



25th Annual
Kentucky
Spinal Cord
and Head
Injury
Research
Trust
Symposium

May 15-16, 2019
Downtown Embassy Suites Hotel
Louisville Kentucky

Program Summary

Wednesday, May 15, 2019

- 7:00 - 8:00 **Registration and Breakfast**
- 8:00 - 8:10 **Opening Remarks** - Scott R. Whittemore, PhD
- 8:10 - 8:15 **Introduction of Keynote Speaker** - Brandon Brown, MS
- Keynote Address**
Chair: Brandon Brown, MS
- 8:15 - 9:15 *Re-engineering rabies virus*
Ian Wickersham, PhD - Massachusetts Institute of Technology
- Session One Big Data Approaches To Big Questions**
Chair: Beatrice Ugiliweneza, PhD
- 9:15 - 9:55 *Integrating mechanistic molecular insight with large-scale genomics: Path toward personalized therapeutics*
Wolfgang Sadee, Dr.rer.nat. - The Ohio State University
- 9:55 - 10:35 *Accelerating reproducibility and clinical translation through data science: A brief history of data sharing, machine learning and discovery in neurotrauma*
Adam Ferguson, PhD - University of California, San Francisco
- 10:35 - 11:05 **Coffee Break And Posters**
- Session Two Novel Approaches For Investigating Bladder And Bowel Dysfunction**
Chairs: Charles Hubscher, PhD, April Herrity, DC, PhD and Teresa Pitts, PhD
- 11:05 - 11:45 *Neurogenic bowel at the enteric-smooth muscle interface*
Gregory Holmes, PhD - Penn State University
- 11:45 - 12:25 *Opportunities for closed-loop neuromodulation to improve bladder control*
Dennis Bourbeau, PhD - Case Western Reserve University and Louis Stokes Cleveland VA Medical Center
- 12:30 - 1:30 **Lunch And Posters**
- Session Three Mechanisms Of Systemic Disease In Neuroscience**
Chairs: Michal Hetman, MD, PhD and Sujata Saraswat Ohri, PhD
- 1:30 - 2:10 *Spinal cord injury-induced immunodeficiency is mediated by a sympathetic-neuroendocrine adrenal reflex*
Jan Schwab, MD, PhD - The Ohio State University
- 2:10 - 2:50 *Modulating the mitochondrial electron transport chain protects against trauma-induced neurodegeneration: What can a worm teach us about brain injury?*
Peter Douglas, PhD - University of Texas Southwestern Medical Center
- 2:50 - 3:30 *Circadian influences on neurodegeneration*
Eric Musiek, MD, PhD - Washington University School of Medicine

3:30 - 4:00 **Coffee Break And Posters**

Session Four From Motor Units To Rehabilitation

Chairs: David Rouffet, PhD and Jessica D'Amico, PhD

4:00 - 4:40 *The arms give the legs a helping hand in locomotor rehabilitation*
Gregory Pearcey, PhD Candidate, MSc, Bkin, CSEP-CEP - University of Victoria

4:40 - 5:20 *Man-machine interfacing by decoding spinal motor neuron behaviour*
Dario Farina, PhD - Imperial College, London

5:20 - 6:00 *Use of robots and optimal control theory to study sensorimotor function and dysfunction*
Stephen Scott, PhD - Queen's University

6:00 - 6:10 **Closing Remarks** - Scott R. Whittemore, PhD

6:10-7:30 **Coctail Reception With Hors D'oeuvres And Posters**

Thursday, May 16, 2019

7:30 - 8:30 **Registration And Breakfast**

8:30 - 8:35 **Opening Remarks** - Scott R. Whittemore, PhD

Session Five Emerging Topics

Chair: James Shaughnessy, DMD

8:35 - 9:35 *Topic 1 Title Here*
Benjamin Charpentier, MS, University of Louisville
Topic 2 Title Here
Timothy Kopper, __, University of Kentucky
Development of a comprehensive assessment of bowel function after SCI
Robert Hoey, PhD, University of Louisville
Topic 4 Title Here
Jacob Dunkerson __, University of Kentucky

9:35 - 9:45 Comments from the Chairman of the Kentucky Spinal Cord and Head Injury Research Trust

Session Six Novel Techniques Driving Novel Neuroscience

Chair: Scott R. Whittemore, PhD

9:45 - 10:25 *Light-sheet microscopy in CNS injury and neuroregeneration*
Pantelis Tsoulfas, MD - University of Miami

10:25 - 10:50 **Coffee Break And Posters**

10:50 - 11:30 *The mechanical regulations of neuronal growth and regeneration*
Kristian Franze, PhD - University of Cambridge

- 11:30 - 12:10 *3-D Printed neural regeneration devices*
Michael McAlpine, PhD - University of Minnesota
- 12:10 - 1:10 **Lunch And Posters**
- Session Seven Developmental Plasticity: From Pediatrics to Adults**
Chairs: Andrea Behrman, PhD and David Magnuson, PhD
- 1:10 - 1:50 *Early, intensive leg training to enhance gross motor function in children with perinatal brain injury*
Jaynie Yang, PT, PhD - University of Alberta, Edmonton
- 1:50 - 2:30 *Optimizing motor recovery for children and adults with cerebral palsy*
Kathleen Friel, PhD - Cornell University Medical College
- 2:30 - 3:10 *New advances into the diencephalic control of locomotion*
Patrick Whelan, PhD - University of Calgary
- 3:10 - 3:15 **Closing Remarks** - Scott R. Whittemore, PhD

Registration fees including breakfast, lunch and reception for all attendees: Professional or Faculty: \$275; Postdocs, Residents, Staff, Community Members: \$155; Students: \$90. **The cost is the same for all attendees.** Non-University of Louisville attendees must register via Eventbrite at: <https://tinyurl.com/KSCHIRT-Symposium>

If presenting a poster, note this on your registration and submit an abstract to j0bear01@louisville.edu by April 29th, 2019. Abstract format: MS Word, 250 words maximum. Separately, provide contact person, title, organization, department, address, phone number and email address. Posters are limited to 4' x 6' or smaller, require symposium registration, and will be posted from 7:00am May 15 until 1:00pm May 16, 2019.

The symposium will be held at the Louisville Downtown Embassy Suites Hotel. Reservations for the Louisville Downtown Embassy Suites: symposium rate of \$159/night plus tax may be made by calling 1-502-813-3800. Be sure and reference the 25th KSCHIRT Symposium. Register early as the block of rooms will fill quickly; the deadline for hotel reservations at the symposium rate is April 16, 2019.

The 25th KSCHIRT Symposium is generously sponsored by:

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