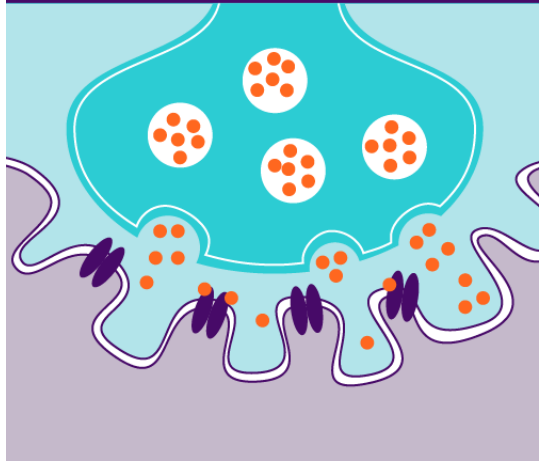


# NEURO COURSE

October 27-28, 2023

Jeanne Timmins Amphitheatre, The Neuro



## 6th NATIONAL NEUROMUSCULAR REVIEW COURSE

**October 27-28, 2023**

The Neuro, 3801 University Street | Jeanne Timmins Amphitheatre

## Program Booklet



## Table of Contents

<u>6<sup>th</sup> National Neuromuscular Course Review.....</u>	<u>3</u>
<u>The Neuro.....</u>	<u>3</u>
<u>Program.....</u>	<u>4</u>
<u>Speaker, Host, and Chair Biographies.....</u>	<u>7</u>
<u>Speaker Abstracts.....</u>	<u>9</u>
<u>Organizing Committee.....</u>	<u>11</u>

## **The 6<sup>th</sup> National Neuromuscular Review Course**

The review course is aimed at neurology residents and fellows from across Canada as well as at practicing community neurologists who are interested in a comprehensive review of the current principles and practices dealing with neuromuscular diseases.

This comprehensive review course may serve to fulfill part of the preparation requirements for trainees seeking to complete the Royal College Examinations in neurology and in related fields. We believe this program will assist all neurology residents in preparing for their examination. The course will bring community neurologists up to date on neuromuscular diseases so that ultimately, they can improve the diagnosis and care of their patients.

The course will present experts who will provide a state-of-the-art overview of topics such as motor neuron diseases, pediatrics, neuropathies, neuromuscular junction diseases and myopathies. The speakers will cover basic clinical concepts from diagnosis to therapeutics, from genomics to immunology. The program will include examination scenarios for those participants wishing to gain experience in examination situations.

## **THE NEURO**

The Neuro – The Montreal Neurological Institute-Hospital – is a bilingual, world-leading destination for brain research and advanced patient care. Since its founding in 1934 by renowned neurosurgeon Dr. Wilder Penfield, The Neuro has grown to be the largest specialized neuroscience research and clinical center in Canada, and one of the largest in the world. The seamless integration of research, patient care, and training of the world's top minds make The Neuro uniquely positioned to have a significant impact on the understanding and treatment of nervous system disorders. In 2016, The Neuro became the first institute in the world to fully embrace the Open Science philosophy, creating the Tanenbaum Open Science Institute. The Montreal Neurological Institute is a McGill University research and teaching institute. The Montreal Neurological Hospital is part of the Neuroscience Mission of the McGill University Health Centre. For more information, please visit [www.theneuro.ca](http://www.theneuro.ca).

## PROGRAM

Jeanne Timmins Amphitheatre, The Neuro, 3801 University Street

### Learning Objectives

- Participants will be able to analyze the clinical presentation of prevalent neurological disorders.
- Elaborate an investigation plan when suspecting a neuromuscular disorder.
- After completing the review course, participants will be proficient in reviewing the management strategies for specific neuromuscular disorders.

### Friday, October 27, 2023

8:30 Registration & Continental Breakfast

8:50 Welcome and Opening remarks

Nicolas Dupré, CHU de Québec Université Laval

9:00 Muscular dystrophies

#### **Myotonic Dystrophies, FSHD, OPMD and Most Common LGMD**

Nicolas Chrestian, PhD, Centre de recherche du CHU de Québec

10–15-minute Q&A

9:50 Common Pediatric Neuromuscular Disorders: part 1

#### **Dystrophinopathies, Congenital Myopathies**

Nicolas Chrestian, PhD, Centre de recherche du CHU de Québec

10–15-minute Q&A

10:40 Refreshment pause

11:00 Common Pediatric Neuromuscular Disorders: part 2

#### **Spinal muscular Atrophy, Inherited Polyneuropathies**

Hugh McMillan, MD, McGill University

10–15-minute Q&A

11:50 Lunch and Meet our Sponsors - Words from Alexion

13:00 Acquired Myopathies

**Inflammatory Myopathies and Toxic Myopathies**

Erin O’Ferrall, The Neuro, McGill University

10–15-minute Q&A

13:50 Polyneuropathies, ganglionopathies and multiple mononeuropathies

**General approach to Polyneuropathies, Ganglionopathies and Multiple Mononeuropathies**

Rami Massie, MD, The Neuro, McGill University

10–15-minute Q&A

14:40 Refreshment pause

15:00 Myasthenia Gravis

**Diagnosis and Treatment of Myasthenia Gravis**

Michael W Nicolle MD, Department of Clinical Neurological Sciences, Western University

15:50 Neuromuscular Junction Disorders Other Than Myasthenia Gravis

**Lambert-Eaton, botulism and other toxins, congenital myasthenia**

Oliver Blanchard, MD, The Neuro, McGill University

10–15-minute Q&A

16:40 Guest Lecture - **Approach to Disorders of the Peripheral Nervous System**

Mazen Dimachkie, MD, University of Kansas Medical Center, USA

10–15-minute Q&A

17:40 Closing remarks

Nicolas Dupré, CHU de Québec Université Laval

17:45 **Cocktail & Networking (onsite)**

**Speed-Dating with the Experts**

Karine Garneau, Erin O’Ferrall, Cam-Tu Emilie Nguyen, Oliver Blanchard & Rami Massie

## **Saturday, October 28, 2023**

8:30 Breakfast à la Montréalaise

8:55 Opening Remarks

Karine Garneau, MD, Université de Montréal

9:00 Metabolic myopathies and channelopathies

### **Pompe, McArdle, CPT2, Non-Dystrophic Myotonic Disorders and Periodic Paralysis**

Cam-Tu Nguyen, MD, CHU Sainte-Justine

10–15-minute Q&A

9:50 ALS

### **Presentation, Diagnosis and Treatment of ALS + Differential Diagnosis**

Geneviève Matte, MD, Université de Montréal

10–15-minute Q&A

10:40 Refreshment pause

11:00 AIDP, CIDP and their Variants

Karine Garneau, MD, Université de Montréal

10–15-minute Q&A

11:50 Lunch

13:00 **Workshops** (3 x 45 minutes)

Genetic cases: Dr. Bernard Brais (Jeanne Timmins Amphitheatre)

Muscle or nerve cases: Dr. Rami Masse (de Grandpre Communications Centre)

EMG cases: Dr. Karine Garneau (Jeanne Timmins Foyer)

15:15 Closing remarks

Karine Garneau, MD, Université de Montréal

## **SPEAKER, HOST, AND CHAIR BIOGRAPHIES**

### **Nicolas Dupre**

Dr. Nicolas Dupré, MD MSc FRCP FAAN, is a neurologist with expertise in neuromuscular and neurogenetic diseases. So far, he has published more than 175 peer-reviewed articles and six book chapters (H-index 43), including the presentation of a new clinical classification of recessive ataxias. He is the founder and director of the ALS Clinic of the CHU de Quebec - Université Laval. He is also co-director of the Quebec Parkinson Network. In addition, he is member of the executive of the ARSACS Foundation and of Capture ALS, a national and international research initiative in development to accelerate the development of therapeutics for amyotrophic lateral sclerosis (ALS).

### **Karine Garneau**

Neuromuscular fellowship at Harvard Medical school Electrophysiology of movement disorders fellowship at the Toronto Western Hospital Medical education certificate at Dundee University.

### **Nicolas Chrestien**

Dr. Nicolas Chrestien completed his adult neurology training at Laval University then pursued his training in pediatric neurology at McGill University. He performed his clinical fellowship in pediatric neuromuscular disorders under the supervision of Dr. Jiri Vajsar, Dr. James Dowling, Dr. Hans Katzberg and Dr. Grace Yoon at the Hospital for Sick Children in Toronto. He came back as staff member in the pediatric neurology team in Québec City.

### **Hugh McMillan**

Dr. McMillan is a Pediatric Neurologist with specialization in Neurophysiology and Neuromuscular medicine at the Children's Hospital of Eastern Ontario. He is a Professor in the Department of Pediatrics at the University of Ottawa and a Clinical Investigator at the CHEO Research Institute. Dr. McMillan completed a Neuromuscular and Neurophysiology Fellowship at Boston Children's Hospital (Harvard University) and the Lahey Clinic (Tufts University); a Pediatric Neurology Residency at CHEO (University of Ottawa) and a Pediatric Residency at McMaster Children's Hospital (McMaster University). He has been an author of over 130 publications in peer-review journals and is a leader in clinical and translational research.

### **Erin O'Ferrall**

Dr O'Ferrall is a Neuromuscular Expert and Neurologist at the Montreal Neurological Institute and McGill University.

### **Rami Massie**

Dr. Rami Massie is a neurologist specialized in neuromuscular disorders. His clinical activities consist of seeing patients in the EMG laboratory, in the ALS clinic and in the neuromuscular clinic, with a particular interest in disorders of peripheral nerves. He collaborates with the peripheral nerve surgeons and the neuropathologists to elucidate etiologies of peripheral neuropathies. His area of research is mainly clinical. In addition to participating in clinical drug trials in the fields of ALS and peripheral neuropathies, he supervises fellow and resident research projects in neuromuscular disorders. He is also responsible for the monthly Neuromuscular Journal Club,

which brings together all the neuromuscular specialists in the province.

### **Michael W Nicolle**

Dr. Nicolle did his neurology residency at Western (then the University of Western Ontario) 1986-1990 and MRC research fellowship in Oxford 1991-1994 on antigen-specific immunotherapy in MG. Currently a Professor of Neurology, specializing in neuromuscular disorders and specifically disorders of neuromuscular transmission, where I follow  $\approx$  800 MG, LEMS and congenital MG patients. Previous Chief of the Division of Neurology, Dept of CNS at Western University and LHSC. Currently the director of MG clinic, NM group and EMG laboratory.

### **Oliver Blanchard**

Dr. Oliver Blanchard received his Medical Degree in 2011 from McGill University, where he also completed his Neurology Residency in 2016. Following a Clinical Fellowship in Neuromuscular Medicine at the Montreal Neurological Hospital, he began his career in 2017 as an Assistant Professor in l'Université de Montréal's Department of Neurosciences at Hôpital Maisonneuve-Rosemont. Since January 2022, Dr. Blanchard is an Assistant Professor in the Department of Neurology and Neurosurgery of McGill University, based at the Montreal Neurological Hospital.

### **Mazen Dimachkie**

Mazen M. Dimachkie, MD is a tenured Professor of Neurology & Director of Neuromuscular Division at the University of Kansas Medical Center (KUMC). Dr. Dimachkie is ABPN board-certified in Neurology, Clinical Neurophysiology, and Neuromuscular Medicine and holds a UCNS certificate in Clinical Neuromuscular Pathology. He is Executive Vice Chairman & Vice Chairman for Research Program, Department of Neurology. He is the Associate Director of the Institute for Neurologic Discoveries at the KUMC. Dr. Dimachkie has national and international reputation as a clinician, educator and researcher. Dr. Dimachkie directs one of the busiest neuromuscular clinical trials units in North America and is involved in federally funded neuromuscular research studies and industry-sponsored studies, nationally and internationally. He is a frequently invited lecturer on myasthenia gravis, LEMS, inflammatory muscle disorders, CIDP, Pompe disease, ALS, neuropathies and other neuromuscular disorders.

### **Cam-Tu Nguyen**

Dr. Cam-Tu Émilie Nguyen is a pediatric neurologist specialized in neuromuscular disorders and neuromuscular and EMG fellowship director at CHU Sainte-Justine in Montreal. Dr. Nguyen is also the medical director of the Neuromuscular clinic at Marie Enfant Rehabilitation Centre of CHU Sainte-Justine. Dr. Nguyen completed a fellowship in EMG and neuromuscular disorders at McGill University, the London Health Sciences Centre under Dr. Craig Campbell's supervision, and The Hospital for Sick Children (SickKids).

### **Genevieve Matte**

Dr Geneviève Matte is a neuromuscular medicine expert and neurologist working at CHUM (Centre Hospitalier de l'Université de Montréal) since 2010. She is Assistant Professor in the department of Neuroscience at Université de Montréal and principal investigator at CHUM research center, supervising over 10 clinical trials. Dr Matte is the director of the ALS and Motor Neuron Disease Clinic at CHUM and co-Chair of the Canadian ALS Research Network (CALNS). Her clinical and research interests are ALS and amyloidosis.



## **SPEAKER ABSTRACTS**

### **Myotonic Dystrophies, FSHD, OPMD and Most Common LGMD**

*Nicolas Chrestian, PhD, Centre de recherche du CHU de Quebec*

Everything you need to know about Dystrophinopathies and congenital myopathies in one hour.

### **Dystrophinopathies, Congenital Myopathies**

*Nicolas Chrestian, PhD, Centre de recherche du CHU de Quebec*

### **Spinal muscular atrophy, inherited polyneuropathies**

*Hugh McMillan, MD, McGill University*

Lecture will provide an approach to distinguishing central versus peripheral causes of hypotonia during infancy; review normal maturation of peripheral nerves. Key hereditary and acquired diseases affecting children will be discussed. New treatments for spinal muscular atrophy and Duchenne muscular dystrophy will be reviewed.

### **Acquired Myopathies: Inflammatory and toxic myopathies.**

*Erin O’Ferrall, The Neuro, McGill University*

Acquired muscle diseases are a heterogeneous group of muscle diseases with an underlying autoimmune, toxic or endocrinological cause. Certain clues on history and physical exam can help to differentiate these conditions from genetic or inherited muscle diseases. It is important to identify autoimmune muscle diseases since many are treatable. The new classification of autoimmune myopathies will be discussed including the correlation between antibody, clinical phenotype and muscle pathology. Systemic manifestations often include interstitial lung disease, skin involvement and may include associated neoplasm. Certain medication can be toxic to muscle and these will also be reviewed.

### **General Approach to Polyneuropathies, Ganglionopathies and Multiple Mononeuropathies**

*Rami Massie, MD, The Neuro, McGill University*

### **Diagnosis and Treatment of Myasthenia Gravis**

*Michael W Nicolle MD, Department of Clinical Neurological Sciences, Western University*

MG is an autoimmune disorder with antibodies most commonly targeted against the acetylcholine receptor (ACh) or MuSK. This presentation will focus on the epidemiology, clinical manifestations, diagnosis and management of MG including a brief discussion about the newer biologic

treatments available in MG.

## **Lambert-Eaton, Botulism and Other Toxins, Congenital Myasthenia**

*Oliver Blanchard, MD, The Neuro, McGill University*

Approach to LEMS, botulism, drug-induced NMJ disorders and congenital myasthenia.

## **Guest Lecture - Approach to Disorders of the Peripheral Nervous System**

*Mazen Dimachkie, MD, University of Kansas Medical Center, USA*

Neurologists encountering a patient with suspected peripheral neuromuscular disorder are faced with four basic challenges. First is to determine if the patient's complaints and the physical findings are the result of an insult to the central or peripheral nervous system and if the latter, is the lesion in the cell body, nerve root or plexus, peripheral nerve, neuromuscular junction, or muscle? Second is to determine the most likely list of causes of the peripheral nerve disorder and third is to design a targeted and appropriate investigational plan to identify the specific cause. The fourth challenge is to institute the appropriate management plan. To address these challenges, a rational and extremely effective approach involves the clinician asking seven key questions specific for neuromuscular disorders while evaluating the patient at the bedside and performing the history and physical examination. The answers to these seven key questions will allow the clinician to put the patient's symptoms and signs into one of 10 neuropathic patterns or 10 myopathic patterns using this pattern recognition approach.

## **Pompe, McArdle, CPT2, Non-Dystrophic Myotonic Disorders and Periodic Paralysis**

*Cam-Tu Nguyen, MD, CHU Sainte-Justine*

In this session, we will explore the intricate world of metabolic myopathies and non-dystrophic myotonias. Our journey begins with understanding when to raise suspicions of a metabolic myopathy in patients experiencing rhabdomyolysis or dynamic symptoms. With this knowledge, we will then delve into the most prevalent metabolic myopathies, unraveling their clinical characteristics, and discussing effective management strategies.

## **Presentation, Diagnosis and Treatment of ALS + Differential Diagnosis**

*Geneviève Matte, MD, Université de Montréal*

After this talk, participants will be able to identify circumstances in which the diagnosis of ALS and other motor neuron diseases must be considered, to rationally investigate and manage patients with ALS and motor neuron diseases.

## **ORGANIZING COMMITTEE**

Dr. Nic Dupré

Dr. Karine Garneau

Dr. Gabrielle Dufort

Deborah Rashcovsky, Events Lead, The Neuro