Targets, and Cells. Nationally, I am regularly invited to present my research and provide expert opinion, and often partakes in panels, particularly focused on anti-ageing and natural products to improve brain health.

My research has received media attention from several outlets including **Times of Oman** *(Dec. 16 2013)***, The Australian** *(June 25 2014)***, Sydney Morning Herald** *(Aug. 10 2014)***, Alzheimer’s Australia Dementia Network** *(July 15 2014)***, Oman Observer** *(Nov. 30 2015)***, The Wall Street Journal** *(Aug. 1 2016),* **Channel 9 news** (*Dec. 2018*), **Asia-Pacific Biotechnology News** (*Aug. 2019*), and **Channel 7 news** *(Dec. 2019)*.

**Top 5 publications in the last 5 years**

1. Liu Y, Chan DKY…Poljak A, Pickford R, Sachdev PS, **Braidy N** (2020). Plasma lipidomic biomarker analysis reveals distinct lipid changes in vascular dementia. *Computational and Structural Biotechnology*. 18:1613-1624
2. Clement J, …Poljak A, Sachdev P, **Braidy N** (2019). The plasma NAD+ metabolome is dysregulated in ‘normal’ ageing. *Rejuvenation Research*. 22(2): 121-130.
3. Wong MWK, **Braidy N\*,** Crawford J, Pickford R, Song F, Mather KA, Schofield P, Attia J, Brodaty H, Sachdev P, Poljak A (2019). *APOE* genotype differentially modulates plasma lipids in healthy older individuals. *J Alzheimer’s Disease.* 72(3): 703-716 **(\*co senior author).**
4. Bustamante S, Jayasena T, Richani D, Gilchrist RB, Wu LE, Sinclair DA, Sachdev PS, **Braidy N** (2018). Quantifying the Cellular NAD+ Metabolome using a tandem Liquid Chromatography Mass Spectrometry Approach. *Metabolomics.* 14: 15
5. Wong M, **Braidy N**, Poljak A, Pickford R, Thambisetty M, Sachdev P (2017). Dysregulation of lipids in Alzheimer’s disease and their role as potential biomarkers. *Alzheimer’s and Dementia* 13(7):810-827.

**Supervision & Mentoring**

* I lead a group of 5 fully funded PhD students with 2 new research students in 2019 (honours and Masters). I have supervised 3 PhD, 2 Masters by Research and 7 Honours students to completion since 2011, many of whom have gone on to be awarded postdoctoral fellowships or academic positions and awarded nationally competitive prizes for presentations from the Australian Neuroscience Society.