

Saturday, 6 June 2015

07:00-07:45 *Breakfast*

Pre-Conference: Innovations in Neuromodulation

Room: Jolliet-Duluth-Mackenzie

07:45-07:55 **Welcome and Opening Remarks** Drs. Simon Thomson, Elliot Krames and the Canadian Neuromodulation Society

07:55-08:15 **Introduction and Neuromodulation Market Overview** Rami Elghandour, MBA

~~08:15-08:45 **Innovation Phase** Mir Imran, MS CANCELLATION~~

08:45-09:35 ***Emerging Company Panel***
CorTec - Dr. Martin Schüttler, Chief Technology Officer
FemPulse LLC - Alexandra Haessler, MD, Founder and President
Lungpacer Medical Inc. - Dr. Andy Hoffer, President and CSO
Q&A

9:35-10:05 **How to Procure Financing**
Brad Vale, PhD, DVM, former Head of Johnson & Johnson Development Corporation (JJDC)

10:05-10:35 *Networking Break*

10:35-11:55 ***Emerging Company Panel***
BlueWind Medical - Roy Katz, Vice President Business Development
MicroTransponder - Frank McEachern, Chief Executive Officer
Neuronano AB - Jens Schouenborg, Principal Inventor, Member of the Board
Q&A

11:55-13:15 **Lunch & Lecture: Supporting Innovation and Guiding Early Commercialisation**
Vaishali Kamat, Head of Digital Health, Cambridge Consultants

13:15-13:45 **Neuromodulation Study Design: Science, Regulation, and Reimbursement**
Richard North, MD, Professor of Neurosurgery, Anesthesiology and Critical Care Medicine (ret.)
Johns Hopkins University School of Medicine

13:45-14:25 ***Emerging Company Panel***
Neuros Medical, Inc. - Jon J. Snyder, President and Chief Executive Officer
SPR Therapeutics - Mark Stultz, Senior Vice President Market Development
Q&A

~~14:25-14:55 **Reimbursement Phase** CANCELLATION~~

14:55-16:05 ***Venture Capital Panel***
Kadir Kadhiresan, VP Venture Investments MD & D, JJDC Investors; J&J Innovation
Tony Borowicz, Vice President of Business Development, Greatbatch

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| 16:05-16:35 <i>Networking Break</i> | |
| 16:35-17:05 | The Big Picture J.P. Errico, PhD, Chairman, Founder, Principal Investor and Chief Executive Officer of electroCore |
| 17:05-17:55 | Emerging Company Panel Medtronic Eindhoven Design Center, formerly Sapiens Steering Brain Stimulation B.V - Michel M.J. Decré, PhD, Research and Technology Director, (Sapiens co-founder and CTO) WISE Srl - Luca Ravagnan, PhD, Chief Executive Officer Axonics Modulation Technologies, Inc. - Raymond W. Cohen, Chief Executive Officer Q&A |
| 17:55-18:05 | Closing Comments |

CME Credit will not be provided for this session.

The theme of this Pre-Conference Day is “The Challenge of Reimbursement: Can we do this Smarter?” with the aim of achieving several objectives:

1. Identifying and discussing the data that needs to be collected by commercialising companies to ensure it has utility for future reimbursement applications.
2. Learning about the process by which innovations occur, become funded, receive reimbursement and reach the marketplace.
3. Describing the process of establishing and protecting intellectual property.
4. Finding out about current and future investment strategies and challenges in the device market -- both in Europe and in the U.S.
5. Defining the regulatory process by which the CE Mark and FDA approval are obtained in Europe and in the U.S., respectively, and ultimately earn full reimbursement.
6. Discovering emerging companies and the science behind their innovative therapies.
7. Networking with the leaders in innovation, investment, basic science and clinical practice in the neuromodulation space.

Sunday, 7 June 2015

08:00-08:45 *Breakfast*

Pre-Conference: Understanding the Mechanisms of Action of Neurostimulation and Spinal Cord Stimulation Responder Identification

Room: Jolliet-Duluth-Mackenzie

What do we know now about Mechanisms of Action in Spinal Cord Stimulation?

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| 08:45-08:50 | Welcome and Introduction Elliot Krames, MD and Simon Thomson, MBBS |
| 08:50-09:05 | An Overview of Neurophysiological Mechanisms of SCS Michelangelo Buonocore |
| 09:05-09:20 | The Neurochemistry of SCS in Neuropathic Pain Bengt Linderöth, MD, PhD |
| 09:20-09:35 | The Dynamic Neurophysiological Measures of SCS John Parker, PhD, FATSE |
| 09:35-09:50 | The Neurophysiology of SCS in Neurocardiology (Ischaemia, Dysrhythmia and Heart Failure) Robert Foreman, PhD |
| 09:50-10:05 | The Segmental Neurophysiological Mechanisms for Pain Inhibition from SCS Yun Guan, MD, PhD |
| 10:05-10:20 | A Knowledge-based SCS System Providing Maximum Pain Relief Without Extensive Testing Jan Holsheimer, PhD |
| 10:20-10:35 | Q&A Discussion |

10:35-10:55 *Coffee Break*

Variants of Standard Spinal Cord Stimulation

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| 11:00-11:15 | What is Burst? Rationale? Dirk de Ridder, MD, PhD |
| 11:15-11:30 | High Frequency Neurostimulation: Insights into Mechanisms Kerry Bradley, PhD |
| 11:30-11:45 | DRG stimulation – Differences to Standard SCS Elliot Krames, MD |
| 11:45-12:00 | Subthreshold Spinal Cord Stimulation: Proven and Proposed Mechanisms James North, MD |
| 12:00-12:30 | What do we still need to know about MoA of SCS? (Panel Discussion) Moderators – Elliot Krames, MD and Simon Thomson, MBBS, FRCA John Parker, PhD, FATSE Michelangelo Buonocore, MD Bengt Linderöth, MD, PhD Robert Foreman, PhD Yun Guan, MD, PhD |

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| 12:30-13:30 <i>Lunch Break</i> | |
| <i>Translation into the Clinical Perspective</i> | |
| 13:35-13:55 | Evaluation of Preclinical Pain Models: Somatic vs. Visceral Professor Fernando Cervero, MD, PhD, DSc |
| 13:55-14:15 | Clinical History, Detailed Examination and Neurophysiological Investigations that Predict SCS Outcome - Can we do without SCS trials in some patients? Andrei Brinzeu, MD |
| 14:15-14:35 | Quantitative Sensory Testing: Can we diagnose? Vivek Mehta, FRCA, MD, FFPMRCA |
| 14:35-14:55 | Machine Learning Approaches for the Detection of Acute and Chronic Pain: Promises and Limitations Sean Mackey, MD, PhD |
| 14:55-15:10 | Q&A Discussion |
| 15:10-15:30 <i>Coffee Break</i> | |
| <i>Disease Markers as Predictors of Spinal Cord Stimulation Outcome (Panel Discussion)</i> Moderators – Elliot Krames, MD and Simon Thomson, MBBS, FRCA | |
| 15:30-15:40 | Clinical Markers Review Tracy Cameron, PhD |
| 15:40-15:50 | Quantitative Sensory Testing Vivek Mehta, FRCA, MD, FFPMRCA |
| 15:50-16:00 | fMRI Sean Mackey, MD, PhD |
| 16:00-16:10 | ECAPS John Parker, PhD, FATSE |
| 16:10-16:20 | Biological Markers of Pain Joshua Gunn, PhD CANCELLATION |
| 16:20-16:30 | Q&A Discussion |

Monday, 8 June 2015

07:00-08:00 Breakfast and Posters (07:30-08:00)

12th World Congress

Neuromodulation: Medicine Evolving Through Technology

Opening Plenary Session

Room: Jolliet-Duluth-Mackenzie

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| 08:00 - 08:35 | <p>Call to Opening of the Meeting: Timothy Deer, MD, Simon Thomson MBBS, FRCA, Michel Prud'Homme, MD, PhD</p> <p>Setting a Global Target: Neuromodulation Accessibility for All Who Need It Marc Russo, MBBS</p> |
| 08:35 - 09:20 | <p>The Future of Medicine: The Evolution of the Field Moderator: Elliot Krames, MD</p> <p>Bioelectronic Medicines – Bringing Precision Neuromodulation at Peripheral Nerves to a Broad Range of Chronic Diseases Kristoffer Famm, PhD</p> <p>Distance and Neuromodulation Ivar Mendez, MD, PhD</p> <p>10 minute discussion</p> |
| 09:20 - 10:00 | <p>International Perspectives and Comparisons of Prospective Research: Dorsal Root Ganglion Spinal Stimulation Moderator: Peter Staats, MD</p> <p>International Research Jean-Pierre Van Buyten, MD, and Liong Liem, MD</p> <p>Results of the U.S. Pivotal Study Robert Levy, MD, PhD, and Timothy Deer, MD</p> |
| 10:00 - 10:25 | Break, Posters & Exhibits |
| 10:30 - 11:00 | <p>Long Term Follow Up of US Pivotal For High Frequency Spinal Cord Stimulation Leonardo Kapural, MD, PhD and Kasra Amirdelfan, MD</p> |
| 11:00 - 11:30 | <p>Overcoming Hurdles in Neuromodulation: Making Neuromodulation the Standard in Disease Treatment Simon Thomson, MBBS, FRCA</p> |
| Oral Poster Presentations - 8 Minute Presentation & 2 Minute Q & A | |
| 11:30 - 11:40 | <p>High Frequency, Burst and Conventional Tonic Spinal Cord Stimulation in Patients with Complex Regional Pain Syndrome: Preliminary Results of a Randomized and Placebo Controlled Trial Nadia Kriek, MD</p> |
| 11:40 - 11:50 | <p>Functional MRI Reveals Analgesia by DRG Stimulation in Rats Quinn Hogan, MD</p> |
| 11:50 - 12:00 | <p>DBS of the Cerebello-Thalamo-Cortical Pathway Selectively Modulates Glutamatergic and Gabaergic Neurogenesis in the Perilesional Cortex after Stroke Andre Machado, MD, PhD</p> |
| 12:00 - 12:10 | <p>Vagus Nerve Stimulation Paired with Rehabilitation Improves Upper Limb Recovery after Chronic Ischemic Stroke: A Pilot Study. Jesse Dawson, MD</p> |
| 12:10 - 12:20 | <p>Implanted Motor Neuroprosthetic for Real-Time Cortical Control of Hand Movements in a Human with Tetraplegia Chad Bouton, MS</p> |

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| 12:30 - 14:30 | Lunch, Posters and Exhibits | | | |
| Breakout Presentations | Neuromodulation for Pain Moderator: Joshua Prager, MD | Neuromodulation for Epilepsy Moderators: Ashwini Sharan, MD & Guoming Luan, MD, PhD | Non-Invasive Brain Stimulation and Stroke Recovery Moderators: Rebeca Boltes Cecatto PhD, MD & Werner Braunsdorf, MD | Neuromodulation for Pelvic Organ Motility Disorders and Pain Moderator: Magdy Hassouna, MD, PhD, FRCSC |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 14:30 - 14:45 | Pathophysiological Mechanisms of CRPS and its Insights into Treatment Frank Huygen, MD, PhD | Update on VNS for Epilepsy Paul Boon, MD, PhD | Non-Invasive Brain Stimulation in Stroke: Analysis of Stimulation Methods, Parameters, Trial Design and Outcomes Marcel Simis, MD, PhD | Neuromodulation for Urological Diseases Magdy Hassouna, MD, PhD, FRCSC |
| 14:45 - 15:00 | Pathophysiological Mechanisms of CRPS and its Insights into Treatment, continued Frank Huygen, MD, PhD | Update on rTMS for Epilepsy Felipe Fregni, MD, PhD | Motor Recovery and Neuroplasticity After FES Rebeca Boltes Cecatto PhD, MD | Sacral Neuromodulation for Pelvic Floor Disorders Magdy Hassouna, MD, PhD, FRCSC |
| 15:00 - 15:15 | The Pathophysiology of Complex Regional Pain Syndrome and History of Treatment Algorithms Michael Stanton Hicks MB BS, Dr med, FRCA | Update on Anterior Thalamic DBS for Epilepsy Robert Gross, MD, PhD | Navigated rTMS Combined with Task-Oriented Therapy for Stroke Related Motor Deficits Richard Harvey, MD | Neuromodulation in Chronic Abdominal Pain and Pelvic Pain Including Ultrasound Mayank Gupta, MD |
| 15:15 - 15:30 | Review of the Literature of Neurostimulation for Complex Regional Pain Syndrome Salim Hayek, MD, PhD | Responsive Brain Stimulation for Epilepsy Martha Morrell, MD | Motor Learning and Cortical Plasticity Induced Noninvasive Brain Stimulation Felipe Fregni, MD, PhD, MPH | What Technological and Medical Improvements Are Needed For Sacral Nerve Stimulation to Really Catch on? Michele Spinelli, MD |
| 15:30 - 15:45 | Integrating Neuromodulation into the Treatment Algorithm for CRPS Joshua Prager, MD | Hippocampal DBS for Epilepsy Arthur Cukiert, MD, PhD | Translational Insights into Non-invasive CNS Stimulation for Chronic Pain Modulation Julian Taylor, PhD | SNS for Colorectal Disease: An Update Charles Knowles, MBBChir, MA, PhD, FRCS |
| 15:45 - 16:00 | Abandoning Tonic Stimulation in Clinical Practice Stefan Schu, MD | Optogenetic Strategies for Epilepsy Robert Gross, MD, PhD | | |
| 16:00 - 16:30 | Break, Posters & Exhibits | | | |

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| Oral Poster Presentations | A Discussion of the Anatomy and Appropriate Therapy/Stimulation Selection Moderator: Timothy Deer, MD | Brain: Epilepsy Moderators: Ashwini Sharan, MD & Guoming Luan, MD, PhD | Non-Invasive Brain Stimulation and Stroke Recovery; Neural Prosthetics and Neural Engineering Moderators: Rebeca Boltes Cecatto PhD, MD & Werner Braunsdorf, MD | Neuromodulation for Pelvic Organ Motility Disorders and Pain; Therapy Outcomes and Quality of Life Moderator: Magdy Hassouna, MD, PhD, FRCSC |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 16:30 - 16:40 | Conventional SCS Is Different than DRG Stimulation (anatomy focus) Richard North, MD; PNS Is More Specific to Focal Pain (therapy choice discussion); Giancarlo Barolat, MD; | Chronic Wireless Ecog Recording and Brain Mapping: Results after 6 Month Implantation in a Non-Human Primate Marco Piangerelli Ph.D. Student | Long-term safety and efficacy of Epidural Cortical Stimulation for Stroke Rehabilitation: Results of the Everest Trial Richard Harvey, MD | Comparison of Early Sacral Versus Early Pudendal Neuromodulation on Lower Urinary Tract Function in Spinal Cord Injury Minipigs Reinhold Zimmermann, MD |
| 16:40 - 16:50 | What is the best target (comparative evidence)? Konstantin Slavin, MD; | On Quantitative Biomarkers of Closed-Loop VNS Therapy Using EEG and ECG Signals during Seizures Shivkumar Sabesan, PhD | Repetitive Transcranial Magnetic Stimulation Once a Week Induces Sustainable Long-Term Relief of Post-Stroke Pain Masahito Kobayashi MD, PhD | Does Body Mass Index (BMI) Impact Outcomes of Sacral Neuromodulation? Kenneth Peters, MD |
| 16:50 - 17:00 | DRG Stimulation; The Anatomy; A Form of Spinal Stimulation (anatomy focus) Robert Levy, MD, PhD; | Novel Seizure Detection System: Long Term Outcomes from the E-36 Trial Paul Boon MD, PhD | Repetitive Transcranial Magnetic Stimulation (rTMS) of Reorganized Motor Cortex for Pain Relief Turo Nurmikko, MD, PhD | Pudendal Neuromodulation after Failed Sacral Neuromodulation Kenneth Peters, MD |
| 17:00-17:10 | Clinical Use of DRG in Patient Specific Practice (therapy choice discussion) JP Van Buyten, MD, PhD; | Effects of battery depletion on seizure frequency in children with secondary generalized epilepsy submitted to vagus nerve stimulation. Arthur Cukiert, MD, PhD | Sensorimotor Cortex Morphology as a Predictor of Repetitive Transcranial Magnetic Stimulation Treatment Response in Chronic Neuropathic Pain Andrew Nelson | CT-Guided Electrode Implantation at the Sacral Nerve Root S3 in Minipigs: A New Standardized Technique Reinhold Zimmermann, MD |
| 17:10 - 17:20 | The Target: Peer Reviewed Literature and Studies to Support DRG (comparative evidence); Peter Staats, MD | Vagus Nerve Stimulation Therapy with Automatic Magnet Mode Outcomes Study in Epilepsy Patients Exhibiting Ictal Tachycardia Pegah Afra, MD | Analysis of Intracortical Signals from a Chronically Implanted Brain-Computer Interface in a Human with Tetraplegia Gaurav Sharma, PhD | Introducing the Concept of Remission from Chronic Pain: Application in Spinal Cord Stimulation Clinical Trial Results and Its Correlation to Functional Outcomes Kasra Amirdelfan, MD |

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| Oral Poster Presentations Continued | A Discussion of the Anatomy and Appropriate Therapy/Stimulation Selection | Brain: Epilepsy | Non-Invasive Brain Stimulation and Stroke Recovery; Neural Prosthetics and Neural Engineering | Neuromodulation for Pelvic Organ Motility Disorders and Pain; Therapy Outcomes and Quality of Life |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 17:20 - 17:30 | Discussion, continued | Seizure Outcome after Battery Depletion in Patients Submitted To Deep Brain Stimulation for Epilepsy Arthur Cukiert, MD, PhD | A Novel Method of Electrical Nerve Conduction Block Utilizing “Charge-Balanced” Direct Current Kevin Kilgore Ph.D. | Cancellation |
| 17:30 - 17:40 | | Deep Brain Stimulator Electrode Position Requires Critical Analysis in Stimulation of the Anterior Nucleus of the Thalamus for Epilepsy Chengyuan Wu MD, MSBmE | Nanotechniques for Electrochemical Neuromodulation Russell Andrews, MD | High Prevalence of Multi-Site Pain and its Association with Reduced Quality of Life, Depression, and Disability: Final Results of the Multiple Areas of Pain (MAP) Study James North, MD |
| 17:40 - 17:50 | Correlation Between Predicted and Actual Coverage of a Pain Area Using Retrograde Transforaminal Paraesthesia Mapping in Dorsal Root Ganglion Stimulation Jennifer Breel, MPA | Anterior Thalamic Stimulation Versus Anterior Thalamic Lesions: What Is The Best For Patients? Andrey Sitnikov, MD | Discussion | Spinal Cord Stimulation During Pre And Peri Natal Period. A Case Report Showing No Deleterious Effect Of Conventional Paraesthesia Producing Stimulation And Effect Of Its Use During Labour Ahmad Moussa, FRCS (Neuro.Surg.) |
| 17:50 - 18:00 | An Australian Multicentre Case Series In Chronic Post-Surgical Pain (CPSP) Treated With Dorsal Root Ganglion (DRG) Stimulation Richard Sullivan, MD | Discussion | | Percutaneous Nerve Field Stimulation (PENS) of the Occipital Region as a Possible Predictor for Occipital Nerve Stimulation (ONS) Responsiveness in Refractory Headache Disorders? Thomas Kinfe, MD |

Tuesday, 9 June 2015

07:00-08:00 Breakfast and Posters (07:30-08:00)

Sensors, Monitors, Analytics and Feedback Systems: Current and Future Applications for Neuromodulation

Moderators: Peter Konrad, MD, PhD and Ali Rezai, MD

Room: Jolliet-Duluth-Mackenzie

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| 08:00 - 09:40 | Sensors in Medicine: 2015 and Beyond Ali Rezai, MD Sensors for Human Performance and Augmentation Andy McKinley, PhD Heart Failure Jeffrey Ardell, PhD Spinal Cord and Epilepsy Neuromodulation Ashwini Sharan, MD 10 Minute Discussion | | | |
| 09:45 - 10:00 | Spinal Cord Stimulation to Treat Heart Failure Timothy Deer, MD: Animal Data Hung-Fat Tse, MD, PhD: Human Data | | | |
| 10:00 - 10:25 | Break, Posters & Exhibits | | | |
| 10:30 - 11:30 | Is Paresthesia Free Stimulation The Future of Spinal Cord Stimulation? Moderated by Timothy Deer, MD and David Kloth, MD Paresthesia Free: The Evidence: The Advocates: Marc Plazier, MD, Adnan Al Kaisy, MB ChB, FRCA, and Paul Verrills, MD We Need Paresthesias to Produce Pain Relief: The Advocates: Eric Buchser, MD, Salim Hayek, MD, PhD, and Ramsin Benyamin, MD | | | |
| Oral Poster Presentations | 8 Minute Presentation & 2 Minute Q & A | | | |
| 11:30 - 11:40 | The Transcutaneous Acupoint Vagus Nerve Electrical Stimulation: A New Bioelectronics Approach to Treat Crohn's Disease? Jiande Chen, MD | | | |
| 11:40 - 11:50 | Effects of Different Electrical Parameter Settings on Bradykinesia in Patients with Parkinson's Disease Treated with Subthalamic Deep Brain Stimulation Stephanie Tran, BS | | | |
| 11:50 - 12:20 | INS General Assembly | | | |
| 12:30 - 14:30 | Lunch, Posters and Exhibits | | | |
| Breakout Presentations | Brain Stimulation for Pain Moderators: Stefanos Korfiatis, MD, PhD & Takamitsu Yamamoto, MD, PhD | Neurolytics and Neuromodulation in Cancer Pain Moderator: Allen Burton, MD | Neurostimulation for Motor and Metabolic Disorders? Moderators: Tom Abell, MD & Jiande Chen, PhD | Neuromodulation for Cardiovascular Disorders Moderators: Mike DeJongste, MD, PhD & Robert Foreman, PhD |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 14:30 - 14:45 | Motor Cortex Stimulation for Pain: Evidence and Progress Alessandro Dario, MD | Technological Advances in Neurolytics and Neuromodulation Amitabh Gulati, MD | Gastric Neuromodulation for Gut Dysmotility Thomas Abell, MD | SCS for Vascular Disease Shoaeddin Damirchi, MD |

| Breakout Presentations Continued | Brain Stimulation for Pain | Neurolytics and Neuromodulation in Cancer Pain | Neurostimulation for Motor and Metabolic Disorders? | Neuromodulation for Cardiovascular Disorders |
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| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 14:45 - 15:00 | Neuromodulation for Cluster Headache Fabian Piedimonte, MD and Juan Carlos Andreani, MD | Update on Pharmacokinetics and Dynamics of the Intrathecal Space Christophe Perruchoud, MD, PhD | Intestinal Neuromodulation for Diabetes Jiande Chen, PhD | Neuromodulation for Angina Sam Eldabe, MBBS, FRCA |
| 15:00 - 15:15 | Deep Brain Stimulation for Chronic Pain Julie Pilitsis, MD, PhD | Functional Rehabilitation in Cancer Pain Brian Bruel, MD | Gastric Neuromodulation for Obesity Jieyun Yin, MD | SCS for Heart Failure John Lopshire, MD |
| 15:15 - 15:30 | Occipital and Supraorbital Peripheral Nerve Stimulation Erika Peterson, MD | Intrathecal Drug Delivery in Treating Cancer Pain Allen Burton, MD | Gastric Neuromodulation for Children Renaldo Garcia, MD | Neuromodulation for Arrhythmias Heinz Theres, MD, PhD |
| 15:30 - 15:45 | Occipital Nerve Stimulation for Chronic Migraine Genni Duse, MD | Newest Concepts in Intrathecal Drug Delivery for Cancer Pain Lisa Stearns, MD | GI Neurostimulation for Functional Bowel Disease Jieyun Yin, MD | Progress in Neuromodulation for Heart Diseases Mike DeJongste, MD, PhD |
| 15:45 - 16:00 | Discussion | Discussion | Discussion | Discussion |
| 16:00 - 16:30 | <i>Break, Posters & Exhibits</i> | | | |

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| Oral Poster Presentations | Brain: Movement Disorders Moderators: Stefanos Korfias, MD, PhD & Takamitsu Yamamoto, MD, PhD | Novel Neurostimulation and Treatment Paradigms Moderator: Kaare Meier, MD | Spine: Pain Moderators: Tom Abell, MD and Jiande Chen, PhD | Neuromodulation for Cardiovascular Disorders, Motor and Metabolic Disorders and Visceral Pain; Mechanisms of Action Moderators: Mike DeJongste, MD, PhD and Robert Foreman, PhD |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 16:30 - 16:40 | Twelve Month Follow Up Of A Prospective, Multi-Center Trial Evaluating Deep Brain Stimulation With A New Multiple-Source, Constant-Current Rechargeable System In Parkinson's Disease François Alesch, MD | Effectiveness of Sphenopalatine Ganglion (SPG) Stimulation for Cluster Headache: 2 Year Long-Term Follow-Up Results from the Pathway CH-1 Study Rigmor Jensen, MD, PhD | Loin Pain-Hematuria Syndrome (LPHS) Treated with Dorsal Root Ganglion (DRG) Stimulation: A Case Report Jennifer Breel, MPA | Heart Rate Reduction via Electrical Cardiac Neuromodulation in an Animal Model Antje Pohl, Dipl.-Ing. |
| 16:40 - 16:50 | Deep Brain Stimulation Wash-in and Wash-out Times Quantified using Objective Real-Time Tremor Measurements Thushara Perera, PhD | Peripheral And Central Sensitization In Patients Undergoing Occipital Nerve Stimulator Insertion For Intractable Migraine. Vivek Mehta FRCA, MD, FFPMRCA | Long-Term Outcomes Of Anchorless Lead Placement In A Dorsal Root Ganglion (DRG) Stimulation Cohort Jennifer Breel, MPA | Immediate And Long-Term Clinical Outcome Of Spinal Cord Stimulation For Refractory Stable Angina Pectoris Siegfried Eckert, MD |
| 16:50 - 17:00 | Deep Brain Stimulation in Children and Adolescents with Dystonia - an 8 Year Follow Up Fabián Piedimonte, MD | A Prospective Case Series Of Post-Amputation Stump And Phantom Limb Pain (PLP) Treated With Dorsal Root Ganglion Stimulation: Data From Five Clinical Trials Sarah Love-Jones, MD | Treating Focal Neuropathic Pain With Dorsal Root Ganglion (DRG) Stimulation: Single Centre Prospective Case Series Liz Moir, RN | Gastric Electrical Stimulation Therapy And Pyloroplasty For Refractory Gastroparesis: One Site Experiences Irene Sarosiek, MD |
| 17:00 - 17:10 | Motor Cortex Stimulation in Advanced Parkinson's Disease Angelo Lavano, MD | Microsurgical Anatomy Of The Terminal Hypoglossal Nerve Relevant For Neurostimulation In Obstructive Sleep Apnea Bahar Bassiri Gharb, PhD | High-Frequency Spinal Cord Stimulation At 10,000 Hz For The Treatment Of Post-Surgery Back Pain Patients Paul Verrills, MBBS FAFMM | Sustained Improvement In Quality Of Life (QoL) And Stable Pain Relief In A Retrospective Cohort Of Abdominal Visceral Pain Patients Treated With Dorsal Root Ganglion (DRG) Stimulation Sangeeta Das MBBS, FRCA, FFPMRCA |

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| Oral Poster Presentations Continued | Brain: Movement Disorders | Novel Neurostimulation and Treatment Paradigms | Spine: Pain | Neuromodulation for Cardiovascular Disorders, Motor and Metabolic Disorders and Visceral Pain; Mechanisms of Action |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 17:10 - 17:20 | Motor Cortex Stimulation for Parkinson's Disease - Results of a Prospective Double-Blind Randomized Study With Cross-Over Beatrice Cioni, MD | High-Frequency Nerve Block For Amputation Pain: Long-Term Outcome Of A Pilot Study Amol Soin, MBA | Salvaging Failed Neuromodulation Implants With High-Frequency Spinal Cord Stimulation At 10,000 Hz Paul Verrills, MBBS FAFMM | The Role of Paresthesia in Pain Suppression Using Conventional and Novel SCS Paradigms Jan Buitenweg, PhD |
| 17:20 - 17:30 | Thalamic Relay and Interneurons May Play a Role in Altered Mechanical Thresholds Following Subthalamic Deep Brain Stimulation (STN DBS) in 6 Hydroxydopamine Lesioned Rodents Lucy Gee, BS | Clinical Outcomes Of 1 Khz Subperception Spinal Cord Stimulation (SCS): Results Of A Prospective Randomized Controlled Crossover Trial James North, MD | High Frequency Spinal Cord Stimulation: A New Standardized Solution For The Treatment Of Chronic Low Back Pain? Ronald Richter, MD | Analysis Of High Frequency Spinal Cord Stimulation - Mechanisms for Neuropathic Pain Jeff Arle, MD, PhD |
| 17:30 - 17:40 | Effect of Deep Brain Stimulation on Gait in Parkinson's Disease Patients Greydon Gilmore, MS | A Novel, Objective, Quantitative Method Of Evaluation Of The Pain Component And Paresthesia Coverage Using Comparative Computerized Multiparametric Tactile Mapping Software And Database Analysis. Philippe Rigoard, MD, PhD | Treating Perineal Pain With Dorsal Root Ganglion (DRG) Stimulation: Review Of Techniques And A Retrospective Case Series Xander Zuidema, MD | Mechanism of High Frequency Spinal cord Stimulation - Fiber Selectivity Jeff Arle, MD, PhD |
| 17:40 - 17:50 | The Effect of Adaptive DBS over Rest Dyskinesias in Patients with Parkinson's Disease Mattia Arlotti, MA | Epidural Spinal Cord Stimulation: A Novel Therapy In The Treatment Of Restless Leg Syndrome Marshall Holland, MD | High Frequency 10,000 Hz Stimulation Produces Better McGill Pain Questionnaire Outcomes Than Traditional Low-Frequency SCS For The Treatment Of Chronic Back And Leg Pain Allen Burton, MD | GABAergic Mechanisms Are Differentially Activated By Burst And Tonic Spinal Cord Stimulation To Attenuate Pain In A Rat Model Of Cervical Radiculopathy Melanie Goodman Kieser, PhD |

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| Oral Poster Presentations Continued | Brain: Movement Disorders | Novel Neurostimulation and Treatment Paradigms | Spine: Pain | Neuromodulation for Cardiovascular Disorders, Motor and Metabolic Disorders and Visceral Pain; Mechanisms of Action |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 17:50 - 18:00 | Differences in Dopamine Transporter Imaging In Patients with Parkinson's Disease Treated With Subthalamic Deep Brain Stimulation and Contralateral Thalamotomy Tiago Freitas, MD, PhD | High Density Stimulation: A Novel Programming Paradigm For The Treatment Of Chronic Pain Jennifer Brael, MPA | High-Frequency Versus Tonic Spinal Cord Stimulation For The Treatment Of Chronic Non-Cancer Pain. Results Of A Prospective Randomized Study With Cross-Over. Tommaso Tufo, MD | Peripheral And Central Sensitization In Patients Undergoing Spinal Cord Stimulator Insertion For Chronic Neuropathic Back And Leg Pain Shankar Ramaswamy, MBBS, MD, FRCA, FFPMRCA, EDRA |
| 18:00 - 18:10 | | | Cancellation | A Multicentre Randomised Controlled Trial of Spinal Cord Stimulation Plus Usual Care versus Usual Care Alone in the Management of Refractory Angina: A Feasibility & Pilot study. RASCAL Study. Morag Brookes, RGN, BSc, MSc |

Wednesday, 10 June 2015

07:00-08:00 Breakfast and Posters (07:30-08:00)

Plenary Session

Moderator: Robert Levy, MD, PhD

Room: Jolliet-Duluth-Mackenzie

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| 08:00 - 08:30 | Innovations in GI Neurostimulation Thomas Abell, MD and Jiande Chen, PhD | | | |
| 08:30 - 09:00 | Spinal Cord Stimulation for Clinical Severe Neuropathic Pain: New Horizons and Translational Research; Bert Joosten, PhD, Bengt Linderöth, MD, PhD, Robert van Dongen, MD, PhD | | | |
| 09:00 - 09:30 | Infection and Implantable Devices: Current Practices and Management David Provenzano, MD | | | |
| 09:30 - 10:00 | Current Practices and Management Spinal Cord Stimulation Anesthesia Choices and Safety; Steven Falowski, MD, Pro; Ashwini Sharan, MD, Con | | | |
| 10:00 - 10:25 | Break, Posters & Exhibits | | | |
| 10:30 - 11:00 | Current Practices: Functional Neuroimaging and the Use of Neuromodulation Sean Mackey, MD, PhD & Translational Neuroimaging Approaches In Neuromodulation Chengyuan Wu, MD, MSBmE | | | |
| 11:00 - 11:30 | The Use of Deep Brain Stimulation for Alzheimer's Disease Andres Lozano, MD, PhD | | | |
| Oral Poster Presentations | 8 Minute Presentation & 2 Minute Q & A | | | |
| 11:30 - 11:40 | Lead Location Plays a Crucial Role in the Anti-nociceptive Effects of Subcutaneous Electrical Stimulation in a Rodent Model of Neuropathic Pain Louis Vera-Portocarrero, PhD | | | |
| 11:40 - 11:50 | Single Centre Prospective Observational Study of Outcomes (N=411): Compensation Versus Privately Insured Patients Implanted with Traditional SCS, 10,000 Hz, SCS or Peripheral Nerve Field Stimulation over 5 Years. Paul Verrills, MBBS, FAFMM | | | |
| 11:50 - 12:20 | Giant of Neuromodulation Award Honoring Alim Benabid, MD, PhD | | | |
| 12:30 - 14:30 | Lunch, Posters and Exhibits | | | |
| Breakout Presentations | Evaluating Outcomes in Neuromodulation Moderators: Roger Strachan, MD, FRCS & Wojciech Maksymowicz, Prof. dr hab.n.med. | Current State of Brain Neuromodulation for Disorders of Cognition and Behavior Moderators: Ali Rezai, MD & Fabian Piedimonte, MD | Neuromodulation for Spasticity Moderator: Michael Saulino, MD, PhD | Neuromodulation: The Dark Side of the Moon Moderator: Ivano Dones, MD |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 14:30 - 14:45 | Capturing Outcomes in NM in Neuropathic Pain; From Subjective to Objective Michael Gofeld, MD | Brain Circuits and Networks Ali Rezai, MD | Continuous Intrathecal Baclofen Trialing Michael Saulino, MD, PhD | Spinal Cord Stimulation Mario Meglio, MD, PhD |

| Breakout Presentations Continued | Evaluating Outcomes in Neuromodulation | Current State of Brain Neuromodulation for Disorders of Cognition and Behavior | Neuromodulation for Spasticity | Neuromodulation: The Dark Side of the Moon |
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| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 14:45 - 15:00 | Multidimensional Evaluation and E-Medicine Philippe Mavrocordatos, MD | DBS for Depression Ali Rezai, MD | Utility of Electrophysiological Techniques in the Management of Intrathecal Baclofen Patients Stuart Yablon, MD | Intrathecal Baclofen Therapy Mohamed Ali Jamous, MD, MSc |
| 15:00 - 15:15 | New Insights on Patient Selection, Trialing, and Medication Selection Jason Pope, MD | DBS for Obsessive Compulsive Disorder Bart Nuttin, MD, PhD | Combining Intrathecal Baclofen Therapy with Other Modalities John McGuire, MD | Deep Brain Stimulation Andrea Landi, MD |
| 15:15 - 15:30 | High frequency PNS for Stump Pain Amol Soin, MD | DBS for Addiction Disorders Jens Kuhn, MD | Combined Intrathecal Therapy for Management of Chronic Pain and Severe Spasticity Michael Saulino, MD, PhD | Sacral Nerve Root Stimulation Michele Spinelli, MD |
| 15:30 - 15:45 | Bilateral Epidural Sacral Nerve Neuromodulation: An Option for Bladder and GI Dysfunction and for the Treatment of Pelvic Pain Alessandro Dario, MD | DBS for Enhancing Learning and Memory Itzhak Fried, MD, PhD | Lateral Cord Stimulation as a New Tool for Treatment of Refractory Spasticity Juan Carlos Andreani, MD | Peripheral Nerve Stimulation Paul Verrills, MBBS, FAFMM |
| 15:45 - 16:00 | Discusion | Discussion | Discussion | Discussion |
| 16:00 - 16:30 | <i>Break, Posters & Exhibits</i> | | | |

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| Oral Poster Presentations | Clinical Research and Evaluating Outcomes in Neuromodulation Moderators: Roger Strachan, MD, FRCS & Wojciech Maksymowicz, Prof. dr hab.n.med. | Brain Stimulation Moderators: Ali Rezai, MD & Fabian Piedimonte, MD | Neuromodulation for Spasticity Moderator: Michael Saulino, MD, PhD | Spine: Pain Moderator: Ivano Dones, MD |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 16:30 - 16:40 | Results of PRECISE Study: Cost-Effectiveness and Cost-Utility Analysis of Spinal Cord Stimulation in Patients with Failed Back Surgery Syndrome Angelo Lavano, MD | The Bed Nucleus of the Stria Terminalis as a Target for DBS in Psychiatric Disorders Laura Luyten, PhD | Alternative Pocket Site for Intrathecal Drug Delivery Pump Dmitry Kruglov, MD, PhD, FRCA, FFPMRCA | Investigation of High Frequency 10,000 Hz Cervical Spinal Cord Stimulation for Upper and Whole Body Neuropathic Pain Syndromes John Salmon, MBBS |
| 16:40 - 16:50 | Burst Or Tonic Stimulation? Results Of A Placebo Controlled, Doubled Blinded, Randomized Study For The Treatment Of FBSS Patients Jan Vesper MD, PhD | Coordinated Reset Neuromodulation for Deep Brain Stimulation: Neurotechnology and Pre-Clinical & Clinical Results Christian Hauptmann, PhD | Long-term Results of IT Baclofen for Adult Spasticity Rebecca Costello | Back Pain Coverage with Spinal Cord Stimulation: A Different Treatment for Each Patient David Abejon, MD, PhD |
| 16:50 - 17:00 | Randomized Controlled Clinical Trial of 10 kHz High Frequency and Traditional Low Frequency Stimulation for the Treatment of Chronic Back and Leg Pain: 18-month Results Ricardo Vallejo, MD, PhD | Estimation of Ideal Trajectory for Placement of Subthalamic Nucleus Deep Brain Stimulation Electrodes to Maximise Error Margin While Achieving Engagement of the Target by 3D Volume Reconstruction and Simulated Implantation David Steel | Long-term Results with ITB in Cerebral Spasticity Athanasios Koulousakis, MD | Emerging Evidence For The Clinical Benefit Of More Than Two Leads And 16 Contacts In Spinal Cord Stimulation (SCS) For Chronic Pain TBA |
| 17:00 - 17:10 | An Australian Multicentre Case Series Of Neuromodulatory Pain Control Salvaged with Dorsal Root Ganglion (DRG) Stimulation Marc Russo, MBBS | Are DTI and MEP the adequate tools for the guidance of Deep Brain Stimulation during general anesthesia? Lutz Weise, MD | Intrathecal baclofen in spinal spasticity: frequency and severity of withdrawal syndrome Ivana Stetkarova, PhD | A Prospective Multicenter Trial Evaluating The Use Of High Rate Spinal Cord Stimulation In The Management Of Chronic Intractable Pain Mark Wallace, MD |

| Oral Poster Presentations Continued | Clinical Research and Evaluating Outcomes in Neuromodulation | Brain Stimulation | Neuromodulation for Spasticity | Spine: Pain |
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| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 17:10 - 17:20 | Effect of Burst Stimulation Evaluated In Patients Familiar with Spinal Cord Stimulation Cecile de Vos, PhD | Discussion | Treatment of Dystonia-Like Symptoms in Complex Regional Pain Syndrome (CRPS) Patients Using Dorsal Root Ganglion (DRG) Stimulation Jennifer Breel, MPA | High Frequency Stimulation Decreases Thermal Thresholds in Patients with Neuritis Youngwon Yoon, BA |
| 17:20 - 17:30 | Cancellation | | Long Term Outcome of Subcutaneous Stimulation as an Additional Therapy to Spinal Cord Stimulation for the Treatment of Low Back and Leg Pain in Patients with Failed Back Surgery Syndrome T.E.Hamm-Faber, MA-ANP | Comparing Patient's Preference of Dorsal Column Stimulation versus Dorsal Root Ganglion Stimulation in Patients with Complex Regional Pain Syndrome Confined to the Knee Catelijne van Bussel, MD |
| 17:30 - 17:40 | Changes in Healthcare Expenditures and Self-Reported Functional Measures Following Spinal Cord Stimulation for Chronic Pain Nouri Najjar, MA | | Subcutaneous Stimulation As Add On Therapy To SCS Is Effective In Treating Low Back Pain In Patients With Failed Back Surgery Syndrome: A Multicenter Randomized Controlled Trial Eric-Jan Gorp, MD | Real-Life Outcome Data Of Spinal Cord Stimulation In The Treatment Of Chronic Regional Pain Syndrome Peter Keogh, MD |
| 17:40 - 17:50 | L2 Dorsal Root Ganglion Stimulation Improves Disability and Quality of Life in Patients with Back Pain Bart Billet, MD | | Four Year Experience with a Five Column Paddle Lead for Failed Low Back Surgery Syndrome Tony Van Havenbergh, PhD | High Frequency after Failure of Traditional Spinal Cord Stimulation: A Case Report in Chronic Neuropathic Leg and Foot Pain Kaushal Mishra FRCA |
| 17:50 - 18:00 | Objective Measurements of Lumbar Spine Function in Back Pain Patients Undergoing High-Frequency Spinal Cord Stimulation at 10 kHz Richard Ibrahim, Dr. Med. | | Burst SCS in patients with Failed Back Surgery Syndrome and Complex Regional Pain Syndrome Giuliano De Carolis, MD | Restoration Of Laser Evoked Potentials (LEP) in Patients Receiving Dorsal Root Ganglion (DRG) Stimulation for Chronic Localized Neuropathic Pain Matthias Morgalia, MD, PhD, FCS/SA |

Thursday, 11 June 2015

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| 07:00-08:00 | Breakfast | | | |
| Breakout Presentations | Cost Effectiveness for Neuromodulation Moderator: Simon Thomson, MBBS, FRCA | Novel Neuromodulation Strategies for Brain and Spinal Cord Injury Moderators: Julian Taylor, PhD & Peter Konrad, MD, PhD | Intrathecal Drug Delivery Moderator: Joshua Prager, MD | Peripheral Nerve Stimulation Moderators: Alexandre Francisco, MD & Marc Huntoon, MD |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 08:00 - 08:15 | From A Payers Perspective: Demonstrating Added Value and Widening Reimbursement Simon Thomson, MBBS, FRCA | Transcutaneous Electrical Stimulation for Bedsore Management Vivian Mushahwar, PhD | Systemic Opioid Cessation in Intrathecal Drug Delivery David Caraway, MD, PhD | The Evolution of PNS to a Minimally Invasive, Ultrasound-Guided Percutaneous Lead Placement Procedure Kenneth Aló, MD |
| 08:15 - 08:30 | Healthcare Utilization of PNS, ONS and SNS Konstantin Slavin, MD | Epidural Spinal Cord Stimulation for Paralysis Julian Taylor Green, PhD | Best Practices for Intrathecal Drug Delivery: Patient Safety v. FDA Concerns Joshua Prager, MD | Reducing PNS Complications by Selecting the Optimal Lead, Placement Method, and Anchoring Technique for Each Indication Leonardo Kapural, MD, PhD |
| 08:30 - 08:45 | Cost and Longevity of ITDD Robert Bolash, MDD | Direct Spinal Cord Stimulation for Paralysis Vivian Mushahwar, PhD | Effects of Bolus Dosing on Granuloma and Outcomes Jason Pope, MD | Can an Extended One-Month Trial of PNS be Used as a Therapy Without a Permanent Implant in Some Patients? John Chae, MD |
| 08:45 - 09:00 | Healthcare Utilization of SCS in the Future Robert Bolash, MDD | Neural Prosthetics for Brain and Spinal Injury Peter Konrad, MD | Continuity of Care in Intrathecal Drug Delivery Lawrence Poree, MD, PhD | Making Percutaneous PNS More Accessible and Reliable Marc Huntoon, MD |
| 09:00 - 09:15 | Health Care Utilization in DBS for Movement Disorders Jeff Arle, MD, PhD | Deep Brain Stimulation for Early Parkinson's Disease Peter Konrad, MD, PhD | Intrathecal Therapy or Spinal Cord Stimulation - The Decision Points Jason Pope, MD | Neuromodulation of the Peripheral Nerves: A Review of the Prospective Literature and Registry Data Porter McRoberts, MD |

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| Breakout Presentations Continued | Cost Effectiveness for Neuromodulation | Novel Neuromodulation Strategies for Brain and Spinal Cord Injury | Intrathecal Drug Delivery | Peripheral Nerve Stimulation |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 09:15 - 09:30 | Patient Access: Compare and Contrast Government and Insurance Payors Sam Eldabe, MBBS, FFPMRCA | New Concepts in Neuromodulation for the Brain Michel Prud'Homme, MD, PhD | The Past, Present and Future of Intrathecal Drug Delivery Maged Hamza, MD | Peripheral Nerve Stimulation: Combined Use with SCS Eugene Mironer, MD |
| 09:30 - 09:45 | Discussion | Neuromodulation of the Brain for Dystonia Fabian Piedimonte, MD | The Past, Present and Future Drug Jay S. Grider, DO, PhD | Prospective Evaluation of a New Device for Peripheral Nerve Stimulation Ramsin Benyamin, MD |
| 09:45 - 10:00 | | Discussion | Discussion | Discussion |
| 10:00 - 10:30 | <i>Break</i> | | | |
| Oral Poster Presentations | Spine: Pain I Moderator: Dr. Simon Thomson, MBBS, FFPMRCA | Spine: Pain II Moderators: Julian Taylor, PhD & Peter Konrad, MD, PhD | Intrathecal Drug Delivery and Neuromodulation Device Preference Moderator: Joshua Prager, MD | Peripheral Nerve Stimulation Moderators: Alexandre Francisco, MD & Marc Huntoon, MD |
| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 10:30 - 10:40 | Cancellation | Neurophysiological Characteristics Measured using Evoked Compound Action Potentials (ECAP) in Chronic Pain Patients: Case Study Nastaran Shariati, PhD | Cancellation | Safety and Effectiveness of a Wireless Implantable Neurostimulator Device for the Management of Peripheral Neuropathic Pain Prof. Jean-Pierre Van Buyten |
| 10:40 - 10:50 | Psychological Factors as Outcome Predictors for Spinal Cord Stimulation Tomasz Bendinger, PhD | Burst Stimulation: An Effective Method Of Improving Patient Analgesia With Little Paraesthesia -Initial Experience Usaama Sheikh | Cancellation | Direct Sciatic Nerve Stimulation Effectively Controls Foot Pain In Complex Regional Pain Syndrome Type I Jospeh Buwembo, MD |
| 10:50 - 11:00 | Physical Functioning Before and After Spinal Cord Stimulation in Patients with Complex Regional Pain Syndrome in One Lower Extremity Nadia Kriek, MD | Targeted Spinal Cord Stimulation For Localized Pain Syndromes: First Spanish Experiences And Outcomes Antonio Pajuelo Head | A Three-Year Experience With A New Third Generation Programmable Infusion Pump Lara Tollapi | High-Frequency Peripheral Nerve Field Stimulation For The Management Of Localized Chronic Intractable Pain Giuliano De Carolis, MD |

| Oral Poster Presentations Continued | Spine: Pain I | Spine: Pain II | Intrathecal Drug Delivery and Neuromodulation Device Preference | Peripheral Nerve Stimulation |
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| | Room: Jolliet-Duluth-Mackenzie | Room: Hochelaga 1-2 | Room: Hochelaga 3-6 | Room: Saint Francois |
| 11:00 - 11:10 | Diagnostic Imaging Requirements in SCS Patients Robert Levy, MD, PhD | Frequency Of Reprogramming Sessions With Burst Stimulation Tony Van Havenbergh, PhD | Effectiveness and Safety of Intrathecal Ziconotide as the First Agent in Pump for Adult Patients With Severe Chronic Pain Timothy Deer, MD | Peripheral Nerve Field Stimulation Therapy For Patients With Thoracic Pain: A Prospective Study Bruce Mitchell, MBBS |
| 11:10 - 11:20 | Baseline Characteristics Of Subjects With A Primary Complaint Of Low Back Pain Using A Novel 32-Contact Surgical Lead Julie Pilitsis, MD, PhD | Epidural Spinal Cord Stimulation For Neuropathic And Chronic Pain: Italian Experience In 122 Patients Elena Colombo, Resident | International Neuromodulation Society Survey of Device Preference Jason Pope, MD | Comparison Of Effectiveness Of Two Different Percutaneous Electrical Nerve Stimulation For Neuropathic Localized Pain Paolo Poli, MD |
| Plenary Session | | | | |
| Room: Jolliet-Duluth-Mackenzie | | | | |
| 11:20 - 11:50 | Functional Investigation of the Brain with Neuromodulation Itzhak Fried, MD, PhD | | | |
| 11:50-12:20 | MRI Guided Ultrasound Jin Woo Chang, MD, PhD DBS for Addictions and Eating Disorders Bomin Sun, MD | | | |
| 12:20-12:50 | Improving Patient Safety and Product Improvement in Neuromodulation: Reaching a Goal Through Collaboration Robert Levy, MD, PhD | | | |
| 12:50-13:00 | Farewell & Meeting Adjourns Timothy Deer, MD, Simon Thomson, MBBS, FRCA, Michel Prud'Homme, MD, PhD | | | |