## Program Summary

**Wednesday, May 15, 2019**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 - 8:00</td>
<td>Registration and Breakfast</td>
</tr>
<tr>
<td>8:00 - 8:10</td>
<td>Opening Remarks - Scott R. Whittemore, PhD</td>
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<tr>
<td>8:10 - 8:15</td>
<td>Introduction of Keynote Speaker - Brandon Brown, MS</td>
</tr>
</tbody>
</table>

### 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**

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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 joBear01@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.