

CAMAND Program 2023

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Day 1 (Sunday December 3, 2023)

8:30 AM

Registration

9:00 AM

Introduction and Acknowledgement of Country

Pankaj Sah, QBI Director

Danny Hatters, Chair of the meeting

9:10 AM

Session 1 – Chairs: Asheeta Prasad and Tony Hannan

15+ 5 Invited (1)

Amandeep Kaur (Monash University)

Fluorescent approaches for nanoscale imaging of protein assemblies

9:30 AM

12+ 3 Abstract (2)

Eduardo Albornoz (University of Queensland) – postdoc

Therapeutic targeting of inflammasome apoptosis-associated speck-like protein containing a CARD (ASC) to slow disease progression in Parkinson's disease

9:45 AM

12+ 3 Abstract (3)

Matisse Jacobs (University of Queensland) – student

Identification of human genetic modifiers of TDP-43-mediated toxicity and aggregation

10:00 AM

15+ 5 Invited (4)

Pranesh Padmanabhan (University of Queensland)

Super-resolving neurotoxic signalling at the synapse in Alzheimer's disease

10:20 AM

12+ 3 Abstract (5)

Victor Dieriks (University of Auckland) – lab head

Molecular Diversity of α -Synuclein: A Key to Unlocking Disease-Specific Mechanisms in Parkinson's and Multiple System Atrophy

10:40 AM

Morning tea

11:05 AM

Session 2 – Chairs: Adam Walker and Andrew Tosolini

15+ 5 Invited (6)

Paul Gleeson (University of Melbourne)

Intracellular trafficking of amyloid precursor protein (APP), proteolytic processing and production of amyloid peptides in Alzheimer's disease: Role of the secretory pathway and the Golgi apparatus in amyloid β production

- 11:25 AM **12+ 3 Abstract (7)**
Rebecca San Gil (University of Queensland) – postdoc
Chaperone proteins may protect neurons by preventing protein misfolding in the early stage of TDP-43-mediated disease
- 11:40 AM **15+ 5 Invited (8)**
Dezerae Cox (University of Cambridge)
Fingerprinting protein aggregates reveals unique signature of Motor Neuron Disease
- 12:00 PM **15+ 5 Invited (9)**
Charlie Bond (University of Western Australia)
In vitro studies of human gene regulatory proteins involved in biomolecular condensation
- 12:20 PM Lunch
- 1:00 PM Session 3 – Chairs: Rachel Gormal and Eleanor Drummond
12+ 3 Abstract (10)
Rebekah Parkinson (Australian National University)– student
Examining the Neuro-Immune Interactions to Trace the Origin and Progression of Parkinson's Disease
- 1:15 PM **12+ 3 Abstract (11)**
Adekunle Bademosi (University of Queensland) – postdoc
Inhibition of MND-linked TDP-43 mutants sequestration via RNA interactions
- 1:30 PM **12+ 3 Abstract (12)**
Ruohua Lyu (University of Melbourne) – student
ASAP-ID: A method of proximity labelling with a 19 amino acid fusion tag
- 1:45 PM **12+ 3 Abstract (13)**
Alayna C Caruso (University of Melbourne) – student
Development of a novel vectorized tau-targeting intrabody for enhanced brain delivery and therapeutic efficacy against Alzheimer's disease
- 2:00 PM Session 4 – Workshop on Models
 Chaired by Sarah Gordon
Which way to go? Model systems for the study of neurodegeneration
Panelists:
Samantha Barton – iPSC-derived cells and organoids
Margaret Sunde – in vitro approaches
Michael Lardelli – zebrafish
Jürgen Götz – mouse models
- 3:05 PM Afternoon tea
- 3:30 PM Session 5 – Chairs: Jürgen Gotz and Monokesh Sen
12+ 3 Abstract (14)

Elyas Arvell (University of Melbourne) – student

The role of activity-dependent phosphorylation in the presynaptic function of α -synuclein

3:45 PM 12+ 3 Abstract (15)

Kye Kudo (University of Queensland) – student

α -Synuclein dynamic clustering at the presynapse

4:00 PM 12+ 3 Abstract (16)

Jereme G. Spiers (Australian National University) – postdoc

Altered protein nitrosothiol patterns in extracellular vesicles from Alzheimer's disease patients

4:15 PM 12+ 3 Abstract (17)

Carol Dobson-Stone (University of Sydney) – lab head

TDP-43 subcellular mislocalisation is correlated with loss of optineurin binding for frontotemporal dementia- and amyotrophic lateral sclerosis-associated TBK1 missense variants

4:30 PM Session 6 – Posters

5:30 PM Dinner on-site – informal networking and drinks

7:30 PM Day 1 close

Day 2 (Monday December 4, 2023)

8:30 AM Registration

9:00 AM Session 7 – Chairs: Margie Sunde and Lyndsey Collins-Praino

15+ 5 Invited (18)

Arne Ittner (Flinders University)

Protein kinases, tau phosphorylation and Alzheimer's disease

9:20 AM 15+ 5 Invited (19)

Angela Laird (Macquarie University)

The normal function of ataxin-3 and its impact in MJD and other neurodegenerative diseases

9:40 AM 15+ 5 Invited (20)

Grant Dewson (Walter and Eliza Hall Institute)

Targeting mitochondria to improve neuronal survival in Parkinson's

10:00 AM 12+ 3 Abstract (21)

Samantha Barton (Florey Institute of Neuroscience and Mental Health) – lab head

Using Human iPSC-derived Organoids to Model Multiple Sclerosis

10:15 AM Morning tea

10:50 AM Session 8 – Chairs: Archa Fox and Kevin Chen

15+ 5 Invited (22)

Lezanne Ooi (University of Wollongong)

Molecular and cellular mechanisms underpinning disruptions to neuronal calcium signalling and vulnerability in late-onset Alzheimer's disease neurons

11:10 AM 15+5 Invited (23)

Timothy Sargeant (South Australian Health and Medical Research Institute)

Autophagy decreases in the ageing mouse brain in a sex dependent manner

11:30 AM 15+5 Invited (24)

Yi Shen (University of Sydney)

The liquid-to-solid transition of condensates initiates at interface

11:50 AM 12+3 Abstract (25)

Thomas Ve (Griffith University) – lab head

Molecular basis for activation and inhibition of the pro-neurodegenerative NADase SARM1

12:05 PM

Lunch

Sponsored by *MND and Me Foundation*

1:00 PM

Session 9 – Chairs: Danny Hatters and Liviu Bodea

12+3 Abstract (26)

Brett Collins (University of Queensland) – lab head

Structure of the endosomal Commander complex mutated in Ritscher-Schinzel syndrome: combining crystallography, cryoEM and AlphaFold2

1:15 PM

12+3 Abstract (27)

Amy Smith (University of Auckland) – lab head

A human functional genomics approach to identify glial phenotypes in dementia

1:30 PM

Prizes and closing remarks

Adam Walker, Treasurer of the Meeting

- Poster prizes (sponsored by *MND and Me Foundation* and *Biochemical Journal*)
- Yerbury Prize for Best ECR talk (sponsored by *Miltenyi Biotec*)

1:45 PM

Meeting close