

Understanding the Function of Glia in the Healthy and Diseased CNS

Satellite Meeting in conjunction with the 25th ISN Biennial Meeting - Cairns 2015 -

Chairs: Iain L. Campbell (USYD, Australia) & Bernardo Castellano (UAB, Spain)



Manly Beach, Sydney, August 19-22, 2015
www.SydneyGliaMeeting.com

SCIENTIFIC AND SOCIAL PROGRAM

Venue for all sessions: GILBERTS ROOM
NOVOTEL SYDNEY MANLY PACIFIC HOTEL

Wednesday, August 19

Arrival and check-in at hotel

16:00 - 18:00 Registration and poster set up

19:00 - 20:30 **Welcome reception**

Thursday, August 20

8:00 - 8:30 **Poster set up**

8:20 - 8:30 **Opening Introduction**

8:30 - 9:30 **Plenary Lecture (L1)**

Chair: Iain Campbell

Oleg Butovsky (USA) - Identification of a unique molecular and functional microglia signature in health and disease

9:30 - 10:00 **Coffee Break**

10:00 - 12:00 **Symposium 1: Glial development in the CNS**

Chair: Trevor Kilpatrick

- S1.1. Ann Turnley (Australia) - Regulation of neural precursor cell differentiation in the normal and injured brain
- S1.2. Michael Dragunow (New Zealand) - Role of PU.1 in human microglial biology
- S1.3. Steve Levison (USA) - Developmental Origins of CNS Macroglial Heterogeneity
- S1.4. Florent Ginhoux (Singapore) - Ontogeny and differentiation of microglia

12:00 - 13:30 **Lunch - Zalis Restaurant**

13:30 - 15:30 **Symposium 2: Mechanisms of altered glial cell phenotype**

Chair: Tika Benveniste

- S2.1. Shane Liddelow (USA) - Novel in vitro model systems to study "good" and "bad" reactive astrocytes
- S2.2. Helmut Kettenman (Germany) - Neurotransmitter/ - hormones control microglial functions
- S2.3. Luis Miguel García-Segura (Spain) - Role of estrogen receptors in the regulation of reactive gliosis.
- S2.4. Jake Streit (USA) - Microglial phenotype in the ageing and diseased CNS

15:30 - 16:00 **Coffee break**

16:00 - 17:30 **Oral presentations - Session 1**

Chair: Rohan Walker

16:00 - 16:15 O1. Genetic manipulation of astrocytes as a new cell target for CNS gene therapy.
Deborah Young (New Zealand)

16:15 - 16:30 O2. Control of neurogenic vs astroglial fate in a restricted spinal cord progenitor domain.
Maria Sartoretti (Argentina)

16:30 - 16:45 O3. Viral encephalitis is controlled by IFNAR triggering of astrocytes and neurons that induce recruitment and proliferation of microglia.
Chintan Chhatbar (Germany)

16:45 - 17:00 O4. Glial microvesicles transfer miR-146a to neurons and modulate synaptotagmin I translation.
Ilaria Prada (Italy)

17:00 - 17:15 O5. Complement peptide C3a promotes astrocyte survival in response to ischemic stress
Marcela Pekna (Sweden)

17:00 - 17:15 O6. Astrocytes and microglia but not T lymphocytes are recruited in the spinal cord after intramuscular injections of adenovirus serotype 5.
Tushar Issar (Australia)

17:30 - 19:00 **Poster session with drinks/snacks**

P1. Investigation of miR-184 on oligodendrocytic differentiation of NPSC for cell therapy of MS disease.
Farzad Rajaei (Iran)

P2. Crosstalk between neuronal CaMKIV and glial sigma-1 receptor signaling in depressive behaviors in mice.
Kohji Fukunaga (Japan)

P3. Differentiation potential of neonatal neural stem/progenitor cells is affected by Wnt signaling.
Jan Kriska (Czech Republic)

P4. Gene expression profiling of mouse astrocytes during ageing – advantages and limitations of single-cell approach.
David Dzamba (Czech Republic)

P5. ALK5 inhibition prevents astrogliosis and promotes myelination leading to restoration of sensorimotor function subsequent to neonatal hypoxia-ischemia.
Mariano Guardia Clausi (USA)

P6. Continual low-dose infusion of sulphamidase improves neuroinflammation in the MPS IIIA mouse brain.
Sofia Hassiotis (Australia)

P7. Metabolism of Tamoxifen in mouse brain: implications for fate-mapping studies using tamoxifen-inducible Cre/Lox system.
Martin Valny (Czech Republic)

P8. Differentiation potential of NG2 glia after ischemia is controlled by Sonic hedgehog.
Pavel Honsa (Czech Republic)

P9. Evaluation of microglial morphology and inflammatory cytokines in frontotemporal lobar degeneration and Alzheimer's disease.
Garry Niedermayer (Australia)

P10. Cofilin-actin aggregates and microglial cell morphology changes in Alzheimer's disease.

Claire Goldsbury (Australia)

P11. Ultrastructural study on spatiotemporal progression of microcalcification in the hippocampal CA1 region following transient forebrain ischemia in rats.

Tae-Ryong Riew (Republic of Korea)

P12. Diet-induced reactive changes of the central nervous system and their role in neurodegeneration.

Barney Viengkhou (Australia)

P13. Early myelination and microstructural abnormalities in white matter in the YAC128 mouse model of Huntington disease.

Mahmoud A. Pouladi (Singapore)

P14. Strawberry notch homolog 2 is a novel inflammatory response factor expressed predominantly in astrocytes.

Taylor Syme (Australia)

P15. Oxidative stress a common link between stroke and Alzheimer's disease and curcumin can reduce this stress.

Kaneez Fatima-Shad (Australia)

P16. Notch signaling is regulated by IGF-1 in astrocytes.

Estefanía Acaz-Fonseca (Spain)

Evening free

Friday, August 21

8:00 - 10:00 Symposium 3: Cytokine/growth factor regulation of glial cell function

Chair: Ann Turnley

- S3.1. Trevor Kilpatrick (Australia) - Trophic factor regulation of oligodendrocytes in myelination and demyelination
- S3.2. Tika Benveniste (USA) - SOCS signalling and function in microglia
- S3.3. Trevor Owens (Denmark) - The role of type I IFNs in the CNS
- S3.4. Iain Campbell (Australia) - IL-6/gp130 family cytokine signalling in astrocytes and microglia

10:00 - 10:30 Coffee Break

10:30 - 12:30 Symposium 4: Microglia/macrophages and inflammation in the CNS

Chair: Oleg Butovsky

- S4.1. Frank Heppner (Germany) - Microglia actions in Alzheimer's disease and beyond
- S4.2. Nicholas King (Australia) - Role of CNS myeloid cells in West Nile Virus encephalitis
- S4.3. Gilles Guillemin (Australia) - Microglia, astrocytes, kynurenine pathway and neurodegenerative diseases
- S4.4. Burkhard Becher (Switzerland) - Crosstalk between T cells and myeloid cells in neuroinflammation

12:30 - 14:00 Lunch - Zalis Restaurant

14:00 - 16:00 Symposium 5: Microglial interactions with neurones

Chair: Jake Streit

- S5.1. Mami Noda (Japan) - Thyroid hormones in glioendocrine system in health and disease
- S5.2. Knut Biber (Germany) - Mechanisms of neuroprotection mediated by microglia
- S5.3. Rosa Paolicelli (Switzerland) - Microglia in neuronal development
- S5.4. Rohan Walker (Australia) - Microglial remodelling due to chronic stress

16:00 - 16:30 Coffee break

16:30 - 18:30 Oral presentations – Session 2

Chair: Trevor Owens

- 16:30 - 16:45** O7. Deletion of the type-1 interferon receptor in APP_{SWE}/PS1_{ΔE9} mice results in increased cognitive function and changed microglial phenotype.
Peter Crack (Australia)
- 16:45 - 17:00** O8. In vivo characterisation of dying neurons by microglia engulfment in the spinal cord.
Marco Morsch (Australia)
- 17:00 - 17:15** O9. Acute hypertension causes increased microglial contact with neuronal synapses in cardiovascular nuclei in rat brainstem.
Komal Kapoor, (Australia)
- 17:15 - 17:30** O10. Interferon regulatory factor (IRF) 8 regulates the microglial cell response to sterile nerve injury in the brain.
Rui-Dan Xie (Australia)
- 17:30 - 17:45** O11. STAT1 and STAT3 activational balance and transcriptional responses to gp130 cytokines in astrocytes versus microglia.
Meng-Ping Hsu (Australia)
- 17:45 - 18:00** O12. Intracellular copper delivery limits neuroinflammation
Alexandra Grubman (Australia)

- 18:00 - 18:15** O13. Gliaptic interactions: Targeted microglial-mediated phagoptosis in brain pathology.
Carlos Barcia (Spain)
- 18:15 - 18:30** O14. Astrocyte-targeted IL10 production modifies expression of TREM2 and CD200R in activated microglia after perforant pathway transection.
Mireia Recasens (Spain)
- 19:00 - 22:00** **Conference Dinner**

Saturday, August 22

8:30 - 10:30 Session 6: Astroglial contributions to the healthy and diseased CNS

Chair: Michael Sofroniew

- S6.1. Alexej Verkhratsky (UK) - Astroglia in ageing and neurodegeneration with an emphasis on Alzheimer disease
- S6.2. Milos Pekny (Sweden) - Astrocytes, neuroplasticity and CNS regeneration
- S6.3. Elly Hol (Netherlands) - Astrocytes in brain disease – molecular and functional changes
- S6.4. Ross O'Shea (Australia) - The role of astrocytes in motor neuron diseases

10:30 – 11:00 Coffee break

11:00 - 12:00 Plenary lecture (L2)

Chair: Bernardo Castellano

Michael Sofroniew (USA) - Role of the astroglial response to injury

12:00 - 13:30 Lunch - Zalis Restaurant

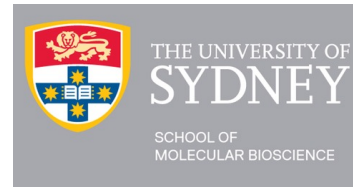
13:30 Meeting close

**THE ORGANISERS OF THE SYDNEY GLIA MEETING GRATEFULLY
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