

# ALBERTANEURO 2014

## NERVOUS SYSTEM INJURY: THE ROAD TO REHAB AND BEYOND

October 23-24, 2014

Lister Centre, University of Alberta, Edmonton

*Program subject to change.*

### WEDNESDAY, OCTOBER 22, 2014

4:00 pm Bus departs Lethbridge

9:00 pm Bus arrives from Lethbridge

### THURSDAY, OCTOBER 23, 2014

7:30 am Bus departs Calgary

10:30 am Bus arrives from Calgary

10:30 am **Registration Opens**

11:00 - 11:15 am **Symposium Opening**

11:15 am - 12:15 pm **Keynote and Richard B. Stein Annual Lecturer:  
Neuroprosthetic Technologies to Improve Motor  
Function After Neuromotor Disorders**

Dr. Grégoire Courtine, International Paraplegic Foundation  
Chair in Spinal Cord Repair, Center for Neuroprosthetics  
and Brain Mind Institute

12:15 - 1:30 pm **Buffet Lunch**

## Theme 1: Challenges of Delivering New Therapies

Translating results from animal models to the clinic and even repeating results between laboratories present a significant challenge in delivering treatments from the bench to the bedside. Limitations of animal models and strategies to advance the models, data interpretation and translation will be discussed from both basic and clinical perspectives.

### SESSION CHAIRS:

**Dr. Karim Fouad**, University of Alberta

**Dr. Gerlinde Metz**, University of Lethbridge

## THURSDAY, OCTOBER 23, 2014

1:30 – 1:55 pm

### **Limitation of Animal Models**

Dr. Karim Fouad, University of Alberta

Dr. Gerlinde Metz, University of Lethbridge

1:55 – 2:20 pm

### **Translation From Lab to Phase III Trials: Experience With Minocycline**

Dr. V. Wee Yong, University of Alberta

2:20 – 2:45 pm

### **Preclinical Strategies for Spinal Cord Injury: From Diet to Cell Transplantations**

Dr. Wolfram Tetzlaff, University of British Columbia

2:45 – 3:15 pm

### **Refreshment Break**

3:15 – 3:40 pm

### **Desired Focus: TBC**

Dr. Steve Casha, University of Calgary

3:40 – 4:40 pm

### **Panel Discussion**

Co-Moderators: Dr. Fouad and Dr. Metz

Panelists: Dr. Casha, Dr. Tetzlaff, Dr. Yong

4:40 – 6:15 pm

### **Networking Reception**

6:15 – 8:00 pm

### **Dinner**

7:30 – 8:30 am

**Breakfast**

## **Theme 2: Rehab and Plasticity**

By presenting animal and human research on spinal cord and traumatic brain injury that is being conducted in Alberta, along with current rehabilitation practices for these conditions at the Glenrose and Foothills hospitals, we hope to foster ideas to promote translational research (basic science to clinical practice and back again) in the province.

### **SESSION CHAIRS:**

**Dr. Monica Gorassini**, University of Alberta

**Dr. Chester Ho**, University of Calgary

### **PART A: MOTOR REHABILITATION RESEARCH IN ALBERTA**

8:30 – 8:40 am

**Commercializing Medical Devices**

Dr. Arthur Prochazka, University of Alberta

8:40 – 8:50 am

**FES Assisted Arm and Leg Cycling in SCI**

Dr. Vivian Mushahwar, University of Alberta

8:50 – 9:00 am

**Locomotor Training After SCI: Treadmill, Walking Skill and Powered Exoskeletons**

Dr. Jaynie Yang, University of Alberta

9:00 – 9:10 am

**TBI: Robotic Assessment of Neurologic Function Following Brain Injury**

Dr. Sean Dukelow, University of Calgary

### **PART B: MOTOR REHABILITATION PRACTICE IN ALBERTA**

9:10 – 9:25 am

**A Clinical View of Motor Rehabilitation Following Traumatic Brain Injury**

Dr. Chantel Debert, Foothills Hospital

9:25 – 9:40 am

**SCI Glenrose**

Glenrose Rehabilitation Hospital, Speaker TBC

9:40 – 10:00 am

**SCI Foothills**

Janet Lee (OT) and Kyle McIntosh (PT)

## FRIDAY, OCTOBER 24, 2014

10:00 – 10:20 am      **Refreshment Break**

### PART C: ANIMAL AND HUMAN MODELS OF MOTOR REHABILITATION

10:20 – 10:30 am      **Recovery of Reaching and Grasping in Rat Models of Partial SCI**  
Dr. Karim Fouad, University of Alberta

10:30 – 10:40 am      **Recovery of Walking in Animal Models of SCI**  
Dr. Marina Martinez, University of Calgary

10:40 – 10:50 am      **Recovery of Spinal Cord Excitability After SCI**  
Dr. Dave Bennett, University of Alberta

10:50 – 11:00 am      **Modeling Heterogeneity in Pediatric TBI Outcomes**  
Dr. Michael Esser, University of Calgary

### PART D: HOW DO WE ALIGN BASIC RESEARCH AND CLINICAL PRACTICE IN ALBERTA?

11:00 – 11:30 am      **Panel Discussion**  
Co-Moderators: Dr. Ho and Dr. Gray

11:30 am – 12:30 pm      **Lunch**

## Theme 3: Inflammation: A “Double-Edged Sword” in Neural Injuries

Better understanding of the cellular and humoral factors of neuroinflammation, differentiating between their neurotoxic and neuroprotective effects, and identifying their similarities and differences in central versus peripheral nervous systems could pave the path to finding better neuroprotective treatments, facilitate their translation from “bench to bedside”, and improve neurological outcomes.

### SESSION CHAIRS:

**Dr. Ibolja Cernak**, University of Alberta

**Dr. Patrick Whelan**, University of Calgary

12:30 – 1:00 pm

### **Cross-Cutting Approaches**

Dr. Paul Kubes, University of Calgary

1:00 – 1:30 pm

### **Local and Systemic Inflammation in Traumatic Brain Injury**

Dr. Ibolja Cernak, University of Alberta

1:30 – 2:00 pm

### **Refreshment Break**

2:00 – 2:30 pm

### **Inflammatory Kinins Modulate the Sensorimotor Function in the Developing Mouse Spinal Cord**

Dr. Patrick Whelan, University of Calgary

2:30 – 3:30 pm

### **Panel Discussion**

Moderator: Dr. Patrick Whelan

3:30 – 3:45 pm

### **Symposium Closing**

4:15 pm

Buses depart for Calgary / Lethbridge

7:15 pm

Bus arrives Calgary

9:15 pm

Bus arrives Lethbridge