

INS 13th World Congress

Neuromodulation: Technology Changing Lives



Join Us: May 27-June 1, 2017

Edinburgh, Scotland, United Kingdom

Preliminary Scientific Program



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Saturday, 27 May 2017

Pre-Conference: Noninvasive Brain Stimulation

Moderators: Eric Wassermann, MD; Robert Levy, MD, PhD; and Peter Staats, MD

Room: Cromdale Suite; Posters: Cromdale Foyer

08:00 - 08:30	<i>Breakfast and Posters</i>
08:30 - 08:45	Introduction Eric Wassermann, MD
08:45 - 09:35	EEG and Other Markers of Neural Target Engagement by TMS Hartwig Siebner, Prof, DMSc
09:35 - 10:25	Biomarkers for the Effectiveness of rTMS Treatment in Depression Daniel Blumberger, MD, MSc
10:25 - 10:55	<i>Break and Posters</i>
10:55 - 11:45	Brain Oscillations as Targets and Biomarkers for Effects of Transcranial Stimulation Flavio Frölich, PhD
11:45-12:35	Toward Markers of Target Engagement in tDCS Marom Bikson, PhD
12:35 - 13:35	<i>Lunch and Posters</i>
13:35 - 14:25	Testing for Changes in Synaptic Efficacy after Noninvasive Brain Stimulation Joseph Classen, MD, PhD
14:25 - 15:15	MR Spectroscopy as a Biomarker of Noninvasive Brain Stimulation Effects Charlotte Stagg, BSc MBChB MRCP DPhil
15:15 - 15:45	<i>Break and Posters</i>
15:45 - 16:35	Biomarkers of Effectiveness and Target Engagement in TMS and tDCS for Pain Relief Turo Nurmikko, MD, PhD
16:35 - 17:25	Transcutaneous Vagus Nerve Stimulation for the Modulation of Autonomic Function James Deuchars, PhD
17:25 - 17:30	Closing Comments Eric Wassermann, MD

Sunday, 28 May 2017

Pre-Conference: Innovations in Neuromodulation.

The Challenge of Reimbursement: Can we do this Smarter?

Chair: Simon Thomson, MBBS; Co-Chair: Marc Russo, MBBS

Co-Organizers: Fabian Piedimonte, MD, PhD; Konstantin Slavin, MD; and Jeff Arle, MD, PhD

Room: Cromdale Suite

07:30 - 08:00	Breakfast and Posters
8:00 – 8:15	Welcome and Introduction to the Themes of the Day Dr. Simon Thomson
8:15 – 8:35	Reflections from a Serial Emerging Company CEO on Global Medical Device Development Raymond W. Cohen, Chief Executive Officer, Axonics Modulation Technologies, Inc.
8:35 – 9:35	Emerging Company Panel - I Mainstay Medical , Peter Crosby, Chief Executive Officer WISE Srl , Luca Ravagnan, Chief Executive Officer GiMer Medical , Chi-Heng Chang, General Manager Discussion
9:35 – 10:05	Notifying Body Perspectives Suzanne Halliday, D.Phil., Head of Medical Devices Notified Body, BSI Group
10:05 - 10:35	Networking Break
10:35 – 11:35	Emerging Company Panel - II BlueWind Medical , Guri Oron, Chief Executive Officer Ripple , Daniel McDonnall, PhD, President Clearly Present Foundation , Winifred Wu, Chief Officer for Translational Research Discussion
11:35 – 12:05	Translational Funding and Support for Innovative Medical Devices Dr Ian M Newington, Assistant Director, Innovations, NIHR Central Commissioning Facility
12:05 – 13:00	Investor Panel with Questions and Answers Juan-Pablo Mas, and Imran Eba, Partners, Action Potential Venture Capital
13:00 - 14:00	Lunch
14:00 – 15:00	Emerging Company Panel - III MicroTransponder , Frank McEachern, Chief Executive Officer Helius Medical Technologies , Philippe Deschamps, President and Chief Executive Officer G-Therapeutics , Sjaak Deckers, Chief Executive Officer Discussion

Sunday, 28 May (continued)

15:00 – 15:30	New Model for Lowering Costs and Streamlining Process for Bringing Medical Devices Into the Health Arena Dawn Bardot, PhD, Vice President, Technology Innovation, Medical Device Innovation Consortium (MDIC)
15:30 – 16:45	Emerging Company Panel - IV NeuroNano , Jens Schouenborg, Inventor and Responsible for Research and Development Bioinduction Limited , Ivor Gillbe, Chief Executive Officer Wyss Center for Bio and Neuroengineering , John P. Donoghue, PhD, Director, "Accelerating Neurotechnology Development: BCIs" Discussion
16:45 - 17:15	NICE: Commissioning Through Evaluation Mark Campbell, National Institute for Health and Care Excellence (NICE)
17:15 - 18:00	<i>Closing Remarks and Summary and Networking</i>
18:30 - 19:30	<i>INS Congress Opening Reception in the Exhibition Hall (Lennox Suite)</i>

No CME provided for this pre-conference session.

We have developed the program with an aim of achieving several objectives:

1. Identify and discuss the data that needs to be collected by commercialising companies to ensure it has utility for future reimbursement applications.
2. Learn about the process by which innovations occur, become funded, receive reimbursement and reach the marketplace.
3. Describe the process of establishing and protecting intellectual property.
4. Define 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.
5. Learn about what public scientific initiatives are available with which to partner.
6. Find out about current and future investment strategies and challenges in the device market --both in Europe and in the U.S.
7. Discover emerging companies and the science behind their innovative therapies.
8. Network with the leaders in innovation, investment, basic science and clinical practice in the neuromodulation space.

INS 13th World Congress
Neuromodulation: Technology Changing Lives

Monday, 29 May 2017

07:30-08:00	<i>Breakfast and Posters</i>
Opening Plenary Session - Moderator: Timothy Deer, MD	
Room: Pentland Suite	
08:00 - 08:15	Welcome and INS Leadership Message Timothy Deer, MD; Robert Levy, MD, PhD; Fabian Piedimonte, MD, PhD; Marc Russo, MBBS; Simon Thomson, MBBS; with NSUKI President Stana Bojanic, BSc MB BS FRCS (SN); and Immediate Past President Roger Strachan, MBChB, MD, FRCSE, FRCS(SN)
08:15-08:30	Welcome and State of the INS and Neuromodulation Timothy Deer, MD
08:30 - 09:00	Brain Computer Interface: Decoding the Brain Ali Rezai, MD
09:00 - 09:30	Brain Computer Interface: Clinical Challenges Jaimie Henderson, MD
09:30 - 10:00	A Critical Analysis of the Evidence for Neuromodulation Sam Eldabe, MBBS and Rod Taylor, PhD Moderator: Simon Thomson, MBBS
10:00 - 10:25	<i>Break, Posters & Exhibits</i>
10:30 - 11:30	<p>Evoked Compound Action Potentials: Mechanism of Action and Clinical Applications in Neuromodulation Moderator: Marc Russo, MBBS</p> <p>Evoked Compound Action Potentials: Why Listening to the Body's Response to Stimulation is our Clue to Advancing Neuromodulation Robert M. Levy, MD, PhD</p> <p>Clinical Evidence and Long Term Results from a Multi-Center, Prospective Clinical Trial to Evaluate Feedback in Spinal Cord Stimulation for Chronic Back and Leg Pain Marc Russo, MBBS</p> <p>A Prospective, Multicenter, Randomized, Double -Blind Study Comparing the Safety And Efficacy Of Closed - Loop Spinal Cord Stimulation Using Evoked Compound Action Potentials (ECAPs) to Conventional SCS Timothy Deer, MD</p> <p>How We Drive Innovation in Other Neuromodulation Applications by using Evoked Compound Action Potentials Jan Vesper, MD, PhD</p>

Monday, 29 May (continued)

Oral Poster Presentations: Six Best Abstracts

Moderators: David Abejon, MD, PhD; Robert Levy, MD, PhD; Fabian Piedimonte, MD, PhD

11:30 - 11:40	A New Functional Treatment For Refractory Chronic Low Back Pain: 1 Year Reactiv8-A Trial Results Vivek Mehta, FRCA, MD, FFPMRCA
11:40 - 11:50	Galvanic Vestibular Stimulation: Effects on Postural Instability in Parkinson's Disease Stephanie Tran, MSc Candidate
11:50 - 12:00	Prospective Randomized Study of Combined Use of Spinal Cord Stimulation (SCS) And Peripheral Nerve/Field Stimulation (PNFS) In Patients With Percutaneous And Paddle Implantation: Comparison of Different Programming Options Eugene Mironer, MD
12:00 - 12:10	Analgesia Induced By Spinal Cord Stimulation Following Spinal Cord Injury Associated With the Activation of Neuronal Progenitor Cells Chi Wai Cheung, MBBS, MD, FHKCA, FHKAM
12:10 - 12:20	A Prospective Clinical Trial to Assess the Feasibility of High Frequency Spinal Cord Stimulation (HF-SCS) at 10 kHz in the Treatment of Chronic Intractable Pain from Peripheral Polyneuropathy Sean Li, MD
12:20 - 12:30	High frequency Spinal Cord Stimulation (HF-SCS) at 10 kHz for the Treatment of Intractable Leg Pain: Interim Results from the Prospective Multicenter Dutch Study Jan Willem Kallewaard, MD, FIPP
12:30 - 14:30	<i>Lunch, Posters and Exhibits</i> <i>Non-CME Luncheon Symposium in the Cromdale Suite (12:30-13:30)</i>

Monday, 29 May (continued)

Monday, 29 May Concurrent Breakout Sessions

	<p>Mechanisms and Models of High-Rate Electrical Stimulation Moderator: Marom Bikson, PhD</p>	<p>Neuromodulation for Obesity and Eating Disorders Moderators: Ali Rezai, MD and Arthur Cukiert, MD, PhD</p>	<p>Decoding and Modulating the Peripheral Nervous System to Treat Disease and Injury Moderator: Chad Bouton, MS</p>	<p>Neuromodulation for Heart Failure and New Findings / Assessing Spinal Cord Stimulation Efficacy Through the Objective Physiological Responses Moderators: Luz Elena Caceres, MD and Mike DeJongste, MD, PhD</p>
	Room: Pentland Suite	Room: Tinto / Moorfoot	Room: Sidlaw Auditorium	Room: Fintry Auditorium
14:30 - 14:45	<p>Introduction to Mechanistic Questions around High-Rate Stimulation and Overview of Methods for Reliable Electrophysiological Recording During High-Rate (10k) Stimulation Marom Bikson, PhD</p>	<p>Is there a Place for Vagus Nerve Stimulation in Obesity? Bruno Bonaz, MD, PhD</p>	<p>Decoding Vagal Afferent Signaling to Diagnose Inflammation Chad Bouton, MS</p>	<p>Introduction to Neuromodulation for Cardiovascular Diseases. Focus on Heart Failure Mike DeJongste, MD, PhD</p>
14:45 - 15:00	<p>Response of Dorsal Column Axons to kHz Frequency SCS: Measurement and Modeling Warren Grill, PhD</p>	<p>Deep Brain Stimulation for Obesity: Basic Science and Rationale Kim Burchiel, MD, PhD</p>	<p>Vagal Stimulation in Heart Failure: An Anti-Inflammatory Intervention? Gaetano Lanza, MD</p>	<p>State of Art the Evaluation of the Effectiveness of Neuromodulation in Heart Failure (SCS, vagal nerve, baro receptor) Frantz Colimon MD, FIPP</p>
15:00 - 15:15	<p>Controlling Neuronal Excitability with Applied Electromagnetic Fields Dominique Durand, PhD</p>	<p>Neuromodulation for Eating Disorders: Potential Targets and Rationale Julie Pilitsis, MD, PhD</p>	<p>Neural Control of Inflammation Peder Olofsson, MD</p>	<p>Physiological Bases of Measurement Neuromodulation Effectiveness in Heart Failure Mauricio Orozco Levi, MD</p>
15:15 - 15:30	<p>Electrophysiological Artifacts During High-Frequency SCS and Optical Methods to Circumvent Them Steven A Prescott, MD, PhD</p>	<p>Deep Brain Stimulation for Obesity: Clinical Challenges and Program Development Allen Ho, MD</p>	<p>Vagus Nerve Regulation of Hemostasis in Hemophilia Jared Huston, MD, FACS</p>	<p>Immediate Impact of Neuromodulation During Exercise in Patients with Heart Failure: Objective Measure of Effectiveness of Spinal Cord Stimulation Omar Gomezese, MD</p>

Monday, 29 May (continued)

15:30 - 15:45	Mechanism and Applications of 10-80 kHz Block of Peripheral Nerve Robert Butera, PhD, PE	Deep Brain Stimulation for Obesity: Clinical Trials Luming Li , PhD	Neural Regulation of Antigen Processing: The Promise of Electronic Vaccines Sangeeta Chavan, PhD	Bioelectronic Therapies for Ventricular Arrhythmia Control Jeff Ardell, PhD
15:45 - 16:00	Discussion	Discussion	Discussion	What do Registries Add to the Clinical Evidence? The EARL Database Paulin Andréll, MD, PhD
16:00 - 16:30	Break, Posters & Exhibits			
16:30-18:20	Monday, 29 May Oral Poster Presentations			
	Neuromodulation for Pain Moderators: Elliot Krames, MD and Antonio Pajuelo, MD, PhD	Brain: Movement Disorders Moderators: Tiago Freitas, MD, PhD and Damianos Sakas, MD, PhD	Neuromodulation for Inflammation, Pain and Spasticity Moderator: Liong Liem, MD, PhD	Neuromodulation for Cardiovascular Disorders Moderators: Luz Elena Caceres, MD and Mike DeJongste, MD, PhD
	Room: Pentland Suite	Room: Tinto / Moorfoot	Room: Sidlaw Auditorium	Room: Fintry Auditorium
16:30 - 16:40	NAPS - Non-Awake versus Awake Placement of Spinal Cord Stimulators: A Prospective, Multicenter Study Comparing Safety and Efficacy Steven Falowski, MD	Bilateral Directional Lead Stimulation of the Subthalamic Nucleus in Patients with Parkinson's Disease Evaluated with the Aid of Patient-Specific Electric Field Estimations Demonstrates Good Clinical Outcome Elena Jiltsova, MD	Reversal of Chronic Autonomic Dysfunction with Transcutaneous Vagus Nerve Stimulation (tVNS) as Part of a Multi-Faceted Anti-Inflammatory Regimen Patrick Nemechek, DO	Effect of Spinal Cord Stimulation on Microcirculatory Function and Pain Relief In Patients with Peripheral Vascular Disease Andrey Ashurkov, MD
16:40 - 16:50	Effective Relief of Pain and Associated Symptoms with a New Closed-Loop Spinal Cord Stimulation System: Three- and Six-Month Results of the Avalon Study Marc Russo, MBBS	Intraoperative Detection Of Thalamic High Frequency Oscillations In Patients With Different Tremor Syndromes Sarah Schnitzler	Burst Spinal Cord Stimulation Increases Peripheral Anti-Neuroinflammatory Interleukin 10 (IL-10) Levels in Failed Back Surgery Syndrome Patients with Predominant Back Pain Thomas Kinfe, MD, PhD	Single Center Experience with Spinal Cord Stimulation for Refractory Angina Pectoris in 156 Patients Over 15 Years Siegfried Eckert, MD

Monday, 29 May (continued)

16:50 - 17:00	<p>Spanish Prospective Multicenter Study Using Dorsal Root Ganglion Stimulation for Post-Herpetic Neuralgia, Part I: Pain and Allodynia Antonio Pajuelo, MD, PhD</p>	<p>Constant Current and Constant Voltage Subthalamic Nucleus Deep Brain Stimulation for Advanced Parkinson's Disease: A 12-Year Single Center Experience Jorge Muñoz, MD</p>	<p>Management Of Spasticity by Cervical Myelopathy Through the Spinal Cord Stimulation - Case Study Rogério Aires, MD, PhD</p>	<p>Increasing Cardiac Output in Subjects with Orthostatic Hypotension: Neuromodulation Using Pulsed Shortwave Therapy Sree Koneru, PhD</p>
17:00 - 17:10	<p>Spanish Prospective Multicenter Study Using Dorsal Root Ganglion Stimulation For Post-Herpetic Neuralgia, Part II: Outcomes of Quality of Life, Satisfaction and Recommendation of The Therapy Isaac Peña, MD, FIPP</p>	<p>Static balance in Parkinson's Disease and Stimulation of the Pedunculopontine Tegmental Nucleus Paolo Mazzone, MD, PhD</p>	<p>Laser Evoked Potentials: A Neurophysiological Tool to Assess The Efficacy Of Neuromodulative Techniques In the Treatment of Neuropathic Pain Matthias Morgalla, MD PhD FCS/SA</p>	<p>The Siberian Experience of Spinal Cord Stimulation for Refractory Angina Pectoris Vladimir Murtazin, MD</p>
17:10 - 17:20	<p>PREDICT: A Prospective Post-Market Trial to Evaluate DRG Stimulation for the Management of Chronic Intractable Pain Sam Eldabe, MBBS, FRCA</p>	<p>Cortical Silent Period in Spasmodic Dysphonia Cecilia Prudente, PT, PhD</p>	<p>Increased Responders to Percutaneous SCS Trial with Use of Both Paraesthesia Free High Density Stimulation and Conventional Stimulation During Trial Period Harshal Ingale, FRCS SN</p>	<p>Vagus Nerve Stimulation: An Evolving Treatment for Cardiac Diseases Elena Tolkacheva, PhD</p>
17:20 - 17:30	<p>Burst SCS Provided Sustained Pain Relief through 1 year: Long-term Outcomes from the SUNBURST Study Konstantin Slavin, MD</p>	<p>Ultra-High Field Magnetic Resonance Imaging Templates for Target Selection in Deep Brain Stimulation Surgery Jonathan Lau, MD</p>	<p>MRI Safe Electrodes For Spinal Cord Stimulation (SCS) Jonathan Scott, PhD</p>	<p>Long Term Effects of Spinal Cord Stimulation In Refractory Angina Pectoris Antal Gaag, MD</p>
17:30 - 17:40	<p>Neuromodulation Approach and Pathophysiologic Correlation for Chronic Abdominal Pain Mayank Gupta, MD</p>	<p>A Novel Paradigm of Variable Frequency Deep Brain Stimulation to Improve TUG and Freezing in Parkinson's Disease Fumin Jia, PhD</p>	<p>Dorsal Root Ganglion Electrophysiological Mapping in Subjects with Chronic Neuropathic Pain Matteo Costanzi, MD</p>	<p>Dexmedetomidine Anesthesia For Spinal Cord Stimulator Implantation Tim Lamer, MD</p>
17:40 - 17:50	<p>Comparing the Efficacy of Dorsal Root Ganglia Stimulation with Conventional Medical Management for the Treatment of Chronic Post-Surgical Inguinal Pain: Preliminary Results of the SMASHING Trial Frederique Mol, PhD candidate</p>	<p>Long-term Outcome of GPi DBS for Dystonias, a Single-Center Study in Pecs, Hungary, Experiences of 60 Cases István Balás, PhD</p>	<p>Inadvertent Intrathecal Dorsal Root Ganglion Lead Placement Results in Temporary Monoplegia - A Case Report Derron Wilson, MD</p>	<p>10 kHz High-Frequency Cervical Spinal Cord Stimulation for the Treatment of Chronic Neck and Upper Limb Pain Faycal El Majdoub, Priv.-Doz. Dr. med.</p>

Monday, 29 May (continued)

17:50 - 18:00	<p>A Four-Year Retrospective, Single-Center, Clinical Audit on The Treatment of Failed Back Surgery Syndrome With Spinal Cord Stimulation: Long-Term Success and Complications in 182 Consecutive Patients</p> <p>Stefano Palmisani, MD</p>	<p>Evoked Potential Biomarkers for Scalar, Closed Loop Control of Deep Brain Stimulation</p> <p>Dennis Turner, BA, MA, MD</p>	<p>Dose Response Curve for Somatosensory Evoked Potentials with 'Burst' Spinal Cord Stimulation</p> <p>Jonathan Norton, PhD</p>	<p>Customized Spinal Cord Stimulation for Patients with Chronic Neuropathic Pain: Clinical Outcomes of Multimodal Therapy Using Various Stimulation Waveforms</p> <p>Hector de Paz, MD</p>
18:00-18:10	<p>A Multi-Center, Prospective, Clinical Trial of the High Frequency Spinal Cord Stimulation (HF-SCS) at 10 kHz in the Treatment of Chronic Upper Limb and Neck Pain</p> <p>Ricardo Vallejo, MD, PhD</p>	<p>Spinal Cord Stimulation Reduces Freezing of Gait Episodes and Improves Gait in Advanced Parkinson's Disease Patients</p> <p>Mandar Jog, MD</p>	<p>Are Subjective Sleep Parameters Associated With Objective Measurements in Failed Back Surgery Syndrome Patients Treated with Spinal Cord Stimulation?</p> <p>Iris Smet, MD</p>	<p>Treatment of Chronic Upper Limb Pain Using Burst Spinal Cord Stimulation: Six-Month Belgian Multicenter Clinical Experience</p> <p>Tony Van Havenbergh, MD, PhD</p>
18:10-18:20	<p>Patient Responses to Paresthesia-Based Spinal Cord Stimulation and Kilohertz Frequency Spinal Cord Stimulation</p> <p>Simon Thomson, MBBS, FRCA, FIPP, FFPMRCA</p>	<p>Case Study: Reversal of Alzheimer's Dementia with Transcutaneous Vagus Nerve Stimulation (tVNS) in Combination with an Anti-Neuroinflammatory Regimen</p> <p>Patrick Nemechek, DO</p>	<p>Long Term Complications and Failures In DRG Stimulation</p> <p>Liong Liem, MD</p>	<p>A Single Clinic Experience of the First 100 DRG SCS Cases: Lessons Learnt</p> <p>Bruce Mitchell, MD</p>
18:20 - 19:20	<p>Young Neuromodulators Reception in the Atrium Café by invitation only</p>			

Tuesday, 30 May 2017

07:30-08:30	<i>Non-CME Breakfast Symposium in the Cromdale Suite</i>
Plenary Session	
Room: Pentland Suite	
08:30 - 09:00	<p>Multi-Center, Prospective, Clinical Trial of High-Frequency Spinal Cord Stimulation (SCS) in the Treatment of Chronic Upper Limb and Neck Pain: An International Perspective Moderators: Timothy Deer, MD; and Richard Sullivan, MBChB Adnan Al-Kaisy, MB ChB; Kasra Amirdelfan, MD; and Paul Verrills, MBBS</p>
09:00 - 10:00	<p>Basic Research to Clinical Use of Dorsal Root Ganglion Stimulation Moderators: Nik Patel, MD and Jason E. Pope, MD Basic Physiology Robert Levy, MD, PhD</p> <p>Why Dorsal Root Ganglion Stimulation is a Target: Early Clinical Study in Europe and Australia. What did we Learn Positively and Negatively about the Procedure Itself and Technique? Paul Verrills, MBBS</p> <p>Best Practices for Dorsal Root Ganglion Stimulation in 2017 Timothy Deer, MD</p> <p>Next Clinical Indications for Dorsal Root Ganglion Stimulation Going Forward James Fitzgerald, MA BM BCh FRCS(SN) PhD</p>
10:00 - 10:25	<i>Break, Posters & Exhibits</i>
10:30 - 11:30	<p>The Neuromodulation Appropriateness Committee and Polyanalgesic Consensus Conference Recommendations: Optimizing Outcomes and Improving Safety with Neuromodulation and Intrathecal Therapy Moderator: Richard Sullivan, MBChB</p> <p>Infection Prevention and Control David Provenzano, MD</p> <p>Anticoagulation Therapy Management for Implantable Therapies Samer Narouze, MD</p> <p>Safety Guidelines for the Reduction of Severe Neurological Injury Steven Falowski, MD</p> <p>Safety Guidelines for the Brain Jan Vesper, MD, PhD</p> <p>Cost Effectiveness and Sustainability of IT Therapy (as compared to SCS) Sam Eldabe, MBBS, FRCA</p>
11:30 - 11:50	<p>Evidence for the Treatment of Trunk, Visceral and Neuropathic Pain Leonardo Kapural, MD, PhD and Konstantin Slavin, MD Moderators: Timothy Deer, MD; and Richard Sullivan, MBChB</p>
11:50 - 12:20	INS General Assembly of Members
12:30 - 14:30	<p><i>Lunch, Posters and Exhibits</i> <i>Non-CME Luncheon Symposium in the Cromdale Suite (12:30-13:30)</i></p>

Tuesday, 30 May (continued)

Tuesday, 30 May Concurrent Breakout Sessions

	<p>Latest Results from Pivotal Spinal Cord Stimulation Clinical Trials Moderator: Simon Thomson, MBBS, FRCA, FIPP, FFPMRCA</p>	<p>What is the Best Method to Treat the Disease? DRG Stimulation or Other Forms of Neuromodulation? Moderators: Paul Verrills, MBBS; Vivek Mehta, FRCA, MD; and Saravanakumar Kanakarajan, MBBS</p>	<p>Neuromodulation of the Gastrointestinal Tract for Motility and Metabolic Disorders Moderators: Jiande Chen, PhD and Abigail Stocker, MD</p>	<p>The Use of Neuromodulation and Rehabilitation for Stroke Recovery Moderators: Rebeca Boltes Cecatto MD, PhD; and Andre Machado, MD, PhD</p>
	Room: Pentland Suite	Room: Tinto / Moorfoot	Room: Sidlaw Auditorium	Room: Fintry Auditorium
14:30 - 14:45	<p>Subperception SCS at ≤ 1.2kHz: Clinical Evidence Leading to Pivotal Comparison Trial James North, MD</p>	<p>Abdominal and Pelvic Pain Jason E. Pope, MD Leonardo Kapural, MD</p>	<p>Low Energy GES for Gastroparesis Syndromes: Results of a Randomized Study Guillaume Gourcerol, MD, PhD</p>	<p>Functional Electrical Stimulation (FES) and Neuroprostheses for Stroke Rehabilitation John Chae, MD</p>
14:45 - 15:00	<p>Dorsal Root Ganglion Stimulation: Long Term Follow Up of the ACCURATE RCT Results Robert Levy, MD, PhD</p>	<p>Extremity Pain Salim Hayek, MD, PhD Frank Huygen, MD, PhD</p>	<p>Mechanisms of Action of GI Neuromodulation for Gastroparesis Syndromes Abigail Stocker, MD</p>	<p>Transcranial Direct Current Stimulation for Motor Recovery After Stroke Felipe Fregni, MD, PhD</p>
15:00 - 15:15	<p>24-Month Results from a Multi-Center, Prospective, Randomized, Controlled Clinical Trial Evaluating High-Frequency Spinal Cord Stimulation (HF-SCS) at 10 kHz in the Treatment of Chronic Pain as Compared to Traditional Low-Frequency SCS Todd Sitzman, MD</p>	<p>Trunk Pain Vivek Mehta, FRCA, MD Konstantin Slavin, MD</p>	<p>Vagal Stimulation for Inflammatory Bowel Disease (IBD) Bruno Bonaz, MD, PhD</p>	<p>Deep Brain Stimulation of the Ventral-Striatum and Ventral-Capsular Area for Post-Stroke Pain Syndrome Andre Machado, MD, PhD</p>
15:15 - 15:30	<p>Burst Stimulation: Results of the SUNBURST Crossover Pivotal RCT Peter Staats, MD</p>	<p>Axial Back Pain Harold Nijhuis, MD Stephan Schu, MD</p>	<p>Mechanisms of Action of Intestinal Stimulation for Metabolic Disorders Jiande Chen, PhD</p>	<p>Cortical Stimulation for Motor Recovery after Stroke Robert Levy, MD, PhD</p>
15:30 - 15:45	<p>Panel Discussion with Presenters: Making Sense of the Variety of Waveform and Stimulation Options Simon Thomson, MBBS</p>	<p>Upper Extremity Pain Timothy Lubenow, MD Ganesan Baranidharan, MBBS</p>	<p>Neuromodulation Therapies for Diabetes Jay Pasricha, MBBS, MD</p>	<p>Stem Cell Therapy for Recovery after Stroke Jocelyn Bloch, MD, PhD</p>
15:45 - 16:00	Discussion	Discussion	Discussion	Discussion
16:00 - 16:30	<i>Break, Posters and Exhibits</i>			

Tuesday, 30 May (continued)

16:30-18:20	Tuesday, 30 May Oral Poster Presentations			
	Neuromodulation for Pain Moderators: Kaare Meier, MD, PhD; Philippe Rigoard, MD, PhD	Brain: Movement Disorders Moderator: Jan Vesper, MD, PhD and Wojciech Maksymowicz, MD, PhD	Neuromodulation for Gastrointestinal and Motility Disorders, and Pain Moderators: Jiande Chen, PhD and Abigail Stocker, MD	Stroke Rehabilitation Moderators: Rebeca Boltes Cecatto MD, PhD; and Andre Machado, MD, PhD
	Room: Pentland Suite	Room: Tinto / Moorfoot	Room: Sidlaw Auditorium	Room: Fintry Auditorium
16:30 - 16:40	A Physician-Initiated, Multicenter Retrospective Registry on Dorsal Root Ganglion (DRG) Stimulation - An Analysis on the Impact of Lead Location Compared to the Presentation of Pain Corey Hunter, MD	Dynamic Motor-Related Cortical Activity Following Deep Brain Stimulation for Parkinson's Disease: A Functional Near Infrared Spectroscopy Study Takashi Morishita, MD, PhD	Transcutaneous Electrical Acupuncture Induces Changes in Neural Network Connectivity in Gastroparesis Richard McCallum, MD	A Randomized Blinded Study of Vagus Nerve Stimulation (VNS) During Rehabilitation for Improved Upper Limb Motor Function After Stroke (MT-St-02): Follow-Up Through 90-Days Jesse Dawson, MD
16:40 - 16:50	Dorsal Root Ganglion Stimulation for Chronic Pain: A Prospective Review Timothy Lubenow, MD	Short-Term Adverse Outcomes Following Deep Brain Stimulation Treatment in Parkinson's Disease Patients Keija Hu, MD	Sacral-Afferent and Vagal-Efferent Pathway of Sacral Nerve Stimulation for Intestinal Inflammation Lei Tu, MD PhD	A Neural Bypass Technology to Reconnect the Brain to the Body Gaurav Sharma, PhD
16:50 - 17:00	Adverse Events and Device Malfunctions Associated with Spinal Cord Stimulators Used for Pain Relief: A Retrospective Analysis of the FDA MAUDE Database Nathaniel Katz, MD	Effects of Deep Brain Stimulation on Subthalamic Nucleus High Frequency Oscillations In Parkinson's Disease Nicholas Sinclair, PhD	Gastric Electrical Stimulation/ Neuromodulation is Effective in the Treatment of Severe Gastroparesis: 16-Year Data From a Single UK Centre Sritharan Kadirkamanathan, PhD, FRCS	An Implantable Brain-Computer Interface for Investigation of Closed-Loop Therapies Martin Schuettler, PhD
17:00 - 17:10	Burst "Strength-Duration" Curves: Optimizing Therapy and System Performance" Thomas Yearwood, MD, PhD	Deep Brain Stimulation in Young Children: Technical Challenges and Long Term Assessment of Lead Location Faisal Alotaibi, MD	Location of Rat Spinal Dorsal Horn Neurons Receiving Anorectal Input and their Response to Sacral Neuromodulation (SNM) Keira Turner, B.Sc. (Hons), Ph.D. Candidate in Translational Medicine	A Multisite, Closed-Loop Neuromodulator for the Theragnosis of Neural Degenerative Diseases Hsin Chen, PhD

Tuesday, 30 May (continued)

17:10 - 17:20	<p>Post-Market Registry of Implantable Spinal Cord Neurostimulators: One-Year Efficacy Results of Primo-Implanted Patients (French SCS Registry) Marie-Christine Djan, MD</p>	<p>Long-Term Effectiveness of Posterior Subthalamic Area Stimulation in Complex Tremors Refractory to Thalamic Surgery Witold Libionka, MD, PhD</p>	<p>Gastric Electrical Stimulation Device Decreases Inpatient Days in Diabetic Population Paul Glen, MBCB MD</p>	<p>Preliminary Investigation of a Novel Peripheral Electrical Stimulation Paradigm to Enhance Cortical Excitability Paul Breen, PhD</p>
17:20 - 17:30	<p>Multicolumn Spinal Cord Stimulation for Significant Low Back Pain in Failed Back Surgery Syndrome: A Multicentre, Randomized Study Comparing Clinical Efficacy and Health Economics Impact of Mono vs. Multicolumn SCS Lead Programming Philippe Rigoard, MD, PhD</p>	<p>Impact of Segmented Leads in Deep Brain Stimulation Jan Vesper, MD, PhD</p>	<p>A Rechargeable Sacral Neuromodulation System for the Treatment of Overactive Bladder: Interim Results of a Prospective, Multicenter Clinical Study Philip Van Kerrebroeck, MD, PhD, MMSc</p>	<p>A Randomized Double-Blind Pilot Study Assessing Vagus Nerve Stimulation (VNS) During Rehabilitation for Improved Upper Limb Motor Function After Stroke (MT-St-02): Long-Term Follow-Up Teresa Kimberley, PT</p>
17:30 - 17:40	<p>Peripheral Neuromodulation For The Treatment Of Postamputation Neuroma Pain: A Case Report Kaare Meier, MD, PhD</p>	<p>Care Bundle Approach to Minimizing Infection Rates After Neurosurgical Implants for Deep Brain Stimulation: A Single Surgeon Experience Elsa Arocho-Quinones, MD</p>	<p>WIKISTIM.Org Update Jane Shipley, BA</p>	<p>Fully Implantable Peripheral Nerve Stimulation for the Treatment of Shoulder Pain Following Stroke: A Multicenter Case Series Richard Wilson, MD</p>
17:40 - 17:50	<p>Effectiveness of DRG Stimulation for Treating Discogenic Low Back Pain: Prospective Study Jan Kallewaard, MD</p>	<p>Functional Brain Alterations By 10 kHz High-Frequency Spinal Cord Stimulation (HF-SCS): Preliminary Results Of A Resting-State Functional Magnetic Resonance Imaging Study Sander De Groote, MSci</p>	<p>Long-Term Effects of Spinal Cord Stimulation in Patients with Painful Diabetic Neuropathy Cecile de Vos, PhD</p>	<p>A Novel Neural Prosthetic Device for Three Dimensional Recording and Stimulation Soowon Shin, MA</p>
17:50 - 18:00	<p>Treatment of Posterior Thoracic Back Pain With Paresthesia-Independent High Frequency Spinal Cord Stimulation (HF-SCS) At 10 kHz: A Case Series Dawood Sayed, MD</p>	<p>Microrecording and Postoperative Clinical Response in Deep Brain Stimulation Carolina Ramírez Gómez, Neurologist</p>	<p>Comparative Analysis of Patient Preference For 10 kHz and 2 kHz Spinal Cord Stimulation In Patients with Chronic Neuropathic Back and Leg Pain Richard Ibrahim, MD</p>	<p>Spinal Cord Stimulation for Improvement of Motor Weakness Takamitsu Yamamoto, MD, PhD</p>

Tuesday, 30 May (continued)

18:00 - 18:10	<p>Distinct Functional Connectivity Patterns for Constant Neuropathic and Intermittent Pain Phenotypes in Failed Back Surgery Syndrome Patients Elsa Arocho-Quinones, MD</p>	<p>Normalization of Motor Symptoms and Quality of Life After GPI-GPe Stimulation in a Young Patient at an Early Stage of Huntington's Disease - Is Waiting Justified? Witold Libionka, MD, PhD</p>	<p>Patients' Expectations on Spinal Cord Stimulation for Failed Back Surgery Syndrome: A Qualitative Exploration Dylan Henssen, BSc</p>	<p>Minimally Invasive Endovascular Stentrod Brain Machine Interface Thomas Oxley, MD, PhD</p>
18:10 - 18:20	<p>Therapeutic Efficacy of Alternating High Frequency Stimulation with Tonic Stimulation in the Treatment of Chronic Pain Julie Pilitsis, MD, PhD</p>	<p>Functional Brain Alterations by Conventional Spinal Cord Stimulation: Preliminary Results of a Resting-State Functional Magnetic Resonance Imaging Study Sander De Groote, MSc</p>	<p>Effect of High Density Spinal Cord Stimulation (HD-SCS) for Treatment of Chronic Back and Leg Pain in Patients with FBSS: 12 Month Results Tanja Hamm-Faber, MA-ANP</p>	
18:20 - 19:20	<p>International Women in Neuromodulation Reception in the Atrium Café by invitation only</p>			
19:30	<p>INS Faculty Board Dinner by invitation only</p>			

Wednesday, 31 May 2017

07:30-08:00	<i>Breakfast and Posters</i>
Plenary Session , Moderators: David Abejon, MD, PhD and Ashish Gulve, MBBS	
Room: Pentland Suite	
08:00 - 08:15	Explant Data from Europe Jean-Pierre Van Buyten, MD
08:15 - 08:30	NAPS - Non-Awake versus Awake Placement of Spinal Cord Stimulators: A Prospective, Multicenter Study Comparing Safety and Efficacy Steven Falowski, MD
08:30 - 08:50	Spinal Cord Stimulation for Spinal Cord Injury Grégoire Courtine, PhD
08:50 - 09:10	Future Waveforms and Pulse Trains in Central Neuromodulation Dirk DeRidder, MD, PhD
09:10 - 09:40	Panel Discussion on Level of Evidence Now and What it Needs to Look Like in the Future Moderator: Robert Levy, MD, PhD Panelists: Eric Buchser, MD; Ganesan Baranidharan, MBBS; Salim Hayek, MD, PhD; Leonardo Kapural, MD, PhD
09:40 - 10:10	Transcranial Magnetic Stimulation-State-of-the-Art Felipe Fregni, MD, PhD
10:10 - 10:30	<i>Break, Posters & Exhibits</i>
10:30 - 11:30	Brain Imaging of Chronic Pain Moderators: Thomas Kinfe, MD, PhD, and Thomas Yearwood, MD, PhD Imaging Pain in the Brain Sean Mackey, MD, PhD Imaging Pain in the Spinal Cord with fMRI Patrick Stroman, PhD
11:30 - 12:20	Giant of Neuromodulation Award Awarded to Michael Stanton-Hicks, MB, BS, Dr. med, FRCA, ABPM, FIPP Presented by Nagy Mekhail, MD, PhD; and Jose DeAndres, MD, PhD
12:30 - 14:30	<i>Lunch, Posters and Exhibits</i> <i>Non-CME Luncheon Symposium in the Cromdale Suite (12:30-13:30)</i>

Wednesday, 31 May (continued)

Wednesday, 31 May

Concurrent Breakout Sessions

	Neuromodulation in Headache: Phenotyping, Evidence and Future Moderators: Vivek Mehta, MBBS; and Jean-Pierre Van Buyten, MD	Neuromodulation for Epilepsy Moderator: Guoming Luan, MD, PhD	Customizing Therapy for Each Patient: Personalizing Waveforms in Spinal Cord Stimulation (SCS) Moderator: Simon Thomson, MBBS	Pain Research and Neuromodulation in Scotland Moderator: Roger Strachan, MBChB, MD
	Room: Pentland Suite	Room: Tinto / Moorfoot	Room: Sidlaw Auditorium	Room: Fintry Auditorium
14:30 - 14:45	Phenotyping Headache Anish Bahra, MRCP, MD	The Mechanism of Action of Deep Brain Stimulation and Vagus Nerve Stimulation for Epilepsy Tianfu Li, MD	14:30 - 14:50 Personalized Spinal Cord Stimulation: Do we Require Multiple Waveforms? Anthony Berg, MD 14:50 - 15:05 Salvage Failed Spinal Cord Stimulation - Evidence for Charge Density David Provenzano, MD 15:05 - 15:25 Salvage Failed Spinal Cord Stimulation - Evidence for Waveforms Nadia Kriek, MD 15:25 - 15:45 What Role Does Frequency Have on Patient Outcomes? Results of PROCO Study Simon Thomson, MBBS	14:30-14:35 Introduction Roger Strachan, MBChB, MD 14:35 – 15:05 Strategies for the Reversal of Hypersensitivity in Chronic Pain Sue Fleetwood-Walker, BSc, PhD & Rory Mitchell, BSc, PhD
14:45 - 15:00	Vagus Nerve Stimulation for Migraine Peter Staats, MD	Deep Brain Stimulation for Epilepsy Arthur Cukiert, MD, PhD		15:05 – 15:30 Can We Use Clinical Biomarkers to Individualize Pain Treatment? Lesley Colvin, BSc, MBChB, PhD
15:00 - 15:15	Current Evidence of Occipital Nerve Stimulation Vivek Mehta, MBBS	Invasive and Non-Invasive Neurostimulation Strategies for Refractory Epilepsy Paul Boon, MD, PhD		15:30 – 15:40 MDT Assessment: Evolution of the Glasgow Neuromodulation Service Andrew Crockett, MBBS, FRCA
15:15 - 15:30	Sphenopalatine Ganglion Stimulation: A New Horizon Mads Barloese, MD	Advancement of Neuromodulation in Epilepsy Ashwini Sharan, MD		15:40 – 15:50 Multidisciplinary Team Working: From Theory to Practice Saravana Kanakarajan, MBBS, MD
15:30 - 15:45	Peripheral Nerve Stimulation of the Occipital Nerves to Treat Intractable Chronic Cluster Headache with the Use of a Novel Tined Lead Jean-Pierre Van Buyten, MD	rTMS Therapy for Epilepsy Guoming Luan, MD, PhD		15:50 – 16:00 Discussion & Conclusion
15:45 - 16:00	Discussion	Discussion	Discussion	Discussion
16:00 - 16:30	Break, Posters and Exhibits			

Wednesday, 31 May (continued)

16:30-18:20	Wednesday, 31 May Oral Poster Presentations			
	Headache and Neck Pain Moderators: Vivek Mehta, MBBS; and Jean-Pierre Van Buyten, MD	Brain: Epilepsy, Movement Disorders, Pain and Stroke Recovery Moderator: Jeffrey Arle, MD, PhD	Socioeconomics of Neuromodulation Moderators: David Provenzano, MD and Steven Falowski, MD	Basic Science Moderator: Roger Strachan, MBChB, MD, FRCSE, FRCS(SN)
	Room: Pentland Suite	Room: Tinto / Moorfoot	Room: Sidlaw Auditorium	Room: Fintry Auditorium
16:30 - 16:40	Clinical Experiences with Epidural Motor Cortex Stimulation In Chronic Refractory Trigeminal Neuropathic Pain Dirk Rasche, MD	Clinical Efficacy and Neurophysiological Outcome of Anterior Thalamic Nucleus (ANT) Deep Brain Stimulation (DBS) for Generalized Seizures Zhipei Ling, Master	Results from the North American Neuromodulation Society Pilot Mentorship Program Samuel Grodofsky, MD	Effect of Frequency on the Recruitment of Dorsal Column Fibers John Parker, PhD
16:40 - 16:50	Extended Long-Term Effects of Cervical Vagal Nerve Stimulation on Headache Perception in Refractory Seizure Patients Thomas Kinfe, MD, PhD	The Response to VNS May Predict the Response to ANT-DBS Therapy in Refractory Focal Epilepsy Joonas Haapasalo, MD, PhD	Discrepancies in International Neuromodulation Training Education Neel Mehta, MD	Effects of 10-kHz Spinal Cord Stimulation on the Excitability of Superficial Dorsal Horn Neurons in Experimental Pain Models in the Rat Stephen McMahon, PhD
16:50 - 17:00	Pathway Registry 12 Month Interim Results - Long-Term Therapeutic Effectiveness of Sphenopalatine Ganglion Stimulation for Cluster Headache Mads Barloese, MD, PhD	The Neuropsychological Efficacy of Vagus Nerve Stimulation in 56 Children with Catastrophic Epilepsy Xiongfei Wang, MD	Single-Centre Follow-up of TYRX Antibiotic Envelope for Neuromodulation Unit Implantation Syed Uzair Ahmed, MD	Lateral Cerebellar Nucleus Stimulation Promotes Motor Recovery in a Fluid Percussion Injury Rodent Model Andre Machado, MD, PhD
17:00 - 17:10	Changes in Medication Cost Observed in Chronic Cluster Headache Patients Treated with Sphenopalatine Ganglion (SPG) Stimulation: Analysis Based on One-Year Data from the Pathway Registry Simon A. Weber	Transcranial Magnetic Stimulation - An Effective Treatment For Epilepsies Guoming Luan, MD	Spinal Cord Stimulation Infection Rate and Incremental Annual Expenditures: Results from a US Payer Database David Provenzano, MD	Conventional Spinal Cord Stimulation Influences Top-Down Nociceptive Inhibition Lisa Goudman, PT
17:10 - 17:20	Occipital Nerve Stimulation (ONS) with Body Compliant Leads for Chronic Migraine Treatment Jan Vesper, MD, PhD	DBS May Lead to Paradoxical Addition of Information in Axons of Passage Through the VTA Jeff Arle, MD, PhD	REDLeader: an Electronic Registry for Prospective Data Collection and Analysis in Spinal Cord Stimulation Based on the REDCap Platform Marco Baciarello, MD	Comparison of Low- and High-Frequency Dorsal Root Ganglion Stimulation: A Computational Modeling Analysis Alexander Kent, PhD

Wednesday, 31 May (continued)

17:20 - 17:30	Occipital Nerve Stimulation in Various Headaches Syndromes: Single Center Experience and Clinical Update Dirk Rasche, MD	Thalamic Deep Brain Stimulation for Neuropathic Pain After Amputation of Brachial Plexus Avulsion: Three-Year Outcomes Erlick Pereira, MA BM BCh DM FRCS(SN)	Long-Term Cost Utility of Spinal Cord Stimulation (SCS) in Patients with Failed Back Surgery Syndrome Nandan Lad, MD, PhD	Electrical Stimulation and Recording in the Bed Nucleus of the Stria Terminalis in a Rat Model of Anxiety Kelly Luyck, MS
17:30 - 17:40	Hybrid Spinal Neuromodulation in Chronic Lumbar and Neck Pain with Parallel 10 kHz Stimulation of the Lumbar and Cervical Spinal Cord Werner Braunsdorf, MD	Do Parkinson's Patients Who Have Been Transferred to Levodopa/ Carbidopa Intestinal Gel (LCIG) After Deep Brain Stimulation Have a Specific Characteristic? Hakan Ekmekci, MD	Intrathecal Drug Delivery Systems for the Management of Chronic Non-Cancer Pain: A Systematic Review of Economic Evaluations Rui Duarte, PhD	A Novel Mechanism for Electroacupuncture-Induced Analgesia: Orexin 1 Receptor-Mediated Endocannabinoid Retrograde Disinhibition in the Periaqueductal Gray Lih-Chu Chiou, PhD
17:40 - 17:50	Long Term Outcomes of High Cervical Spinal Cord Stimulation in the Management of Medically Refractory Neuropathic Facial Pain Kantharuby Tambirajoo, FRCSI	Combining rTMS and Amantadine to Enable Neurobehavioral Recovery for Persons Living in Chronic States of Disordered Consciousness after TBI Joshua Rosenow, MD	Spinal Cord Stimulation Trial-to-Implant Ratio in a Single Centre in The Netherlands and Potential Cost-Savings Associated with Single Implantation Procedure Rui Duarte, PhD	tDCS Modulation of Picture Naming and Word Reading: A Meta-Review of Single Session of tDCS Applied to Healthy Participants Sam Westwood, PhD
17:50 - 18:00	Cervical Non-Invasive Vagus Nerve Stimulation Modulates Interictal Increased Saliva Oxytocin Levels in Migraine Patients with and without Aura: The Moxy Study Thomas Kinfe, MD, PhD	Translation of Innovative Neurosurgical Delivery Technology to Human Applications: Neural Transplantation for Basal Ganglia Stroke Miles Cunningham, MD, PhD	To Evaluate the Direct Medical Costs Associated in Patients Undergoing Sphenopalatine Ganglion Stimulation for Chronic Cluster Headache - UK Tertiary Care Centre Data Kavita Poply, MBBS, FRCA, FFPMRCA	An Intrinsic Limitation to SCS Performance and the Development of SCS Tolerance; The Ab Nociceptor Hypothesis Marc Russo, MBBS
18:00-18:10	Cervical Neuropathic Pain Relieved By Superficial Cervical Plexus Stimulation: A Four-Year Follow-Up Case Report Bénédicte Bouche, MD	A Pilot Clinical Trial of a New 3.0 T Magnetic Resonance Imaging Compatible Deep Brain Stimulation Device Changqing Jiang, PhD	Clinical Characteristics of Back Pain Patients with Failed Back Surgery Syndrome: Results of the SubQStim Study Rod Taylor, PhD	Blockade of the Nociceptive Flexion Reflex in Rat Peripheral Nerve using Charge-Balanced Polarization Current David Page, PhD
18:10-18:20		Effects Of Five Weeks Fornix Deep Brain Stimulation in a Transgenic Alzheimer Rat Model Aurelie Leplus, fellow	Spinal Cord Stimulation Infection Rate and Risk Factors: Results from a United States Payer Database Steven Falowski, MD	

Thursday, 1 June 2017

07:30-08:00

Breakfast

Concurrent Breakout Sessions

	Best Practices in Intrathecal Therapy Moderators: Michael Saulino, MD, PhD and Gianni Colini Baldeschi, MD	Brain Neuromodulation for Disorders of Consciousness and Cognition Moderator: Ali Rezai, MD	Neuromodulation for Uro-Gynecology Moderator: Magdy Hassouna, MD, PhD	Neuromodulation as Standard in Welfare Pathway of Spasticity, Headache, CRPS and Pelvic Pain Moderators: Genni Duse, MD and Juan Carlos Andreani, MD, PhD
	Room: Pentland Suite	Room: Tinto / Moorfoot	Room: Sidlaw Auditorium	Room: Fintry Auditorium
08:00 - 08:15	Best Practices in Intrathecal Baclofen Therapy: Patient Selection and Screening Test Michael Saulino, MD, PhD	Deep Brain Stimulation for Traumatic Brain Injury Jonathan Miller, MD	Neuromodulation in Urology: An Update Prof. Phillip Van Kerrebroeck	Women in Neuromodulation: What's More, What's Else? Genni Duse, MD
08:15 - 08:45	Best Practices in Intrathecal Baclofen Therapy: Therapy Management and Troubleshooting Michael Saulino, MD, PhD	Brain-Machine Interface for Traumatic Brain Injury Dennis Turner, MD	Post Tibial Stimulation Soheir Elneil, MBChB, PhD	Neuromodulation as Standard in Welfare Pathway of Migraine Genni Duse, MD
		Neuromodulation in Neuropsychiatric Disorders Paresh Doshi, MD	Sacral Neuromodulation and Its Effect on Fecal Incontinence Klaus E. Matzel, MD	Neuromodulation as Standard in Welfare Pathway of CRPS Gianni Colini Baldeschi, MD
08:45 - 09:00	Cost-Effectiveness of Intrathecal Therapy Nagy Mekhail, MD, PhD	Deep Brain Stimulation of the Ventral Capsule/Ventral Striatum for Alzheimer's Disease Ali Rezai, MD	Advances in Neuromodulation/Stimulation in Urology & Urogynecology Jerzy Gajewski, MD, FRCSC	Neuromodulation as Standard in Welfare Pathway of Pelvic Pain Michele Spinelli, MBBChir, MA, PhD
09:00 - 09:15	Intrathecal Bolus Dosing in Spine Pain Nagy Mekhail, MD, PhD	Deep Brain Stimulation for Alzheimer's Disease: Nucleus Basalis of Meynert Jens Kuhn, MD	Neurostimulation in Neurogenic Bladder Prof. Phillip Van Kerrebroeck	Neuromodulation as Standard in Welfare Pathway of Spasticity Alessandro Dario, MD

Thursday, 1 June (continued)

09:15 - 09:30	Intrathecal Bolus Dosing for Cancer Pain Shane Brogan, MD	Deep Brain Stimulation for Alzheimer's Disease: Social and Cost Implications Gordon Baltuch, MD, PhD	Pudendal Nerve Stimulation in Voiding Dysfunction Kenneth M. Peters, MD	Classical, New and Evolving Therapies For Refractory Spastic Syndromes; and An Overview and Lateral Cord Stimulation as a New Tool for the Treatment of Refractory Spasticity. Design of an International Multicenter Clinical Trial Juan Carlos Andreani, MD, PhD
09:30 - 09:45	PACC Guideline Review 2016 Christophe Perruchoud, MD	Deep Brain Stimulation for Alzheimer's Disease: Ethical Considerations Gabriella Bottini, MD, PhD	Predictors for a "Proper" Sacral Neuromodulation Magdy Hassouna, MD, PhD	
09:45 - 10:00	Discussion	Deep Brain Stimulation for Minimally Conscious States Prof. Dr. med. Claudio Pollo	Discussion	Discussion
10:00 - 10:30	<i>Break</i>			
10:30-11:20	Thursday, 1 June Oral Poster Presentations			
	Intrathecal Therapy for Pain and Spasticity Moderator: Fabian Piedimonte, MD, PhD	Brain: Cognitive and Psychiatric Disorders Moderator: Ali Rezai, MD	Neuromodulation for Uro-Gynecology Moderator: Magdy Hassouna, MD, PhD	Neuromodulation for Pain Moderators: Genni Duse, MD and Juan Carlos Andreani, MD, PhD
	Room: Pentland Suite	Room: Tinto / Moorfoot	Room: Sidlaw Auditorium	Room: Fintry Auditorium
10:30 - 10:40	Intrathecal Opioid Infusion Systems as Add-on Therapy to Spinal Cord Stimulation in Patient with Failed Back Surgery Syndrome Fabian Piedimonte, MD, PhD	Closing the Loop on Impulsivity via Nucleus Accumbens Delta Oscillations in Mice and Man Hemmings Wu, MD, PhD	Sacral Neuromodulation for Perineal Pain and Pelvic Organ Dysfunction: The Sydney Protocol Thierry Vancaillie, MD, FRANZCOG, FFPMANZCA	Patients' Preference for Optional Paresthesia-Free Spinal Cord Stimulation Treatment for Chronic Neuropathic Pain Documented via Stimulator Readouts Christian Scherer, MD
10:40 - 10:50	Baclofen Therapy in Pelizaeus-Merzbacher Disease (PMD) Noemi Rosenfeld, MD	Deep Brain Stimulation at the Ventral Pallium Reduces Obsessions/Compulsions, Anxiety and Depression In Severe, Treatment-Resistant Obsessive-Compulsive Disorder Robert McClure, MD	Peripheral Nerve Evaluation for Chronic Pelvic Pain prior to Full Implant: Is it a Useful Step? Nicolas Varela, MD, DESA	Lower Amplitudes for Burst SCS Programming Associated with Improved Outcomes: SUNBURST Sub-Analysis Thomas Yearwood, MD, PhD

Thursday, 1 June (continued)

10:50 - 11:00	Ziconotide-Increased Suicidal Risk: Truth or Myth? Stefano Marini, MD	Evaluation of the Potential of Modern Diagnostic Tools to Diagnose Patients in Coma and in Minimal Conscious State Lukasz Grabarczyk, MD	Outcomes of Pudendal Neuromodulation In Patients Failing Multiple Conservative Treatments for Pudendal Neuralgia Richard Marvel, MD	Comparison of Tonic and Burst Spinal Cord Stimulation in Failed Back Surgery Syndrome: A Six-month, Single Center Evaluation Katja Bürger, MD
11:00 - 11:10	SISTERS, A Multicenter Randomized Control Trial, Compares the Efficacy of Intrathecal Baclofen Therapy to the Conventional Treatment in the Management of Post-Stroke Spasticity Michael Creamer, MD	Relationship Between EEG Power Spectrum Abnormalities and Clinical Outcome in Attention Deficit/Hyperactivity Disorder (ADHD) Adolescents after Repetitive Transcranial Magnetic Stimulation (rTMS) Treatment: Cases Report Gabriela Brunner, BSci	The Value of Combining Low Dose Tropicam Chloride with Transcutaneous Posterior Tibial Nerve Stimulation in the Treatment Of Overactive Bladder in Females Amr Abulseoud, MS	Evoked Compound Action Potentials (ECAPs) May Assist in the Titration of Spinal Cord Stimulation (SCS) as Patients are Weaned off Pregabalin: A Case Report Charles Brooker, MBChB
11:10 - 11:20	Intrathecal Opioid Trialing Protocol combining PCA Bolus and Continuous Infusion with an Efficacy/Safety Self-Evaluation Chart PAIN-PRE. Protocolo de Analgesia INtratecal PRE-Implante (Intrathecal Analgesia Pre-Implant Protocol) Diego Bashkansky, MD		Resolution of Neurogenic Bladder Symptoms after Treatment with High Frequency Spinal Cord Stimulation (HF-SCS) at 10 kHz in Patients with Chronic Back Pain: Two Case Reports Michael Verdolin, MD	Spanish Prospective Multicenter Study Using Dorsal Root Ganglion Stimulation For Post-Herpetic Neuralgia, Part III.: Electrophysiological Parameters And Adverse Events Tim Vancamp, SPT, MBA <i>No CME provided for this lecture.</i>

Plenary Session Moderators: Timothy Deer, MD; Robert Levy, MD, PhD; Simon Thomson, MBBS

Room: Pentland Suite

11:20 - 11:50	Restoring Lost Muscle Function Using Stem Cells and Optogenetics Linda Greensmith, PhD
11:50 - 12:20	Optogenetics in Neuromodulation: The Challenges are Great Jaimie Henderson, MD
12:20 - 12:50	Optogenetics in Neuromodulation: Future Vision Nick Boulis, MD
12:50 - 13:20	Learning Health Systems: A New Dawn in Personalized Pain Care and Real-World Discovery Research Sean Mackey, MD, PhD
13:20	Congress Adjourns

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