

Neurodevelopment: Structure, function, and plasticity

May 21, 2025; 08:15 – 16:00

PI Talks - 15min talks + 5min questions

Trainee Talks – 12min talks + 3min questions

EVENT AGENDA

8h15 - Arrival and registration

8h35 - Opening Remarks (Vince Tropepe; University of Toronto)

Session 1: Neurodevelopment and regulation (Chair Ted Allison)

8h40 – Sarah McFarlane (U. Calgary)

Calcium signaling dynamics in neurogenic Muller glia of the retina

9h00 – Stephanie Gaudreau (U. Ottawa; trainee talk)

Developmental changes in multiple ion channels shape maturation of primary motoneuron activity in larval zebrafish

9h15 - Paul Marcogliese (U. Manitoba)

*Unravelling the genetics of neurodevelopment using *Drosophila**

9h35 – Alexa Izvorean (U. Toronto; trainee talk)

Epigenetic regulation of neurogenic plasticity in the postembryonic forebrain

9h50 – Aurélien Caron (U. Manitoba; trainee talk)

Development and neural stem cell dynamics of the zebrafish rostral migratory stream

10h05 – Coffee Break

Session 2: Degeneration and neurorepair (Chair Stephanie Gaudreau)

10h30 – Angela Scott (U. Guelph)

Purinergic regulation of neurogenesis in zebrafish

10h50 – Micaiah Achtymichuk (U. Alberta; trainee talk)

*The effects of muscle disease on movement-dependent neurogenesis in postembryonic *Danio rerio**

11h05 - Brittany Carr (U. Alberta)

The role of prom1 in photoreceptor outer segment morphogenesis and inherited retinal degeneration

11h25 – Mahnoor Shoukat (U. Alberta, trainee talk)

Subretinal drusenoid-like deposits in prom1-null frogs mimic markers of human age-related macular degeneration and contain potential melanophages

11h40 – Sanjana Grover (U. Manitoba; trainee talk)

Reserve or repair? Using a repeated injury model to challenge the regenerative capacity of radial-glia cells in the zebrafish forebrain

12h00 – 13h00 Lunch Break

12h30 - Leica Microsystems Seminar – “Zebrafish Microscopy Workflows”

Session 3: CNS plasticity and learning (Chair Alexa Izvorean)

13h00 – Nirosha Murugan (Wilfred Laurier)

Cortical plasticity as a modulator of appendage regeneration

13h20 – Rida Ansari (U. Toronto; trainee talk)

Exercise-induced adult neurogenesis and its impact on memory and learning in zebrafish

13h35 - Shelby Sherlock (U. Alberta; trainee talk)

*Movement-generated neural activity facilitates neurogenesis in postembryonic *Danio rerio**

13h50 – Qian Lin (U. Toronto)

Dissecting long-term fear memory formation using juvenile zebrafish

14h10 – Anna Phan (U. Alberta)

*Effects of adult and developmental isolation on the brain and behaviour in *Drosophila**

14h30 – Gabriel Dillenburg de Oliveira (U. Alberta; trainee talk)

Movement induces peripheral nervous system neurogenesis in zebrafish larvae

14h45 - Break

3h00 – Susan Healy Keynote Talk (University of St. Andrews)

Bird Nests: From neuroscience to evolution – Zach Hall’s legacy

3h45 - Closing Remarks (Ben Lindsey; University of Manitoba)