



— TODAY'S VISION —
TOMORROW'S REALITY

**NORTH AMERICAN
NEUROMODULATION
SOCIETY**

17th Annual Meeting

December 5-8, 2013

Mandalay Bay Resort
and Four Seasons Las Vegas
Las Vegas, NV

INVITATION

DEAR COLLEAGUE,

We are pleased to invite you to the NANS 17th Annual Meeting December 5-8, 2013, in Las Vegas, NV. This year's meeting offers many exciting new opportunities, including a new location, expanded exhibit hall, greatly enhanced and diversified concurrent tracks, and new and expanded preconference sessions. If you work in neuromodulation, you won't want to miss this world-class meeting.

This year, as an addition to the popular spinal cord stimulation workshop, we have included a parallel session for neurology residents that serves as an introduction to neuromodulation therapies and techniques. An expanded full-day, continuing medical education-eligible workshop on intrathecal therapy evaluation and management will serve as a primer for the use of intrathecal pumps for the treatment of spasticity, cancer pain, and noncancer pain. In addition to didactic lectures, there will be a hands-on cadaver session for participants to learn pump management and refill techniques with and without ultrasound guidance. This session is open to both novices and experienced physicians and midlevel providers who wish to launch or advance their intrathecal pump evaluation, management, and refill skills. The popular midlevel practitioner workshop for nurses and physician assistants will again be offered and will focus on spinal cord stimulation. Finally, the second annual NANS I³: Invention, Investment, and Invigoration workshop will bring together clinicians, scientists, chief executive officers, healthcare regulators, and investors to discuss challenges, opportunities, solutions, and the latest technologies in neuromodulation.

For the main meeting, the number of afternoon concurrent sessions on Friday and Saturday has been increased to meet the interests of a more diversified membership. Renowned faculty will present on peripheral nerve stimulation, brain stimulation, best clinical practices, neurorehabilitation, targeted drug delivery, neuromodulation practice issues, and gastrointestinal and genitourinary issues. Special sessions dedicated to the emerging role of neuromodulation in the treatment of urological disorders including pelvic pain and incontinence will be offered, along with new sessions on the use of light in research as a diagnostic and therapeutic tool for neuromodulation.

There also will be more industry-sponsored luncheon sessions and a large number of oral presentations from submitted abstracts. Posters will be on display in the exhibit hall, and awards will be given for the best abstracts. In addition to a greatly expanded exhibit hallway, a special demonstration of the role of software in neuromodulation will be offered to examine how neurogaming may have uses to treat psychiatric disease and as a control for implantable devices.

Las Vegas is a lively city that offers some of the best restaurants, shows, and other attractions available in the world. We look forward to seeing you in Las Vegas.



**NANS gratefully
acknowledges educational
grants in support
of this activity.**

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Ali Rezai, MD
President, NANS



Salim Hayek, MD PhD
Scientific Meeting
Co-Chair



Peter Konrad, MD PhD
Scientific Meeting
Co-Chair



David Caraway, MD PhD
Annual Meeting
Co-Chair



**Lawrence Poree, MD
PhD**
Annual Meeting
Co-Chair



Ashwini Sharan, MD
Annual Meeting
Co-Chair

WHO SHOULD ATTEND?

Neurosurgeons, anesthesiologists, cardiologists, internists, neurologists, orthopedic surgeons, physical medicine and rehabilitation practitioners, psychiatrists, psychologists, and other healthcare professionals actively involved in neuromodulation will benefit from this meeting.

OBJECTIVES

Upon completion of this program, participants should be able to

- explain the fundamentals and mechanisms of neuromodulation
- discuss the principles and management of chronic pain, encompassing cancer pain, craniofacial pain, and spinal disorders
- describe the relationship between neuromodulation, rehabilitation, and biomedical engineering
- discuss outcomes and best practices related to the management of neuromodulation therapy
- discuss urologic disorders, including pelvic pain and incontinence
- recognize new modalities and research in the expanding field of neuromodulation.

ACCREDITATION AND DESIGNATION OF CREDITS

This live continuing medical education (CME) activity has been planned and implemented in accordance with the essential areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the Congress of Neurological Surgeons (CNS) and the North American Neuromodulation Society (NANS). CNS is accredited by the ACCME to provide CME for physicians.

Physicians: The CNS designates this live CME event for a maximum of 16.5 *AMA PRA Category 1 Credits*[™]. Physicians who attend a premeeting workshop are eligible to claim an additional 4 credits for a maximum of 20.5 credits. Physicians should claim only the credit commensurate with the extent of their participation in the activity. Physicians of Osteopathic Medicine—the American Osteopathic Association (AOA) accepts *AMA PRA Category 1 Credits*[™] as AOA Category 2-B credit.

Nurses: Nurses may claim credit for activities approved for *AMA PRA Category 1 Credits*[™] in most states, for up to 50% of the nursing requirement for recertification. Please check with your own state association for more information. This activity is designated for up to 16.5 *AMA PRA Category 1 Credits*[™]. Nurses who attend a premeeting workshop are eligible to claim an additional 4 credits for a maximum of 20.5 credits.

Nurse Practitioners: The American Academy of Nurse Practitioners (AANP) accepts *AMA PRA Category 1 Credit(s)*[™] from organizations accredited by the ACCME. CNS is accredited to provide CME for physicians and will provide nurse practitioners who successfully complete each activity with a certificate of participation indicating that the activity was designated for *AMA PRA Category 1 Credit(s)*[™].

Physician Assistants: The American Academy of Physician Assistants (AAPA) accepts *AMA PRA Category 1 Credits*[™] from organizations accredited by the ACCME. The provider of this program, the CNS, is accredited by the ACCME and designates this educational activity for a maximum of 16.5 *AMA PRA Category 1 Credits*[™]. Physician assistants who attend a premeeting workshop are eligible to claim an additional 4 credits for a maximum of 20.5 credits. Physician

assistants should only claim credit commensurate with the extent of their participation in the activity.

DISCLOSURE INFORMATION

In accordance with the Standards for Commercial Support established by the ACCME, anyone in a position to control the content of the educational activity (speakers, paper presenters/ authors, co-authors, staff, and the significant others of those mentioned) are required to disclose any relationship they have with commercial interests which may be related to the content of their lecture. Failure or refusal to disclose or the inability to satisfactorily resolve the identified conflict may result in the withdrawal of the invitation to participate in any NANS education activities. The ACCME defines “relevant financial relationships” as financial relationships in any amount occurring within the past 12 months that create a conflict of interest. The ACCME defines a “commercial interest” as any entity producing marketing, re-selling, or distributing healthcare goods or service” consumed by or used on patients. Any potential conflicts of interest will be reviewed to ensure the content is valid and aligned with the interest of the activity audience. Disclosures will be published in the meeting syllabus.

ACCOMMODATIONS

NANS has secured a block of rooms at the Mandalay Bay Resort and Four Seasons Las Vegas. Rooms are available at the Mandalay Bay Resort for a conference rate of \$139 single/double, plus applicable taxes. Rooms are also available at the Four Seasons Las Vegas for \$199 single/double, plus applicable taxes.

Mandalay Bay Resort

3950 Las Vegas Boulevard South
Las Vegas, NV 89119

Four Seasons Las Vegas

3960 Las Vegas Boulevard South
Las Vegas, NV 89119

Reservations: Please call 877.632.9001 or visit <https://resweb.passkey.com/go/snans>.

Be sure to mention that you are attending the NANS conference and make your reservations before **November 8, 2013**. After this date, reservations will be taken on a space-available basis.



PREMEETING WORKSHOPS

Thursday, December 5

8 am–5 pm

Spinal Cord Stimulation Workshop: A Hands-On Cadaver Course for Pain Fellows and Neurosurgery Residents

Oquendo Center for Clinical Education • Las Vegas, NV

Directors: Steven Falowski, MD; David Provenzano, MD; Jason Pope, MD

This event combines lectures on spinal cord stimulation (SCS) and intrathecal pain pumps and approved clinical applications with practical training in a cadaver laboratory. This course is integrated for neurosurgeons and pain physicians. Attendees practice the SCS trial and permanent implant procedures on human cadavers under the supervision of experienced faculty. Workshop participants are selected by an application and lottery process. Space is limited.

Non-CME certified

8 am–5 pm

Neurology Course

Oquendo Center for Clinical Education • Las Vegas, NV

Directors: Michael Pourfar, MD; Alon Mogilner, MD PhD

This educational event offers lectures to neurology residents on neuromodulation therapies, including the role of the neurologist in multidisciplinary pain management settings. Attendees train in the use of deep brain stimulation for movement and psychiatric disorders, intrathecal medication infusion for spasticity and pain management, and neurostimulation for chronic pain. A certificate of completion and attendance, including applicable ACGME Core Competencies discussed and reviewed during the workshop, will be awarded to attendees. Workshop participants are selected by an application and lottery process. Space is limited.

8 am–5 pm

Intrathecal Pump Evaluation, Management, and Refill Course

Mandalay Bay Resort • Las Vegas, NV

Director: Lawrence Poree, MD PhD

This CME-eligible workshop will highlight the latest technological and pharmacological advances in the use of intrathecal pumps for the treatment of spasticity, cancer pain, and noncancer pain. World-renowned faculty from the fields of anesthesiology, physiatry, and neurosurgery will present didactic lectures and lead discussions and case reports. Attendees are invited to participate in hands-on cadaver training to learn the latest in pump management, reprogramming, troubleshooting, and refill techniques with and without ultrasound guidance. Participants will gain experience with all of the commercially available intrathecal pumps. This workshop is open to both novices and experienced physicians and midlevel providers who wish to advance their intrathecal pump management skills.



8 am–4:30 pm

NANS I³: Invention, Investment, and Invigoration Forum

Mandalay Bay Resort • Las Vegas, NV

Director: Ashwini Sharan, MD

This forum is designed to provide a platform for industry stakeholders to discuss relevant issues in the field of neuromodulation that will stimulate ideas on how to strengthen and grow the field. Each session will set the stage for the need for neuromodulation; show off emerging technologies; and present opportunities, challenges, and the necessity for joint cooperation.

1–5 pm

5th Annual Course on Neuromodulation for Midlevel Practitioners

Mandalay Bay Resort • Las Vegas, NV

Director: Konstantin Slavin, MD

This workshop is designed specifically for nurses, physician assistants, and nurse practitioners who have direct involvement with neuromodulation patients. Concepts of neurostimulation and pain control, with a primary focus on spinal cord stimulation, patient selection, procedural details, programming, and troubleshooting, will be addressed. A group of highly experienced spinal cord stimulation practitioners will share their expertise and insight. If you work or plan to work in the doctor's office or the operating room, assist in neuromodulation practice, or manage spinal cord stimulation patients, this course is for you.

FEATURED WORKSHOP

Saturday, December 7

2–5 pm

Business Academy for Physicians

Four Seasons Las Vegas • Las Vegas, NV

Director: Eric Grigsby, MD

This 3-hour session will present the skills required for physicians to be more efficient and effective in their professional business endeavors. Making your practice, department, or organization more successful in today's medical economy is more difficult than ever. Leaders from private practice and leading institutions will present an essential primer on business skills you need including the healthcare economy and the Affordable Care Act, business strategy, physician leadership, the patient experience at the Mayo Clinic, and providing world-class customer service.

Thursday, December 5

6-8 pm
Meeting Registration

7-8:30 pm
Opening Reception

Friday, December 6

7 am-5 pm
Meeting Registration

8-10 am
Plenary Session

Basic and Clinical Innovations: State of the Art
Moderator: Peter Konrad, MD PhD

8-8:40 am
Pain Signaling and Neuromodulation
Allan Basbaum, PhD

8:40-9:20 am
High-Frequency Neurostimulation
Kevin Kilgore, PhD

9:20-9:40 am
Face-Off: Burst Stimulation Versus High Frequency Versus Traditional
Timothy Deer, MD; Leonardo Kapural, MD PhD; Sam Eldabe, MD

9:40-10 am
Sensing Technologies: Potential Applications in Neuromodulation
Eric Leuthardt, MD

10-10:30 am
BREAK WITH EXHIBITORS

10:30 am-Noon
Plenary Session
Technological Innovations in 2013
Moderator: Richard Rauck, MD

10:30-10:50 am
Are You an Innovator? Separating Fantasy from Feasibility: Roundtable
Mir Imran; Kevin Wasserstein; Timothy Deer, MD
Moderator: Hunter Peckham, PhD

10:50-11:10 am
Neuroprosthetic Control of Robotic Arms
Andrew Schwartz, PhD

11:10-11:35 am
Optical Stimulation of Neurons (INS): Human Applications
E. Duco Jansen, PhD

11:35 am-Noon



Presidential Address

Ali Rezai, MD

Noon-1:30 pm INDUSTRY-SPONSORED LUNCHEONS

Innovation Focused on Pain Relief™: Precision Spectra™ SCS System (LUN1)
This non-CME activity is sponsored by Boston Scientific.

Achieving Better Pain Relief by Technology Innovation and Therapy Optimization (LUN2)
This non-CME activity is sponsored by Medtronic.

1:30-3 pm Concurrent Sessions

Alternative Approaches to Neuromodulation (F1) Moderator: Hunter Peckham, PhD

1:30-1:45 pm
High-Frequency Focused Ultrasound
Jeff Elias, MD

1:45-2 pm
Laser Stimulation of Human Cochlea
Claus-Peter Richter, MD PhD

2-2:25 pm
Oral Abstracts

2:25-2:40 pm
Direct Spinal Cord Stimulation Versus Peripheral Nerve Stimulation as a Rehabilitation Tool
Vivian Mushahwar, PhD

2:40-2:55 pm
Noninvasive Magnetic Stimulation Versus Implanted Neurostimulation
Felipe Fregni, MD PhD MPH

2:55-3 pm
Q&A

Brain Stimulation (F2) Moderator: Parag Patil, MD PhD

1:30-1:45 pm
Psychiatric Applications
Brian Kopell, MD

1:45-2 pm
Closed-Loop Therapy for Epilepsy
Karl Sillay, MD

2-2:25 pm
Oral Abstracts

2:25-2:40 pm
Brain Stimulation and Deep Brain Stimulation: A Tool for Brain Discovery
Joseph Neimat, MD

2:40-2:55 pm
Early Stimulation for Parkinson's Disease
Peter Konrad, MD PhD

2:55-3 pm
Q&A

Genitourinary: Pelvic Pain and Its Treatment with Neuromodulation (F3) Moderator: Steven Siegel, MD PhD

1:30-2 pm
Options for Neuromodulation of Chronic Pelvic Pain
Leonardo Kapural, MD PhD

2-2:25 pm
Oral Abstracts

2:25-2:55 pm
Neuro-Urology
Lori Birder, PhD

2:55-3 pm
Q&A

PRELIMINARY AGENDA (FRIDAY)

1:30–3 pm

Concurrent Sessions *(continued)*

Cancer Pain: The Continuum of Care (F4) *Moderator: William Rosenberg, MD*

1:30–1:45 pm

Overview of Pharmacological Management of Cancer Pain

Rachel Theriault, MD

1:45–2 pm

Managing Cancer Pain by Radiation

Stephen Lutz, MD

2–2:25 pm

Rehabilitation of Cancer Pain

Brian Bruel, MD

2:25–2:40 pm

Neuromodulation for Cancer Pain

Lisa Stearns, MD

2:40–2:55 pm

Neurosurgical Approaches to Cancer Pain

Parag Patil, MD PhD

2:55–3 pm

Q&A

Peripheral Nerve Stimulation (F5) *Moderators: Konstantin Slavin, MD; Milind Deogaonkar, MD*

1:30–1:45 pm

Overview of Peripheral Neurostimulation

Nicholas Boulis, MD

1:45–2 pm

High-Frequency Peripheral Nerve Stimulation for Amputation Pain

Amol Soin, MD

2–2:25 pm

Oral Abstracts

2:25–2:40 pm

Percutaneous Peripheral Nerve Stimulation

W. Porter McRoberts, MD

2:40–2:55 pm

Wireless Peripheral Nerve Stimulation

David Caraway, MD PhD

2:55–3 pm

Q&A

3–3:30 pm BREAK WITH EXHIBITORS

3:30–5 pm

Concurrent Sessions

Mechanisms (F6) *Moderator: Robert Foreman, PhD FAHA*

3:30–3:45 pm

Cellular Effects of Spinal Cord Stimulation: Model and Experiment

Warren Grill, PhD

3:45–4 pm

What Are We Stimulating—or Blocking? Update on Mechanisms of Peripheral Nerve Stimulation

Kevin Kilgore, PhD

4–4:25 pm

Oral Abstracts

4:25–4:40 pm

Optogenetics as a Tool for Neuromodulation Research

Jaimie Henderson, MD

4:40–4:55 pm

Micro Versus Macrostimulation: Technology Trade-Offs

Vivian Mushahwar, PhD

4:55–5 pm

Q&A

Challenges of Neuromodulation Practices (F7) *Moderator: B. Todd Sitzman, MD MPH*

3:30–3:45 pm

Neurostimulation: Challenges in the Clinic

Joshua Prager, MD MS

3:45–4 pm

Intrathecal Therapy in Free-Standing Pain Clinics

Eric Grigsby, MD

4–4:25 pm

Oral Abstracts

4:25–4:40 pm

Physician Extenders: Roles and Responsibilities

Jason Pope, MD

4:40–4:55 pm

Intrathecal Polyanalgesia and Its Cost Impact

Krishna Kumar, MD FRSCS

4:55–5 pm

Q&A

Pelvic Neuromodulation: Electro Diagnostic Testing and Pain Signaling (F8) *Moderator: Kevin Benson, MD*

3:30–4:10 pm

Neurodiagnostic Testing

Karen Noblett, MD

4:10–4:50 pm

Pain Messenger Systems of the Pelvis

Lori Birder, PhD

4:50–5 pm

Q&A

Neuromodulation Guidance: The Role of Imaging and Physiology (F9) *Moderator: Benoit Dawant, PhD*

3:30–3:45 pm

Ultrasound Imaging and Peripheral Nerve Field Stimulation

Samer Narouze, MD PhD

3:45–4 pm

Using Ultrasound to Guide Percutaneous Peripheral Nerve Stimulator Implants

Marc Huntoon, MD

4–4:25 pm

Oral Abstracts

4:25–4:40 pm

Using Intraoperative Monitoring to Guide Spinal Cord Stimulation

Alon Mogilner, MD PhD

4:40–4:55 pm

Image-Guided Deep Brain Stimulation

Brian Kopell, MD

4:55–5 pm

Q&A

5–6 pm RESIDENTS AND FELLOWS SECTION MEETING

6–7 pm RECEPTION FOR RESIDENTS AND FELLOWS WITH BOARD MEMBERS

Saturday, December 7

7 am–5 pm

Meeting Registration

8–9:55 am

Plenary Session

Neuromodulation: Current Challenges, Economic Realities, and Future Direction

Moderator: Ashwini Sharan, MD

8–8:10 am

Neuromodulation Advocacy

Joshua Prager, MD MS

8:10–8:35 am

Regulatory Challenges in Transferring Technology to Clinical Trials

Martha Morrell, MD

8:35–8:55 am

Centers for Medicare and Medicaid Services: Payment for Technology

David Caraway, MD PhD

8:55–9:15 am

Reimbursement Issues: 2014 and Beyond

David Kloth, MD

9:15–9:55 am

The Need for Clinical Registries to Measure Outcomes

Matthew McGirt, MD

9:55–10:25 am

BREAK WITH EXHIBITORS

10:25 am–Noon

Keynote Session

Neuromodulation

Moderator: David Kloth, MD

10:25–10:35 am

Presentation of Awards

10:35–10:50 am



Honored Guest Speaker

Allan Basbaum, PhD

10:50–11:40 am



Keynote Address

Tan Le, BCom LLB

11:40 am–Noon

Business Meeting

Noon–1:30 pm SPONSORED LUNCHEONS

Innovations in Pain Management: New Targets, Novel Current Delivery, and Advancing Frontiers in Neuromodulation (LUN3)

Timothy Deer, MD; Robert Levy, MD PhD; Liang Liem, MD;

Dirk De Ridder, MD PhD

This CME activity is sponsored by MediaSphere Medical and supported by an educational grant from St. Jude Medical.

Translating Algorithms to Clinical Practice in the Management of Patients with Chronic Pain: Focus on Intrathecal Delivery (LUN4)

David Caraway, MD PhD

This CME activity is sponsored by CME Outfitters, Inc., and supported by an educational grant from Jazz Pharmaceuticals.

1:30–3 pm

Concurrent Sessions

Drug Delivery Systems: Pharmacology of Drug Dosing (S1) Moderator: Salim Hayek, MD PhD

1:30–1:45 pm

Where Are the Drugs Going? Update on How Intrathecal Drug Delivery Works

Tony Yaksh, PhD

1:45–2 pm

Pharmacology of Intrathecal Drug Delivery in the Spinal Cord

William Elmquist, PhD

2–2:25 pm

Oral Abstracts

2:25–2:40 pm

Basic Science Support for the Practice of Microdosing

Jay Grider, DO PhD

2:40–2:55 pm

Clinical Evidence in Support of Microdosing

Maged Hamza, MD

2:55–3 pm

Q&A

Rehabilitation (S2) Moderators: W. Jerry Mysiw, MD; Chester Ho, MD

1:30–1:45 pm

Temporal Patterns of Brain Stimulation

Warren Grill, PhD

1:45–2 pm

Rehabilitation for Spasticity

Michael Saulino, MD PhD

2–2:25 pm

Oral Abstracts

2:25–2:40 pm

Functional Electrical Stimulation: Update on New Platform

Hunter Peckham, PhD

2:40–2:55 pm

Neurogaming and Neuromodulation

Michael Merzenich, PhD

2:55–3 pm

Q&A

Best Clinical Practices (S3) Moderator: Alon Mogilner, MD PhD

1:30–1:45 pm

Spinal Cord Stimulation

B. Todd Sitzman, MD MPH

1:45–2 pm

Peripheral Nerve Stimulation

Marc Huntoon, MD

2–2:25 pm

Intrathecal Drug Delivery

Richard Rauck, MD

2:25–2:40 pm

Deep Brain Stimulation

Michael Okun, MD

2:40–2:55 pm

Complication Avoidance

Peter Konrad, MD PhD

2:55–3 pm

Q&A

Craniofacial Pain and Neuromodulation (S4) Moderator: Konstantin Slavin, MD

1:30–1:45 pm

Occipital Neurostimulation: Where Are We?

Jonathan Miller, MD

1:45–2 pm

Neuromodulation for Migraine

Stephen Silberstein, MD

2–2:25 pm

Oral Abstracts

2:25–2:40 pm

Advances in Cluster Headache Management

Samer Narouze, MD PhD

2:40–2:55 pm

Trigeminal Neuropathic Pain

Milind Deogaonkar, MD

2:55–3 pm

Q&A

PRELIMINARY AGENDA (SATURDAY-SUNDAY)

2-5 pm

Business Academy for Physicians

Eric Grigsby, MD

This workshop is an extra-fee event.

3-3:30 pm BREAK WITH EXHIBITORS

3:30-5 pm

Concurrent Sessions

Safety Concerns with Intrathecal Drug Delivery (S5) Moderator: Richard Rauck, MD

3:30-3:45 pm
Intrathecal
Granulomas

Timothy Deer, MD

3:45-4 pm
Compounded and
Mixed Intrathecal
Agents

David Caraway, MD PhD

4-4:25 pm
Oral Abstracts

4:25-4:40 pm
What May Go Wrong
"Under the Hood"?

Lawrence Poree,
MD PhD

4:40-4:55 pm
Toxicities of
Intrathecal
Medications

Luc Jasmin, MD

4:55-5 pm
Q&A

The Role of Software Control for Neurostimulation (S6) Moderator: Parag Patil, MD PhD

3:30-3:45 pm
Probabilistic Atlases:
The Concept of Data
Normalization

Benoit Dawant, PhD

3:45-4 pm
Closed Loop Control
of Neurostimulation

John Parker, PhD

4-4:25 pm
Oral Abstracts

4:25-4:40 pm
Accelerometer
Sensing

Tim Denison, PhD

4:40-4:55 pm
Clinical Decision
Support in the
Management of
Devices

Karl Sillay, MD

4:55-5 pm
Q&A

Autonomic Neuromodulation (S7) Moderator: Robert Foreman, PhD FAHA

3:30-3:45 pm
Cardiac
Neuromodulation

Sam Eldabe, MD

3:45-4 pm
Neuromodulation
for Hypertension

Andre Diedrich,
MD PhD

4-4:25 pm
Gastric
Neuromodulation

Jiande Chen, MD PhD

4:25-4:40 pm
Subarachnoid
Hemorrhage

Oren Sagher, MD

4:40-4:55 pm
Modulating the
Vagus for
Inflammation

Ralph Zitnik, MD

4:55-5 pm
Q&A

Genitourinary Neuromodulation: Urodynamic and Colorectal Treatment (S8) Moderator: Steven Siegel, MD PhD

3:30-3:45 pm
Sacral Stim: How Far
Have We Come?

Roger Dmochowski, MD

3:45-4:20 pm
Pediatric Sacral
Stimulation

Steve Teich, MD

4:20-4:55 pm
Neuromodulation
Best Practices

Panel Discussion

4:55-5 pm
Q&A

Sunday, December 8

8 am-Noon

Meeting Registration

8-9:30 am

Oral Abstracts: Spinal Cord Stimulation

Moderator: Marc Huntoon, MD

9:30-9:50 am

BREAK

9:50 am-Noon

Plenary Session

Controversies in Spinal Cord Stimulation

Moderators: Joshua Prager, MD MS; Lawrence Poree,
MD PhD

9:50-10:20 am

Face-Off: Percutaneous Versus Paddle
Versus Percutaneous Paddle

Joshua Rosenow, MD; Richard North, MD; Timothy
Deer, MD

10:20-10:50 am

Face-Off: Rechargeable Versus
Nonrechargeable Generators

Giancarlo Barolat, MD; Krishna Kumar, MD FRSCS

10:50-11:20 am

Face-Off: Dorsal Root Ganglion Versus
Dorsal Column Stimulation

David Caraway, MD PhD; Kenneth Alo, MD

11:20-11:50 am

Face-Off: MRI Versus Non-MRI Compatible
Leads

Robert Levy, MD PhD; Ashwini Sharan, MD

11:50 am-Noon

Q&A

Kenneth Alo, MD

The Methodist Hospital Research
Institute
Houston, TX

Giancarlo Barolat, MD

Barolat Neurosciences
Denver, CO

Allan Basbaum, PhD

University of California, San Francisco
San Francisco, CA

Kevin Benson, MD

Sanford Health
Sioux Falls, SD

Lori Birder, PhD

University of Pittsburgh
Pittsburgh, PA

Nicholas Boulis, MD

Emory University
Atlanta, GA

Brian Bruel, MD

MD Anderson Cancer Center
Houston, TX

Milind Deogaonkar, MD

The Ohio State University Medical Center
Columbus, OH

David Caraway, MD PhD

Center for Pain Relief
Huntington, WV

Jiande Chen, MD PhD

University of Texas Medical Branch
Galveston, TX

Benoit Dawant, PhD

Vanderbilt University
Nashville, TN

Timothy Deer, MD

The Center for Pain Relief, Inc.
Charleston, WV

Tim Denison, PhD

Medtronic, Inc.
Minneapolis, MN

Andre Diedrich, MD PhD

Vanderbilt University
Nashville, TN

Roger Dmochowski, MD

Vanderbilt University
Nashville, TN

Sam Eldabe, MD

The James Cook University Hospital
Middlesbrough, United Kingdom

Jeff Elias, MD

University of Virginia School of Medicine
Charlottesville, VA

William Elmquist, PhD

University of Minnesota
Minneapolis, MN

Steven Falowski, MD

St. Luke's Neurosurgical
Associates
Bethlehem, PA

Robert Foreman, PhD FAHA

University of Oklahoma Health
Sciences Center
Oklahoma City, OK

Felipe Fregni, MD PhD MPH

Harvard University
Cambridge, MA

Susan Garruto, MSN CRNP

Thomas Jefferson University
Philadelphia, PA

Jay Grider, DO PhD

University of Kentucky
Lexington, KY

Eric Grigsby, MD

Napa Pain Institute
Napa, CA

Warren Grill, PhD

Duke University
Durham, NC

Maged Hamza, MD

Virginia Commonwealth University Spine
Center at Stoney Point Medical Center
Richmond, VA

Salim Hayek, MD PhD

University Hospitals of Cleveland
Cleveland, OH

Jaimie Henderson, MD

Stanford University
Stanford, CA

Chester Ho, MD

Foothills Hospital
Calgary, AB, Canada

Marc Huntoon, MD

Vanderbilt University
Nashville, TN

Mir Imran

InCube Labs
San Francisco, CA

E. Duco Jansen, PhD

Vanderbilt University
Nashville, TN

Luc Jasmin, MD

Ashland Neurosurgery
Ashland, OR

Leonardo Kapural, MD PhD

Wake Forest University
Winston Salem, NC

Kevin Kilgore, PhD

Case Western Reserve University
Cleveland, OH

David Kloth, MD

Connecticut Pain Care
Danbury, CT

Peter Konrad, MD PhD

Vanderbilt University
Nashville, TN

Brian Kopell, MD

Mount Sinai Medical Center
New York, NY

Elliot Krames, MD

Pacific Pain Treatment Center
San Francisco, CA

Krishna Kumar, MD FRSCS

Regina Qu'Appelle Health Region
Regina, SK, Canada

Tan Le, BCom LLB

Emotiv Lifesciences
San Francisco, CA

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Pain Clinic of Monterey Bay
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Center for the Rehabilitation of
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The Institute for Pain Diagnostics and Care at
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NANS 17TH ANNUAL MEETING

December 5–8, 2013 • Mandalay Bay Resort and Four Seasons • Las Vegas, NV

FOR DATA USE ONLY

Cust# _____ Mtg Ord #1- _____

Date _____ | _____

Please type or print clearly. Use a separate form for each registrant and duplicate as necessary.

Complete Name _____ First Name (for badge) _____ Credentials _____

Medical Specialty _____

Facility _____ Facility City/State _____

Mailing Address (☐ Home ☐ Office) _____

City/State/ZIP _____

Phone (☐ Home ☐ Office) _____ Fax (☐ Home ☐ Office) _____

E-mail Address (required*) _____

*Confirmation of your registration will be sent via e-mail only to the e-mail address you provide here.

Emergency Contact _____ Daytime Phone _____ Evening Phone _____

To register, make your selections in the boxes below and indicate the total amount in box F.

Full Meeting Registration	December 5–8, 2013	A
	On or before 11/11/13	After 11/11/13
NANS Member	☐ \$495	☐ \$595
INS Member	☐ \$495	☐ \$595
Allied Health, Nurse, PA Member	☐ \$395	☐ \$395
Allied Health, Nurse, PA Nonmember	☐ \$695	☐ \$695
Student Trainee	☐ \$295	☐ \$395
Join NANS & Register	☐ \$855	☐ \$855
Special offer includes registration and 1 year of NANS membership with full benefits, including a subscription to <i>Neuromodulation</i> , the journal of the International Neuromodulation Society.		
Nonmember	☐ \$695	☐ \$795
		Subtotal A \$ _____

1-Day Meeting Registration	B
<i>For registrants attending 1 day of the meeting only.</i>	
Please indicate which day you will be attending:	
☐ Thursday/Friday only	☐ Saturday only ☐ Sunday only
	On or before 11/11/13 After 11/11/13
NANS Member	☐ \$200 ☐ \$300
INS Member	☐ \$200 ☐ \$300
Student/Trainee/Resident	☐ \$100 ☐ \$200
Join NANS & Register 1-Day	☐ \$350 ☐ \$450
Nonmember	☐ \$300 ☐ \$400
Subtotal B \$ _____	

Concurrent Session Selection	C
Please enter the two-digit code for each session you plan to attend. (For session codes, see pages 5–8.)	
Friday, December 6	Saturday, December 7
1:30–3 pm Concurrent Session ☐ F ☐	1:30–3 pm Concurrent Session ☐ S ☐
3:30–5 pm Concurrent Session ☐ F ☐	3:30–5 pm Concurrent Session ☐ S ☐

Special Sessions	D
NANS I[®]: Investment, Invention, and Invigoration (III)	
Thursday, December 5, 8 am–4:30 pm	☐ \$300 (by 11/11/13) ☐ \$350 (after 11/11/13)
Intrathecal Pump Evaluation, Management, and Refills (INT)	
Thursday, December 5, 8 am–5 pm	☐ \$65 (by 11/11/13) ☐ \$90 (after 11/11/13)
5th Annual Course on Neuromodulation for Midlevel Practitioners (WS1) (CME offered)	
Thursday, December 5, 1–5 pm	☐ \$65 (by 11/11/13) ☐ \$90 (after 11/11/13)
Opening Reception (REC)	
Thursday, December 5, 7–8:30 pm	☐ will attend ☐ will not attend
Industry-Sponsored Luncheon: Innovation Focused on Pain Relief (LUN1) (non-CME)	
Friday, December 6, Noon–1:30 pm	☐ will attend ☐ will not attend
Industry-Sponsored Luncheon: Achieving Better Pain Relief (LUN2) (non-CME)	
Friday, December 6, Noon–1:30 pm	☐ will attend ☐ will not attend
Sponsored Luncheon: Innovations in Pain Management (LUN3) (CME)	
Saturday, December 7, Noon–1:30 pm	☐ will attend ☐ will not attend
Sponsored Luncheon: Translating Algorithms to Clinical Practice (LUN4) (CME)	
Saturday, December 7, Noon–1:30 pm	☐ will attend ☐ will not attend
Business Academy for Physicians (BUS)	
Saturday, December 7, 2–5 pm	☐ \$50 (by 11/11/13) ☐ \$75 (after 11/11/13)
Subtotal D \$ _____	

Special Requests	E
☐ This is my first NANS meeting. (FTA)	☐ I have other needs. Please list: _____ (OTH)
☐ I would like more information about NANS membership. (MBR)	☐ I do not wish to have my name and contact information included in the printed attendee list. (DIS)
☐ I have special needs. Please contact me. (SA)	
☐ I will need vegetarian meals. (SDV)	

Total Amount Due	F
Please review your registration form prior to completing this box.	
Total Amount Due (A or B) + D = \$ _____	

4 Easy Ways to Register
Online**: www.neuromodulation.org
Mail: NANS Meeting, PO Box 31756 Chicago, IL 60631
Phone**: 847.375.4714
Fax**: 847.375.6492
*Credit card payment only
If payment does not accompany this form, your registration will not be processed.

Payment
☐ Mastercard ☐ Visa ☐ American Express ☐ Discover ☐ Check (enclosed)—payable to NANS
• A \$25 charge will apply if rebilling of the credit card is necessary.
• Checks not in U.S. funds will be returned. A charge of \$20 will apply to checks returned for insufficient funds.
• If you fax this form, please do not mail the original.
• I authorize NANS to charge the below listed card amounts reasonably deemed by NANS to be accurate and appropriate.
Account Number _____ Expiration Date _____
Signature _____ Cardholder's Name (please print) _____

Cancellation Policy: All cancellations must be made in writing. A \$100 processing fee will be charged for all cancellations received 14 or more days before the event. Refunds will not be made under any circumstances on cancellations received after November 21, 2013. NANS reserves the right to substitute faculty or to cancel or reschedule sessions due to low enrollment or other unforeseen circumstances. If NANS must cancel the entire meeting, registrants will receive a full credit or refund of their paid registration fee. No refunds can be made for lodging, airfare, or any other expenses related to attending the conference.



North American Neuromodulation Society

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