

MARCH  
14-17  
2019

PRELIMINARY  
SCIENTIFIC  
PROGRAM

ADVANCE REGISTRATION  
DEADLINE:  
FRIDAY, FEBRUARY 15, 2019



The Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves

# SPINE SUMMIT 2019

Technical Innovation for Restoring Patient Function

*Miami Beach, Florida*



Congress of  
Neurological  
Surgeons



American  
Association of  
Neurological  
Surgeons

SPINE SUMMIT IS JOINTLY PROVIDED BY THE CONGRESS OF NEUROLOGICAL SURGEONS AND THE AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES.

FONTAINEBLEAU  
- *Miami Beach* -

Learn more about Spine Summit 2019 at [CNS.ORG/SPINE](http://CNS.ORG/SPINE)

# TECHNICAL INNOVATION FOR RESTORING PATIENT FUNCTION

Dear Colleague,

We are excited to invite you to join us at the 35<sup>th</sup> Annual Meeting of the Section on Disorders of the Spine and Peripheral Nerves on March 14–17, 2019, in Miami Beach, Florida. This year's meeting will be held at the beautiful Fontainebleau Miami Beach, where thought leaders from around the world will gather to discuss topics under this year's theme, *Technical Innovation for Restoring Patient Function*.

As always, the most exciting spine meeting of the year will deliver relevant scientific sessions, special courses, and breakouts. We're bringing back tried and true meeting favorites, such as spirited debates on controversial topics, and the Hands-on Cadaver Course. You'll also have the opportunity to collaborate with spine and peripheral nerve surgeons at the forefront of the field and discover the latest innovations, as well as discuss strategies to find balance and direction in a time of rapid and meaningful change in healthcare.

This year, we're proud to honor Meritorious Award recipients Robert F. Heary and Rolando Garcia for their incredible careers in neurosurgery and orthopedic surgery, respectively. We also welcome Meritorious Member award recipients Rajiv Midha and John A. Wilson. They will be sharing their knowledge during award presentations, Happy Hour debates, and at the Cahill Controversies.

In addition to oral presentations showcasing the best ongoing research in our field, we continue to showcase residents' scientific contributions with the Charles Kuntz Scholarship Awards, the J.A.N.E. Award, the Mayfield Award, and the Kline Peripheral Nerve Top Abstract Award.

Be sure to visit our cutting-edge Exhibit Hall to see the latest and greatest in technology, products, and services. Residents and fellows will be invited to attend an all new Spine and Wine reception. Don't forget to carve out time to visit the stunning sights and electric nightlife of Miami Beach. Take advantage of the opportunity to go golfing or deep sea fishing on Saturday.

Spine Summit 2019 provides you an unparalleled opportunity to stay at the leading edge of spine and peripheral nerve surgery, while enjoying the beauty and excitement of Miami Beach!

**Make your arrangements and register today at [cns.org/spine](http://cns.org/spine).**

Sincerely,



**Michael Y. Wang**

♦♦♦♦

Section Chair



**Juan S. Uribe**

♦♦♦♦

Annual Meeting Chair



**Domagoj Coric**

♦♦♦♦

Scientific Program Chair



**FONTAINEBLEAU**  
— *Miami Beach* —

## Meeting Highlights

- Your choice of seven Special Courses
- Wine and Spine Reception for residents and fellows
- Hands on Cadaver Session with the Masters (Non-CME)
- Cahill Controversies Session
- Oral Presentations, Charles Kuntz Scholarships, Mayfield Award, and J.A.N.E. Award
- APRN/PA Seminar offered complimentary for PAs & RNs who register for Spine Summit 2019
- Golf on Normandy Shores and Deep Sea Fishing

## Important Dates to Remember

### FEBRUARY 15

- Advance Registration and Housing Deadline.

### FEBRUARY 25: CANCELLATION DEADLINE

- \$100 processing fee will be charged for written cancellations received by this date, regardless of cause.
- Special Course tickets will be refunded in full until this date.

*Absolutely no refunds will be given after February 25, regardless of cause.*

# PROGRAM AT A GLANCE

## THURSDAY, March 14, 2019

**11:00 am–5:30 pm**

Registration

**12:30–1:30 pm**

Non-CME Pre-meeting Lunch Seminar

**1:30–5:30 pm**

Hands on Cadaver Session with the Masters (Non-CME)

**1:30–5:30 pm**

■ **Special Course 1**  
MIS/Navigation and Robotics—Procedural Solutions

■ **Special Course 2**

Spinal Deformity: Case-based Pearls and Pitfalls for the Practicing Spine Surgeon

■ **Special Course 3**

Surgical Treatment of Peripheral Pain

■ **Special Course 4**

Spine Specialty Specific Oral Board Review Course

**6:30–8:00 pm**

Opening Reception

## FRIDAY March 15, 2019

**6:30 am–6:45 pm**

Registration

**7:00–7:45 am**

**Challenging Cases 1**

Board-style Challenging Cases: Cervical

**7:45–8:00 am**

Opening Remarks

**8:00–9:30 am**

**Scientific Session 1**

Innovation in Spine to Improve Patient Education

**9:00 am–4:30 pm**

Exhibit Hall Open

**9:30–10:15 am**

Beverage Break and *What's New* Session 1 in the Exhibit Hall

**10:15 am–12:00 pm**

**Scientific Session 2**

Spine Controversies and Sports Trauma

**12:00–1:00 pm**

■ Non-CME Sponsored Lunch Symposia

■ Lunch in the Exhibit Hall

**1:00–2:30 pm**

**Scientific Session 3**

Innovative Technology Special Session

**2:30–3:15 pm**

Beverage Break and *What's New* Session 2 in the Exhibit Hall

**2:30–4:30 pm**

Peripheral Nerve Course: Case-based Approaches to Peripheral Nerve Trauma and Other Conditions

**3:15–4:25 pm**

■ Top Abstracts Concurrent Session 1

■ Top Abstracts Concurrent Session 2

■ Top Abstracts Concurrent Session 3

**4:30–6:45 pm**

Beer and Wine Happy Hour Debates

**7:00–9:00 pm**

Wine and Spine for residents and fellows

## SATURDAY March 16, 2019

**6:30 am–3:00 pm**

Registration

**7:00–8:00 am**

**Challenging Cases 2**

Board-style Challenging Cases: Thoracolumbar

**8:00–9:30 am**

■ MIS/Motion Preservation Breakout

■ Spine Trauma/General Spine Surgery 1 Breakout

■ Improving Healthcare Delivery and Patient Outcomes Breakout

■ General Spine Surgery 2 Breakout

**9:00 am–1:00 pm**

Exhibit Hall Open

**9:30–10:15 am**

Beverage Break and *What's New* Session 3 in the Exhibit Hall

**10:15–11:45 am**

**Scientific Session 4**

Interbody (Death) Cage Match

**11:45 am–12:00 pm**

DSPN Business Meeting

**12:00–1:00 pm**

■ Non-CME Sponsored Lunch Symposia

■ Lunch in the Exhibit Hall

**1:00–2:30 pm**

Seminar for APRN and PAs

**1:00–3:00 pm**

■ **Special Course 5**  
Inventors and Innovators

**1:00–3:00 pm**

■ **Special Course 6**  
Spinal Tumors: Treatment and Complication Avoidance

**1:00–3:00 pm**

■ **Special Course 7**  
Causes and Treatments for Neurological Loss Associated with Cervical Spine Pathology

## SUNDAY March 17, 2019

**6:30 am–12:30 pm**

Registration

**7:00–7:45 am**

**Challenging Cases 3**

Board-style Challenging Cases: Peripheral Nerve

**7:45–9:15 am**

■ Peripheral Nerve/Basic Science Breakout

■ Spinal Deformity Breakout

■ General Spine Surgery 3 Breakout

■ General Spine Surgery 4 Breakout

**9:15–10:15 am**

Special Session: Business of Spine Surgery/CPT Update

**10:15 am–12:30 pm**

Cahill Controversies: Case Presentations—Jedi Knight Versus Jedi Master

**12:30 pm**

Meeting Adjourns

Welcome to  
our International  
Guest Society!



**INTERNATIONAL**  
SOCIETY for the ADVANCEMENT of  
**SPINE SURGERY**

# MEETING AGENDA

**THURSDAY**  
**March 14, 2019**

**12:30–1:30 pm**

Pre-meeting Non-CME Sponsored Lunch Symposia

## Non-CME Cadaver Lab

**1:30–5:30 pm**

**\$500**

Hands on Cadaver Session with the Masters (Non-CME)

**Course Directors:** Mark A. Mahan, Rishi K. Wadhwa

**Course Description:** Participants will engage in hands-on learning of innovative new technologies in spine and peripheral nerve surgery. In this four-hour cadaver lab, participants will learn advanced techniques in minimally invasive deformity spine surgery and peripheral nerve repair. Rotations will include various MIS and deformity approaches and instrumentation, as well as, peripheral nerve grafting. One-on-one instruction will be performed with experienced faculty using the latest state-of-the-art devices. Surgeons with limited prior experience will learn practical techniques to introduce into their clinical practice. Those with advanced experience will have the opportunity to share surgical technique refinement with expert faculty, and to survey a variety of new technologies.

## Special Course 1

**1:30–5:30 pm**

**\$200**

MIS/Navigation and Robotics—Procedural Solutions

**Course Directors:** Paul Park, Juan S. Uribe

**Speakers:** Victor W. Chang, Roger Hartl, J. Patrick Johnson, Ronald A. Lehman, Jean-Pierre Mobasser, Eric W. Nottmeier, Paul Park, Michael P. Steinmetz, William R. Taylor, Khoi D. Than, Juan S. Uribe, Michael Y. Wang

**Course Description:** This course will cover the latest advances in spinal navigation with an emphasis on minimally invasive surgery, and a detailed review of the present and future role of robotics in spinal surgery. The premise of the course is to maximize efficiency and accuracy in using navigation as well as discuss novel applications for image guidance and integration of robotic technology. This course will cover essential topics including optimal workflow for integration of intra-operative image acquisition, positioning, frame placement, and instrumentation use. It will also review strategies for complex cases and complication avoidance.

**Learning Objectives:** Upon completion of this course, participants will be able to:

1. Identify current evidence supporting the use of spinal navigation in minimally invasive surgery.
2. Learn the role of robotics and its integration into spinal surgery.
3. Describe navigation techniques for minimally invasive surgery, including applications in trauma, tumor, and spinal deformity surgery.

**1:30–1:35 pm**

Introduction

Paul Park, Juan S. Uribe

**1:36–1:45 pm**

Applications and Evidence for Spinal Navigation in Minimally Invasive Spine Surgery

Victor W. Chang

**1:46–1:55 pm**

Navigation—MIS TLIF (Technique)

Roger Hartl

**1:56–2:05 pm**

Navigation—Percutaneous Screw Fixation (Technique)

Jean-Pierre Mobasser

**2:06–2:15 pm**

Navigation—Spinal Tumor (Technique)

Khoi D. Than

**2:16–2:25 pm**

Navigation—Spinal Deformity (Technique)

J. Patrick Johnson

**2:26–2:35 pm**

Navigation—Lateral Applications (Technique)

Paul Park

**2:36–2:45 pm**

MIS Trauma

William R. Taylor

**2:45–2:50 pm**

Questions and Discussion

**2:50–3:20 pm**

Hands-on Workshop (Navigation)

**3:20–3:40 pm**

Break

**3:41–3:50 pm**

Image Guided Rod Contouring

Juan S. Uribe

**3:51–4:00 pm**

Robot-assisted Pedicle Screw Placement

Gregory Basil

**4:01–4:10 pm**

Current Evidence for and Future Applications for Robotics in Spinal Surgery

Ronald A. Lehman

**4:11–4:20 pm**

Cost Effectiveness of Navigation

Eric W. Nottmeier

**4:21–4:30 pm**

Questions and Discussion

**4:30–4:40 pm**

Break

**4:41–4:50 pm**

How to Advocate for New Technology at Your Hospital

Michael P. Steinmetz

Thursday

# MEETING AGENDA

## 4:51–5:30 pm Hands-on Workshop (Robotics)

### Special Course 2

#### 1:30–5:30 pm \$200 Spinal Deformity: Case-based Pearls and Pitfalls for the Practicing Spine Surgeon

**Course Directors:** Kai-Ming G. Fu, Lawrence Lenke, Praveen V. Mummaneni

**Speakers:** Sigurd Berven, Shay Bess, John R. Dimar, Kai-Ming G. Fu, Regis W. Haid, Adam S. Kanter, Isaac O. Karikari, Lawrence Lenke, Catherine Miller, Pierce D. Nunley, Christopher I. Shaffrey, Lee A. Tan

**Course Description:** Through an interactive case based format, this course will address deformity concerns commonly encountered by the practicing spine surgeon.

**Learning Objectives:** Upon completion of this course, participants will be able to:

1. Identify deformity principles in regard to degenerative pathology
2. Analyze the current state of less invasive techniques and deformity

#### 1:30–1:45 pm Spondylolisthesis Grade 3: Optimal Management

John R. Dimar

#### 1:46–2:01 pm Degenerative Techniques and Sagittal Plane Alignment (ALIF Versus TLIF)

Regis W. Haid

#### 2:02–2:07 pm Questions and Discussion

#### 2:08–2:23 pm Adjacent Level Disease: When to Extend a Level Versus Spinal Reconstruction

Shay Bess

#### 2:24–2:39 pm Multiple SPO Versus PSO and How to Choose

Lawrence Lenke

#### 2:40–3:00 pm Case-based Discussion

Isaac O. Karikari

.....  
 3:00–3:15 pm  
Break  
.....

#### 3:16–3:31 pm When to Consider MIS in Deformity Surgery

Kai-Ming G. Fu

#### 3:32–3:47 pm Pre Versus Trans Psoas in Lateral Deformity Surgery: How to Choose the Optimal Approach

Catherine Miller

#### 3:48–3:53 pm Questions and Discussion

#### 3:54–4:09 pm Stand Alone for MIS Deformity? When to Back Up Posteriorly

Adam S. Kanter

## 4:10–4:25 pm Multidisciplinary Team Approach to Adult Deformity Patient Selection and Pre-op Optimization

Sigurd Berven

#### 4:26–4:41 pm Techniques to Minimize PJK

Christopher I. Shaffrey

#### 4:42–4:47 pm Complication Management—percutaneous Pedicle Screw Placement in MIS Deformity Surgery

Pierce D. Nunley

#### 4:48–5:08 pm Case-based Discussion

Lee A. Tan

## 5:09–5:30 pm Participant Cases

### Special Course 3

#### 1:30–5:30 pm \$200 Surgical Treatment of Peripheral Pain

**Course Directors:** Line G. Jacques, Mark A. Mahan

**Speakers:** Allan J. Belzberg, Nicholas M. Boulis, Aaron G. Filler, Line G. Jacques, Mark A. Mahan, Zaman Mirzadeh, Julie G. Pilitsis, Konstantin V. Slavin, Robert J. Spinner, Christopher J. Winfree

**Course Description:** This course will explore the diverse surgical options for treatment of pain including decompression, neurologic reconstruction, ablative and stimulation procedures, including up-to-date research findings on clinical evaluation, patient reported outcomes, procedural options and outcomes. New and emerging technologies will be discussed, including the rational use and expectations of developing therapies.

**Learning Objectives:** Upon completion of this course, participants will be able to:

1. Define appropriate patient characteristics for surgical treatment of pain
2. Discuss the differential benefits of treatment options within reconstructive, ablative, and stimulation surgeries
3. Describe risks and a tiered approach for salvage options

#### 1:30–1:35 pm Introduction

Line G. Jacques, Mark A. Mahan

#### 1:36–1:50 pm Reconstruction for Pain

Robert J. Spinner

#### 1:51–2:05 pm Ablative Surgery: DREZotomy, Neurectomies, and Neuromas

Nicholas M. Boulis

#### 2:06–2:20 pm Decompression Surgery for Upper Extremity Pain Syndromes

Allan J. Belzberg

# MEETING AGENDA

**2:21–2:35 pm**

**Decompression Surgery for Lower Extremity Syndromes**

*Aaron G. Filler*

**2:36–2:50 pm**

**Medical Management: New Options**

*Christopher J. Winfree*

**2:51–3:05 pm**

**Cancer Pain: Cordotomies, Myelotomy, and Pumps**

*Zaman Mirzadeh*

**3:06–3:30 pm**

**Case Discussion: Brachial Plexus Avulsion**

*Allan J. Belzberg, Nicholas M. Boulis, Robert J. Spinner*

**3:30–3:45 pm**

**Break**

**3:46–4:00 pm**

**Dorsal Root Ganglion Stimulation**

*Line G. Jacques*

**4:01–4:20 pm**

**Epidural Stimulation: High Frequency Versus Traditional**

*Julie G. Pilitsis*

**4:21–4:40 pm**

**Peripheral Nerve Stimulation: New Technologies**

*Konstantin V. Slavin*

**4:41–5:00 pm**

**No One's Favorites: Meralgia Paresthetica and Occipital Neuralgia**

*Line G. Jacques, Mark A. Mahan*

**5:01–5:15 pm**

**Case Discussion: Dorsal Root Ganglion Versus Peripheral Nerve Stimulation Versus Epidural Stimulation for CRPS**

*Line G. Jacques, Julie G. Pilitsis, Konstantin V. Slavin*

**5:16–5:30 pm**

**Conclusion and Questions**

## Special Course 4

**1:30–5:30 pm**

**\$200**

**Spine Specialty Specific Oral Board Review Course**

**Course Directors:** *Yakov Gologorsky, W. Zachary Ray*

**Faculty:** *Marc Arginteanu, Anthony L. Asher, Erica F. Bisson, Mohamad Bydon, John M. Caridi, John H. Chi, Richard D. Fessler, Aruna Ganju, Daniel J. Hoh, R. John Hurlbert, Shekar N. Kurpad, Allan D. Levi, Daniel C. Lu, Scott A. Meyer, Adetokunbo A. Oyelese, Srinivas K. Prasad, Charles A. Sansur, Mark E. Shaffrey, Harshpal Singh, Marjorie C. Wang*

**Course Description:** This is an interactive case based format designed to prepare recent graduates or fellow level participants for the new spine specialty specific oral boards. Enrollment will be strictly limited and will allow for dedicated 1:1 sessions using both submitted cases and cases prepared by the faculty.

**Learning Objective:** Upon completion of this course, participants will be able to:

1. Identify the new spine specialty specific oral boards pathway

**1:30–1:50 pm**

**Introduction**

*Marjorie C. Wang*

**1:50–3:30 pm**

**All Faculty – 1:1 Oral Boards Style Case Presentations**

**3:30–3:50 pm**

**Break**

**3:50–5:30 pm**

**All Faculty – 1:1 Oral Boards Style Case Presentations**

## Opening Reception

**6:30–8:00 pm**

Take in spectacular ocean views and watch the sunset while enjoying a lavish array of food and beverages as you network with friends and colleagues at the Opening Reception. Each medical attendee and spouse/guest registered for the meeting will receive one complimentary ticket. Please note this event is held outdoors. Resort casual attire is recommended.



# MEETING AGENDA

**FRIDAY**  
**March 15, 2019**

## Challenging Cases 1

**7:00–7:45 am**

Board-style Challenging Cases: Cervical

**Moderators:** Aaron J. Clark, David J. Hart, Christopher M. Holland

**7:45–8:00 am**

Opening Remarks

**7:45–7:50 am**

Welcome

*Domagoj Coric*

**7:50–8:00 am**

Introduction

*Michael Y. Wang*

## Scientific Session 1

**8:00–9:30 am**

Innovation in Spine to Improve Patient Education

**Moderators:** R. John Hurlbert, Marjorie C. Wang

**Speakers:** Rolando Garcia, Robert F. Heary, R. John Hurlbert, Iain H. Kalfas, Daniel C. Lu, Daniel K. Resnick, Michael Y. Wang

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Critically analyze the design, methodology, and content of basic science and clinical spine studies
2. Describe the impact of innovative technologies on the field of spine surgery
3. Describe how technological advances in spine surgery can positively impact patient care

**8:00–8:32 am**

J.A.N.E. and Mayfield Award Presentations

*Daniel C. Lu*

**8:33–8:34 am**

Announcement of Research Awards

*R. John Hurlbert*

**8:35–8:40 am**

Questions and Discussion

**8:41–8:44 am**

Introduction of Meritorious Award Recipient, Neurosurgery

*Iain H. Kalfas*

**8:45–8:55 am**

Meritorious Service Award Recipient, Neurosurgery

*Robert F. Heary*

**8:56–8:59 am**

Introduction Meritorious Service Award, Orthopedics

*Michael Y. Wang*

**9:00–9:10 am**

Meritorious Service Award, Orthopedics

*Rolando Garcia*

**9:11–9:14 am**

Introduction of DSPN Chair

*Daniel K. Resnick*

**9:15–9:30 am**

DSPN Chair's Address

*Michael Y. Wang*

**9:30–10:15 am**

Beverage Break and *What's New Session 1* in the Exhibit Hall

## Scientific Session 2

**10:15–12:00 pm**

Spine Controversies and Sports Trauma

**Moderators:** Regis W. Haid, Mark E. Shaffrey

**Speakers:** JJ Abitbol, Tim E. Adamson, Giuseppe Barbagallo, Richard D. Guyer, Regis W. Haid, Gillian A. Hotz, R. John Hurlbert, David O. Okonkwo, Daniel K. Resnick, Matthew Scott-Young, Christopher I. Shaffrey, Mark E. Shaffrey, Nicholas Theodore, Alexander R. Vaccaro

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Identify controversial areas in the field of spine surgery and discuss treatment alternatives
2. Discuss surgical treatments for spinal pathologies commonly encountered in athletes
3. Describe how technological advances have been incorporated into the surgical treatment of athletic injuries

**10:15–10:20 am**

Introduction

*Regis W. Haid, Mark E. Shaffrey*

**10:21–10:29 am**

Adult Deformity Surgery: Beyond Sagittal Balance: What's Next?

*Christopher I. Shaffrey*

**10:30–10:38 am**

Cervical Sagittal Balance and Osteotomy

*David O. Okonkwo*

**10:39–10:47 am**

Jumped Facets: Anterior Versus Posterior? Does it Matter?

*Giuseppe Barbagallo*

**10:48–10:56 am**

Posterior C1-2 for Geriatric Odontoid Fracture: A New Standard of Care?

*Alexander R. Vaccaro*

**10:57–11:05 am**

NFL Update: Head and Neck Injuries

*Nicholas Theodore*

**11:06–11:14 am**

Return to Play Following Sports Injury

*Gillian A. Hotz*

Friday

# MEETING AGENDA

**11:15–11:23 am**

**MIS Posterior Cervical Foraminotomy: Treatment and Complication Avoidance in Athletes**

*Tim E. Adamson*

**11:24–11:32 am**

**Cervical TDR in Athletes**

*Matthew Scott-Young*

**11:33–11:41 am**

**Anterior Versus Posterior and Complication Avoidance in Lumbar Surgery for Athletes**

*Richard D. Guyer*

**11:42–11:50 am**

**The Opioid Epidemic: What's Next?**

*Jf Abitbol*

**11:51 am–12:00 pm**

**Questions and Discussion**

**Lunch with Exhibitors or Attend a Non-CME Sponsored Lunch**

**12:00–1:00 pm**

**Scientific Session 3**

**1:00–2:30 pm**

**Innovative Technology Special Session**

**Moderators:** *Zoher Ghogawala, Matthew J. McGirt*

**Speakers:** *Oscar L. Alves, Anthony L. Asher, Hyun Bae, Frank La Marca, John Pelozo, Rick Sasso, Claudio E. Tatsui, Albert E. Telfeian, Miroslav J. Vukic, Jang W. Yoon*

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Analyze innovative spine technologies and how they can be incorporated into clinical practice
2. Describe the impact of technological advances on improving patient care and outcomes
3. Discuss the pros and cons of adopting novel technologies into clinical practice

**1:00–1:07 pm**

**Endoscopic Lumbar Decompression**

*Albert E. Telfeian*

**1:08–1:15 pm**

**Endoscopic Lumbar Fusion**

*Jang W. Yoon*

**1:16–1:23 pm**

**Exoscope Intraoperative Visualization**

*Anthony L. Asher*

**1:24–1:31 pm**

**Robotic Spine Surgery: State of the Art**

*Frank La Marca*

**1:32–1:39 pm**

**Cervical TDR: A New Standard?**

*Rick Sasso*

**1:46–1:53 pm**

**Cervical Arthroplasty: Expanded Indications**

*Oscar L. Alves*

**1:54–2:01 pm**

**Cervical TDR: OUS Experience and Results**

*Miroslav J. Vukic*

**2:02–2:09 pm**

**Minimally Invasive Posterior Cervical Fixation**

*John Pelozo*

**2:10–2:17 pm**

**Stem Cells and Regenerative Medicine**

*Hyun Bae*

**2:18–2:25 pm**

**LIT Laser Treatment of Spinal Metastases**

*Claudio E. Tatsui*

**2:25–2:30 pm**

**Questions and Discussion**

**2:30–3:15 pm**

**Beverage Break and What's New Session 2 in the Exhibit Hall**

**Peripheral Nerve Session**

**2:30–4:30 pm**

**Case-based Approaches to Peripheral Nerve Trauma and Other Conditions**

**Course Directors:** *Holly Gilmer, Line G. Jacques, Mark A. Mahan*

**Speakers:** *Zarina S. Ali, Allan J. Belzberg, Justin M. Brown, Holly Gilmer, Amgad S. Hanna, Marie-Noelle Hebert-Blouin, Line G. Jacques, Allan D. Levi, Mark A. Mahan, Rajiv Midha, Wilson Z. Ray, Robert J. Spinner, Thomas J. Wilson, Christopher J. Winfree, Eric L. Zager*

**Course Description:** This course will cover management of various peripheral nerve disorders. Using a case-based format, faculty will review indications, timing of intervention, and surgical approaches. Relevant anatomy, clinical presentation, and outcomes will be discussed. This course is an excellent review for oral board and maintenance of certification.

**Learning Objectives:** Upon completion of this course, participants will be able to:

1. Describe a systematic approach to patients with a wide range of peripheral nerve disorders.
2. Develop a non-operative or operative management strategy for these conditions.
3. Discuss advantages and disadvantages and expected outcomes of various surgical approaches

**2:30–2:40 pm**

**Peripheral Nerve History and Physical Exam**

*Allan J. Belzberg*

**2:40–2:50 pm**

**Fundamentals of Nerve Injury and Regeneration**

*Rajiv Midha*

**2:50–3:00 pm**

**Brachial Plexus Trauma**

*Justin M. Brown*



# MEETING AGENDA

**3:00–3:03 pm**

**Discussant–Brachial Plexus Trauma**

*Robert J. Spinner*

**3:03–3:13 pm**

**Upper Extremity Nerve Trauma**

*Wilson Z. Ray*

**3:13–3:16 pm**

**Discussant–Upper Extremity Nerve Trauma**

*Eric L. Zager*

**3:16–3:26 pm**

**Lower Extremity Nerve Trauma**

*Mark A. Mahan*

**3:26–3:29 pm**

**Discussant–Lower Extremity Nerve Trauma**

*Allan D. Levi*

**3:29–3:39 pm**

**Upper Extremity Entrapment**

*Marie-Noelle Hebert-Blouin*

**3:39–3:42 pm**

**Discussant–Upper Extremity Entrapment**

*Holly Gilmer*

**3:42–3:52 pm**

**Lower Extremity Entrapment**

*Thomas J. Wilson*

**3:52–3:55 pm**

**Discussant–Lower Extremity Entrapment**

*Amgad S. Hanna*

**3:55–4:05 pm**

**Nerve Tumors**

*Zarina S. Ali*

**4:05–4:08 pm**

**Discussant–Nerve Tumors**

*Allan J. Belzberg*

**4:08–4:18 pm**

**Neuropathic Pain Management**

*Line G. Jacques*

**4:18–4:21 pm**

**Discussant–Neuropathic Pain Management**

*Christopher J. Winfree*

**4:21–4:30 pm**

**Conclusion and Questions**

*Robert J. Spinner*

## Oral Presentations

**3:15–4:25 pm**

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Analyze the findings of novel neurosurgical studies, critique the design and methodology of these studies
2. List important areas for further knowledge development and research
3. Discuss ongoing innovative clinical and basic science studies, and how they may impact current practice.

### Top Abstracts Concurrent Session 1

**Moderators:** *Khoi D. Than, Cheerag D. Upadhyaya, John E. Ziewacz*

### Top Abstracts Concurrent Session 2

**Moderators:** *Sanjay S. Dhall, Jay D. Turner, Robert G. Whitmore*

### Top Abstracts Concurrent Session 3

**Moderators:** *Christopher M. Bonfield, Kenneth M. Crandall, Aruna Ganju*

Register for the  
**JOINT SECTION ON PAIN  
2019 BIENNIAL MEETING  
AND Spine Summit and save!**

MARCH  
13–14  
2019

The Joint Section on Pain Biennial Meeting focuses on modalities for the treatment of spinal and peripheral nerve disease beyond decompression and stabilization.

Register for both the Joint Section on Pain and Spine Summit and save \$150 off your Spine Summit registration fee!

Friday

# MEETING AGENDA

## Beer and Wine Happy Hour Debates

**4:30–6:45 pm**

**Moderators:** Daniel J. Hoh, Juan S. Uribe

**Speakers:** Charles L. Branch, Joseph S. Cheng, Jeffrey Goldstein, James S. Harrop, Roger Hartl, Matthew J. McGirt, Pierce D. Nunley, Daniel K. Resnick, Gerald E. Rodts, Daniel M. Sciubba, Justin S. Smith, Vincent C. Traynelis, Luis M. Tumialan, Christopher E. Wolfla

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Critically analyze and discuss various treatment alternatives for common spinal pathologies
2. Discuss the pros and cons of minimally invasive treatment options for the treatment of spinal trauma.
3. Describe the advantages of and barriers to adopting cutting edge spine technologies into clinical practice.

**4:30–4:55 pm**

**Topic 1: Adult Deformity Surgery in the Elderly**

**4:30–4:39 pm**

**PRO: Necessity for an Aging Population**

*Daniel M. Sciubba*

**4:40–4:49 pm**

**CON: Unsustainable Waste of Resources**

*Daniel K. Resnick*

**4:50–4:55 pm**

**Discussion and Verdict**

*Joseph S. Cheng*

**4:56–5:21 pm**

**Topic 2: Minimally Invasive Trauma Surgery**

**4:56–5:05 pm**

**CON: Marketing Gimmick**

*James S. Harrop*

**5:06–5:15 pm**

**PRO: New Standard of Care**

*Roger Hartl*

**5:16–5:21 pm**

**Discussion and Verdict**

*Justin S. Smith*

**5:22–5:47 pm**

**Topic 3: Robotic Spine Surgery**

**5:22–5:31 pm**

**PRO: The Future is Now**

*Jeffrey A. Goldstein*

**5:32–5:41 pm**

**CON: Hype – A Passing Fancy**

*Luis M. Tumialan*

**5:42–5:47 pm**

**Discussion and Verdict**

**5:48–6:13 pm**

**Topic 4: ASC Cervical and Lumbar Fusion**

**5:48–5:57 pm**

**PRO: The Next Big Thing**

*Matthew J. McGirt*

**5:58–6:07 pm**

**CON: Not Ready for Primetime**

*Gerald E. Rodts*

**6:08–6:13 pm**

**Discussion and Verdict**

*Vincent C. Traynelis*

**6:14–6:39 pm**

**Topic 5: Cervical Total Disc Replacement**

**6:14–6:23 pm**

**PRO: Better than ACDF**

*Pierce D. Nunley*

**6:24–6:33 pm**

**CON: ACDF – Still the Gold Standard**

*Charles L. Branch*

**6:34–6:39 pm**

**Discussion and Verdict**

*Christopher E. Wolfla*

**6:40–6:45 pm**

**Conclusion and Discussion**

## Wine and Spine for residents and fellows

**7:00–9:00 pm**

**This is a casual educational experience between our Honored Orthopedic Guest, Rolando Garcia, and residents and fellows.**

**This session offers the opportunity for residents and fellows to exchange ideas related to cutting-edge topics in spine surgery while enjoying a sampling of world-class wines**

Friday

# MEETING AGENDA

**SATURDAY**  
**March 16, 2019**

## Challenging Cases 2

**7:00–8:00 am**

Board-style Challenging Cases: Thoracolumbar

**Moderators:** Aruna Ganju, John H. Shin

## Abstract Breakout Sessions

**8:00–9:30 am**

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Analyze the findings of novel neurosurgical studies, critique the design and methodology of these studies
2. List important areas for further knowledge development and research
3. Compare indications and clinical outcomes for various minimally invasive and motion preservation techniques

## MIS/Motion Preservation Breakout

**Moderators:** Victor W. Chang, Alexander E. Ropper, Eve C. Tsai

**8:00–9:24 am**

Abstract Presentations

**9:24–9:30 am**

Questions and Discussion

## Spine Trauma/General Spine Surgery 1 Breakout

**Moderators:** Mohamad Bydon, Hoon Choi, Asdrubal Falavigna

**8:00–9:24 am**

Abstract Presentations

**9:24–9:30 am**

Questions and Discussions

## Improving Healthcare Delivery and Patient Outcomes Breakout

**Moderators:** David M. Benglis, Erica F. Bisson, Michael D. Martin

**8:00–9:24 am**

Abstract Presentations

**9:24–9:30 am**

Questions and Discussion

## General Spine Surgery 2 Breakout

**Moderators:** Christopher M. Bonfield, Lee A. Tan, Robert G. Whitmore

**8:00–9:24 am**

Abstract Presentations

**9:24–9:30 am**

Questions and Discussion

**9:30–10:15 am**

Beverage Break and *What's New Session 3* in the Exhibit Hall

## Scientific Session 4

**10:15–11:45 am**

Interbody (Death) Cage Match

**Moderators:** Adam S. Kanter, Charles A. Sansur

**Speakers:** Sigurd Berven, Domagoj Coric, Michael W. Groff, James S. Harrop, Paul K. Kim, Allan D. Levi, Rajiv Midha, Frank M. Phillips, Paul J. Slosar, Michael P. Steinmetz, John A. Wilson

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Analyze the findings of contemporary neurosurgical studies, critically evaluate the design and methodology of these studies
2. List areas of future research impacting healthcare delivery and patient outcomes
3. Discuss implications of healthcare policy changes on the delivery of healthcare and patient outcomes

**10:15–10:22 am**

Articulating Cages: Better Placement and Clinical Results

Paul K. Kim

**10:23–10:30 am**

Expandable Cages: Superior for MIS and Open

Sigurd Berven

**10:31–10:38 am**

Monolithic Spacers: Work Just Fine

James S. Harrop

**10:39–10:46 am**

Titanium: Surface Etching Offers More

Paul J. Slosar

**10:47–10:54 am**

Titanium: 3D Porous is Best in Class

Michael P. Steinmetz

**10:55–11:02 am**

Porous PEEK: The Best of All Worlds

Frank M. Phillips

**11:03–11:10 am**

Porous Titanium: Worth a Premium in the Cervical Spine

Michael W. Groff

**11:10–11:15 am**

Questions, Discussion, and Vote

Saturday

# MEETING AGENDA

**11:16–11:19 am**

**Introduction to Meritorious Member, Spine**

*Domagoj Coric*

**11:20–11:30 am**

**Meritorious Member Spine Award Recipient**

*John A. Wilson*

**11:31–11:34 am**

**Introduction to Meritorious Member, Peripheral Nerve**

*Allan D. Levi*

**11:35–11:45 am**

**Meritorious Member Peripheral Nerve Award Recipient**

*Rajiv Midha*

**DSPN Business Meeting**

**11:45 am–12:00 pm**

**Moderator:** *Domagoj Coric*

**Speakers:** *Adam S. Kanter, John J. Knightly, Eric A. Potts, Marjorie C. Wang, Christopher E. Wolfla*

**11:45–11:48 am**

**Treasurer's Report**

*Eric A. Potts*

**11:48–11:51 am**

**Secretary's Report**

*Adam S. Kanter*

**11:51–11:54 am**

**Nominating Committee Report**

*Marjorie C. Wang*

**11:54–11:57 am**

**AANS Board Report**

*John J. Knightly*

**11:57 am–12:00 pm**

**Future Sites Committee Report**

*Christopher E. Wolfla*

**Lunch with Exhibitors or Attend a Non-CME Sponsored Lunch**

**12:00–1:00 pm**

**Seminar for APRN and PAs**

**Complimentary for registered Nurses & PAs**

**1:00–2:30 pm**

**Course Directors:** *Megan Bellman, Eric A. Potts*

**Speakers:** *Megan Bellman, Erin Harrison, Sara M. McEvoy, Eric A. Potts, Emma Schulte*

**Course Description:** This course will cover preoperative evaluation, perioperative management and postoperative management of patients with degenerative spinal conditions. Special emphasis will be on teamwork, communication, and use of order sets.

**Learning Objectives:** Upon completion of this course, participants will be able to:

1. Differentiate different causes of arm and leg pain.
2. Identify the impact of comorbidities on patient outcomes.
3. Describe the impact of preoperative and postoperative patient communication.
4. Identify the impact preoperative opioid use on postoperative pain control.

**1:00–1:15 pm**

**Overview of MRI Imaging Basics**

*Eric A. Potts*

**1:15–1:30 pm**

**Management of Medical Comorbidities (DM, Anticoagulation, Nutrition)**

*Sara M. McEvoy*

**1:30–1:45 pm**

**Advanced Perioperative Management: Support Staff, Patient Education**

*Emma Schulte*

**1:45–2:00 pm**

**Intraoperative Challenges**

*Megan Bellman*

**2:00–2:15 pm**

**Post-operative Pain Management**

*Erin Harrison*

**2:15–2:30 pm**

**Questions and Discussion**

**Special Course 5**

**1:00–3:00 pm**

**Inventors and Innovators**

**\$150**

**Course Directors:** *Langston T. Holly, Luis M. Tumialan*

**Speakers:** *Kevin T. Foley, Steven D. Glassman, Regis W. Haid, Iain H. Kalfas, Luiz Pimenta, Volker K. H. Sonntag, Nicholas Theodore*

**Course Description:** This special course offers the participant the opportunity to listen first hand to the surgeons who developed the technology that changed the face of spinal surgery. The inventors will discuss the barriers to innovation and how they overcame them to bring the technology into the mainstream. From cervical plates and minimally invasive access ports to navigation and robotic surgical guidance. Perspectives from these inventors will provide insight to the current generation of innovating surgeons.

**Learning Objectives:** Upon completion of this course, participants will be able to:

1. Discuss the evolution of the cervical plate and the rationale behind cervical plating technology that is currently in use for the treatment of cervical spondylosis with radiculopathy or myelopathy.
2. Discuss the various options of surface technology in biomechanical spacers that create an environment for arthrodesis in cervical and lumbar operations.
3. Identify the anatomical measurements that establish the rationale for minimally invasive access ports.
4. Develop a greater understanding of the technology needed to develop and refine the various navigation platforms and robotic guidance systems.

# MEETING AGENDA

**1:00–1:16 pm**

Evolution of the Cervical Plate

*Volker K. H. Sonntag*

**1:17–1:32 pm**

Developing the Tubular Retractor System and the Beginning of MIS Spine Surgery

*Kevin T. Foley*

**1:33–1:48 pm**

Outcome Assessment and the Impact on Spine Surgery

*Steven D. Glassman*

**1:49 – 2:04 pm**

Revisiting the Transposoas Approach and the Lateral Revolution

*Luiz Pimenta*

**2:05–2:25 pm**

Evolution of Cervical and Lumbar Interbody Spacers: From Metal to PEEK Back to Metal

*Regis W. Haid*

**2:26–2:41 pm**

Spinal Navigation: The Long Road to Adoption

*Iain H. Kalfas*

**2:42–2:57 pm**

Developing a Robot for Spine Surgery

*Nicholas Theodore*

**2:58 – 3:00 pm**

Questions and Discussion

## Special Course 6

**1:00–3:00 pm**

**\$150**

**Spinal Tumors: Treatment and Complication Avoidance**

**Course Directors:** *John E. O'Toole, Daniel M. Sciubba*

**Speakers:** *Richard P. Anderson, Mark H. Bilsky, Ziya L. Gokaslan, Ilya Laufer, Ehud Mendel, Paul C. McCormick, John E. O'Toole, Ganesh Rao, Laurence D. Rhines, Daniel M. Sciubba, John H. Shin*

**Course Description:** This seminar is designed to review the myriad presentations of spinal tumors and to discuss the multi-disciplinary management options involving medical, radiation, and surgical treatments.

**Learning Objectives:** Upon completion of this course, participants will be able to:

1. Analyze various treatment approaches to address spinal tumor pathologies
2. Discuss incorporating innovative technologies to facilitate avoidance in spinal tumor surgery
3. Discuss multi modal treatment of spinal tumors

**1:00–1:05 pm**

Introduction

*John E. O'Toole, Daniel M. Sciubba*

**1:06–1:38 pm**

Case 1: Management of Vertebral Column Tumor Metastasis

**1:06–1:16 pm**

Management of Acute/Subacute Presentations of Metastatic Epidural Cord Compression (Wait for Diagnosis? Radiation Alone? How Quickly to OR?)

*Mark H. Bilsky*

**1:17–1:27 pm**

When do Metastatic Spine Tumor Patients Require Stabilization?

*John H. Shin*

**1:28–1:38 pm**

My Worst Complications: Metastatic Tumor

*Daniel M. Sciubba*

**1:39–2:22 pm**

Case 2: Management of Solitary Primary Malignant Lesion of the Mobile Spine

**1:39–1:49 pm**

Pitfalls in the Initial Management of Isolated Spinal Tumors

*Ehud Mendel*

**1:50–2:00 pm**

En Bloc Resection and Instrumented Fusion

*Ziya L. Gokaslan*

**1:50–2:11 pm**

Debate

**2:01–2:11 pm**

Separation Surgery with High Dose Radiation

*Ilya Laufer*

**2:12–2:22 pm**

My Worst Complications: Primary Tumor of Mobile Spine

*Laurence D. Rhines*

**2:23–2:55 pm**

Case 3: Management of Intradural Spinal Tumors

**2:23–2:33 pm**

When and Where to Operate on Intramedullary Spinal Cord Tumors?

*Richard P. Anderson*

**2:34–2:44 pm**

Technique and Complication Avoidance

*Ganesh Rao*

**2:45–2:55 pm**

My Worst Complications: Intradural Tumor

*Paul C. McCormick*

**2:56–3:00 pm**

Questions and Discussion

# MEETING AGENDA

## Special Course 7

**1:00–3:00 pm**

**\$150**

**Causes and Treatments for Neurological Loss Associated with Cervical Spine Pathology**

**Course Directors:** Justin M. Brown, Mark A. Mahan

**Speakers:** Allan J. Belzberg, Justin M. Brown, Richard G. Fessler, Mark A. Mahan, Hiroshi Nakagawa, K. Daniel Riew, Geoff Sheean, Robert J. Spinner, Andrea L. Strayer, Jau-Ching Wu

**Course Description:** Upper extremity weakness, either before or after spine surgery, is a vexing problem and many cases may not have a causal relationship with spine pathology. It is crucial to understand non-spinal causes, intraoperative considerations, and potential treatments for these problems. The course will focus on alternative causes of weakness—particularly when the degree of weakness or atrophy is out of proportion to spinal stenosis, intraoperative complication avoidance and algorithmic steps for the management and treatment of post-operative weakness. Newer techniques on neurologic reconstruction for remedy of weakness will be reviewed.

**Learning Objectives:** Upon completion of this course, participants will be able to:

1. Describe the differential diagnosis of new onset weakness, clinical patterns, and natural histories
2. Discuss the intraoperative surgical strategies for complication avoidance, including appropriate use of neurophysiologic studies
3. Define the surgical treatment options for neurologic loss and the considerations on timing for neurologic reconstruction

**1:00–1:02 pm**

**Introduction**

Mark A. Mahan

**1:03–1:15 pm**

**Weakness on Presentation—Concepts of Nerve Injury and Evaluation**

Robert J. Spinner

**1:16–1:28 pm**

**Clinical Work-up of Weakness—Differential Diagnosis and is it a Radiculopathy or Not?**

Allan J. Belzberg

**1:29–1:41 pm**

**Electrodiagnostic Work-up of Weakness**

Geoffrey L. Sheean

**1:42–1:54 pm**

**Weakness Before Cervical Spine Surgery—Treatment Options and Outcomes**

Andrea L. Strayer

**1:55–2:07 pm**

**Weakness after Cervical Spine Surgery—Techniques for Avoidance**

K. Daniel Riew

**2:08–2:20 pm**

**Treating Cervical Radiculopathy with MIS Foraminotomy**

Richard G. Fessler

**2:21–2:33 pm**

**Weakness after Cervical Spine Surgery—Treatment Options and Outcomes**

Justin M. Brown

**2:34–2:46 pm**

**Treating Cervical Radiculopathy with Cervical Arthroplasty—HO and Complication Avoidance**

Jau-Ching Wu

**2:47–2:59 pm**

**Case Presentation and Discussion: Post-operative C5 Palsy**

Hiroshi Nakagawa

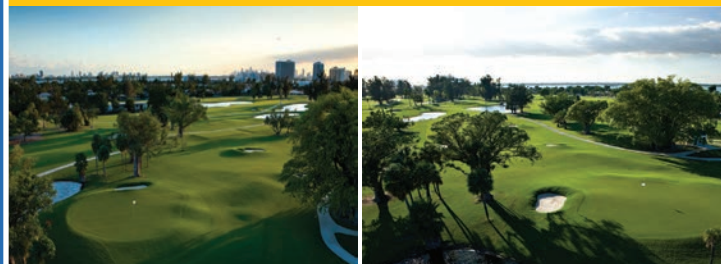


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# MEETING AGENDA

**SUNDAY**  
**March 17, 2019**

## Challenging Cases 3

**7:00–7:45 am**

Board-style Challenging Cases: Peripheral Nerve

**Moderators:** Line G. Jacques, Robert J. Spinner

## Abstract Breakout Sessions

**7:45–9:15 am**

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Analyze the findings of novel neurosurgical studies, critique the design and methodology of these studies
2. List important areas for further knowledge development and research
3. Compare indications and clinical outcomes for various minimally invasive and motion preservation techniques

## Peripheral Nerve/Basic Science Breakout

**Moderators:** Holly Gilmer, Eve C. Tsai

**7:45–9:09 am**

Abstract Presentations

**9:09–9:15 am**

Questions and Discussion

## Spinal Deformity Breakout

**Moderators:** Tyler R. Koski, Randall W. Porter, Justin S. Smith

**7:45–9:09 am**

Abstract Presentations

**9:09–9:15 am**

Questions and Discussion

## General Spine Surgery 3 Breakout

**Moderators:** Ali A. Baaj, Byron Branch, Isaac O. Karikari

**7:45–9:09 am**

Abstract Presentations

**9:09–9:15 am**

Questions and Discussion

## General Spine Surgery 4 Breakout

**Moderators:** Kurt M. Eichholz, Asdrubal Falavigna, Hasan A. Zaidi

**7:45–9:09 am**

Abstract Presentations

**9:09–9:15 am**

Questions and Discussion

## Special Session

**9:15–10:15 am**

Business of Spine Surgery/CPT Update

**Moderators:** John K. Ratliff, Luis M. Tumialan

**Speakers:** Erica F. Bisson, Joseph S. Cheng, Kurt M. Eichholz, John J. Knightly, Scott A. Meyer, John K. Ratliff, Luis M. Tumialan, Anand Veeravagu

**Session Description:** Content will focus on the socioeconomic factors that have an impact on the practice of spinal surgery.

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Discuss the impact clinical databases have on the practice of spinal surgery
2. Identify the process of establishing the value of a CPT code and how insurance companies have attempted to alter it
3. Discuss the recent activity of the Washington Committee with regard to spinal surgery
4. Incorporate CPT changes into their practice and have a better understanding of the performance metrics for “pay for performance”

**9:15–9:22 am**

The QOD Effect: How Big Data is Changing What We Do in the OR

Erica F. Bisson

**9:23–9:30 am**

Changes in Spine Codes Affecting Your Practice in 2019: CPT Update

Joseph S. Cheng

**9:31–9:38 am**

Washington Update

Scott A. Meyer

**9:39–9:46 am**

Anatomy of a Disvalued Code: 63047 and 22633

Luis M. Tumialan

**9:47–9:54 am**

What is a Coverage Determination Policy and How Does It Affect My Practice?

Anand Veeravagu

**9:55–10:02 am**

Consolidation of Insurance Companies and the Impact on Spinal Surgery

John J. Knightly

**10:03–10:10 am**

MIPS and MACRA Update

John K. Ratliff

**10:10–10:15 am**

Owning and Operating a Surgicenter: How to Do it

Kurt M. Eichholz

Sunday

# MEETING AGENDA

## CAHILL CONTROVERSIES

10:15 am–12:30 pm

**Case Presentations—Jedi Knight Versus Jedi Master**

**Moderators:** *D. Kojo Hamilton, Charles A. Sansur*

**Speakers:** *Neel Anand, Ziya L. Gokaslan, Regis W. Haid, Daniel J. Hoh, Iain H. Kalfas, Adam S. Kanter, Tyler R. Koski, Ilya Laufer, Praveen V. Mummaneni, Gregory M. Mundis, Eric W. Nottmeier, John E. O'Toole, Christopher I. Shaffrey, Juan S. Uribe, Michael S. Virk*

**Learning Objectives:** Upon completion of this session, participants will be able to:

1. Discuss controversial areas related to common spinal approaches and techniques
2. Discuss the pros and cons of traditional versus minimally invasive techniques to address spinal deformity
3. Discuss the pros and cons of aggressive versus more limited separation techniques to address spine tumor pathologies
4. Describe how advanced spinal navigation can be incorporated into the clinical practice of spine surgery

10:15–10:40 am  
Degenerative MIS

10:15–10:24 am

**Lateral CON: Prefer Not to Utilize a Procedure for Leg Pain, Whose Major Complication is Leg Pain**  
*Praveen V. Mummaneni*

10:25–10:34 am

**Lateral PRO: Stenosis Can be Adequately Addressed From a Lateral Approach**  
*Regis W. Haid*

10:35–10:40 am

**Discussion and Verdict**  
*Michael S. Virk*

10:41–11:07 am

**Degenerative Scoliosis—Posterior Versus Lateral/Anterior/MIS**

10:42–10:51 am

**Lateral/Anterior/MIS: The Future**  
*Adam S. Kanter*

10:52–11:01 am

**Posterior: Tried and True**  
*Christopher I. Shaffrey*

11:02–11:07 am

**Discussion and Verdict**  
*Tyler R. Koski*

11:08–11:34 am  
Tumor Surgery

11:09–11:18 am

**Aggressive Spinal Reconstruction is Best**  
*Ziya L. Gokaslan*

11:19–11:28 am

**Less is More: Separation Surgery + XRT**  
*Ilya Laufer*

11:29–11:34 am

**Discussion and Verdict**  
*John E. O'Toole*

11:35–12:01 pm

**Fixation at the Bottom of a Long Construct**

11:36–11:45 am

**Sacro-pelvic Fixation is Mandatory**  
*Gregory M. Mundis*

11:46–11:55 am

**No Need for Pelvic Fixation**  
*Juan S. Uribe*

11:56–12:01 pm

**Discussion and Verdict**  
*Daniel J. Hoh*

12:02–12:29 pm  
Spinal Navigation

12:02–12:11 pm

**Waste of Time and Money**  
*Neel Anand*

12:12–12:21 pm

**New Standard of Care**  
*Eric W. Nottmeier*

12:21–12:29 pm

**Discussion and Verdict**  
*Iain H. Kalfas*

*All speakers and topics are subject to change*

12:30 pm  
Meeting Adjourns



# ACCREDITATION

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Congress of Neurological Surgeons and the Section on Disorders of the Spine and Peripheral Nerves. The Congress of Neurological Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

## AMA Credit Designation Statement

The CNS designates this live activity for a maximum of 22.75 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## CME Credit

\*A maximum of 17.25 *AMA PRA Category 1 Credits™* may be earned for Scientific Sessions only.

**Additional CME Credits can be earned by attending the following:**

## Special Courses

Attendees will receive a maximum of 3.5 *AMA PRA Category 1 Credits™* for an eligible half-day Thursday Special Course. Attendees will receive a maximum of 2 *AMA PRA Category 1 Credits™* for an eligible Saturday afternoon Special Course. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Join us at Spine Summit 2019 to honor our Meritorious Awardees!

We're pleased to host Rolando Garcia, MD, and Robert F. Heary, MD, as Meritorious Awardees.

Congratulations to our Meritorious Member Awardees Rajiv Midha, MD, and John A. Wilson, MD.

Meritorious Awardees will share their knowledge during award presentations, courses, debates, and Scientific Sessions.



**Rolando Garcia**  
Meritorious Award,  
Orthopedic Surgery



**Robert F. Heary**  
Meritorious Award,  
Neurosurgery



**Rajiv Midha**  
Meritorious Member  
Award, Peripheral  
Nerve



**John A. Wilson**  
Meritorious Member  
Award, Spine

# SOCIAL EVENTS AND GENERAL INFORMATION

## Who Should Attend

Educational sessions are geared toward neurosurgeons, orthopedic surgeons, spine care specialists, fellows, residents, physician assistants/physician extenders, and nurse clinicians and are applicable to the practice of spine and peripheral nerve surgery.

## Meeting Purpose

The purpose of the 2019 Section on Disorders of the Spine & Peripheral Nerves Annual Meeting is to provide continuing medical education to neurosurgeons, orthopedic surgeons, spine care specialists, fellows, residents, physician extenders and nurse clinicians involved in the practice of spine and peripheral nerve surgery. Education is provided in the form of didactic lectures, special courses demonstrating neurosurgical techniques, exhibits presenting the newest instruments and information, and digital posters providing the latest information regarding clinical advances in neurological surgery.

## Evaluations

The evaluation process is a key component in providing cutting-edge programming at the Section on Disorders of the Spine and Peripheral Nerves Annual Meeting. Your feedback on the quality and diversity of the program helps to determine future Annual Meeting programming. Your voice is important and your opinions are valued!

## Speaker Ready Room

The Speaker Ready Room will be available Thursday, March 14, through Sunday, March 17. All speakers and abstract presenters should visit the Speaker Ready Room at least one hour prior to their presentations.



## Opening Reception

Thursday, March 14, 6:30–8:00 pm

Take in spectacular ocean views and watch the sunset while enjoying a lavish array of food and beverages as you network with friends and colleagues at the Opening Reception. Each medical attendee and spouse/guest registered for the meeting will receive one complimentary ticket. Please note this event is held outdoors. Resort casual attire is recommended.

## Wine and Spine

Friday, March 15, 7:00-9:00 pm

All residents, fellows, and young neurosurgeons are invited to join us for Wine and Spine. Enjoy a delicious meal while networking with colleagues. RSVP required. Please RSVP at the registration desk or email [meetings@cns.org](mailto:meetings@cns.org).

## Area Attractions and Tour Information

Enter a world of endless possibilities at the iconic Fontainebleau Miami Beach. Striking design, contemporary art, music, fashion, and technology merge into a vibrant new kind of guest experience. Situated on oceanfront Collins Avenue in the heart of Millionaire's Row, Fontainebleau Miami Beach is one of the most historically and architecturally significant hotels in Miami Beach.

Your ideal destination escape includes sunny skies, ocean breezes, and spectacular beaches. Explore your choice of 10 pools and refreshing walls of water. Accelerate your aquatic recreation with waterskiing, jet-skis, and windsurfing under the sparkling Atlantic sun.

With its perfect weather and unique blend of cultures, the Miami area offers many things to do, learn and see, some so exclusive that visitors come from around the world for special events. Take your pick of entertainment choices at the Adrienne Arsht Center for the Performing Arts and the Colony Theater. Swing over to Jungle Island for family adventures and exhibits with exotic animals from all over the world. Ocean Drive is the place for people watching along the beaches and bistros. One look at the Miami Design District and you'll be inspired to redo your entire home, as 40 top designers dazzle and delight you with their latest decor inspirations. The choices are just as abundant as the luxury. So discover for yourself, there's always something new to see

and experience in the Miami area.

It is best to make tour and activity arrangements in advance. The concierge team will be available to assist you on site as well. For more information, contact the concierge team at 305-674-4641, email them at [miaconciergeleaders@fontainebleau.com](mailto:miaconciergeleaders@fontainebleau.com)

## Children's Programs and Child Care Services

A playground for kids of all ages, at Fontainebleau we go out of our way for kids 4–12. Every day at our Miami Beach family hotel presents new choices of daily activities to spark their imaginations, explore individual interests, and put their energy and creativity to good use. Activities are led by Fontainebleau's certified and experienced Adventure Guides who instruct and lead the kids in games, teambuilding, scavenger hunts, sport skills, art, drama, music, movement, and much more.

On Fridays and Saturdays, Fontainebleau's Kids' Night Out invites children to watch big-name, age-appropriate movies and play games with their new-found friends. Each night is always different and full of smiles at our Miami Beach family resort.

FB Kids' opens new doors for parents who want to immerse themselves in the Fontainebleau experience while knowing their kids are active and engaged with supervised activities.

Register for full or half days by calling 305-538-2000. Advance reservations are required for all FB Kid's Camp Activities.

## Babysitting Services

Fontainebleau is pleased to offer babysitting services for our guests seven days a week. All babysitters have experience working with children and are Level 2 background screened.

For rates and additional information on babysitters call the concierge at 305-538-2000 ext. 55

## No Smoking Policy

Smoking is not permitted at any official Section on Disorders of the Spine and Peripheral Nerve Annual Meeting event. Smoking is allowed at the FontaineBleau Miami Beach in designated areas only.

# HOUSING AND TRAVEL INFORMATION



**HOUSING DEADLINE**  
**FEB. 15, 2019**



## Hotel Accommodations

The Fontainebleau Miami Beach offers luxury accommodations and amenities your whole family is sure to enjoy, from fine dining to a host of recreation activities.

### Amenities:

- 12 On-site dining venues
- Luxurious on-site spa
- 10 distinct pool experiences
- Direct beach access with complimentary lounge chairs for resort guests

## Hotel Room Rates

	Single /Double
Water View	\$439.98
Balcony	\$508.38
Junior Suite	\$599.58
One Bedroom Suite	\$667.98

\* Above rates include a \$26.95 Daily Resort Fee, plus applicable state and local taxes. A portion of the room rate will be utilized to cover the cost of registration and housing services.

\* Additional Guests: \$30 additional per guest 18 years and older over two guests in the room up to the maximum occupancy for the room type booked

These special rates are only available until the February 15, 2019 cut-off date. A limited number of rooms are available in each rate category. The Section on Disorders of the Spine and Peripheral Nerves cannot guarantee the availability of each room type and rate. Rates are based on availability three days prior to and three days after the

official meeting dates of March 14–17, 2019. Confirmation for dates other than official meeting dates, made prior to the cut-off date, will be based on availability.

Reservations can be made online or via fax, phone or mail. Visit [www.spinesection.org](http://www.spinesection.org) to make your reservation today!

## Hotel Reservation Information and Deadlines

Hotel reservations are only available to registered Section on Disorders of the Spine and Peripheral Nerves attendees. You must first register for the Spine Summit before reserving your hotel arrangements. Rooms are subject to availability. Reserve your room by February 15, 2019.

### Deposit

A deposit equal to one night's room and tax is required to hold each guest's reservation. This payment must be submitted with your registration fees. Credit cards will be at the time your reservation is made. Please make checks payable to the DSPN Housing Center and mail checks to: DSPN Registration and Housing Center, 6100 W. Plano Parkway, Suite 3500, Plano, TX 75093. All rooms are subject to applicable state and local taxes. Hotel reservations requested without deposit will not be accepted.

## Hotel Confirmations, Cancellations, or Changes

### Through February 19

- All changes and cancellations must be made through the Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center.
- Rooms are not transferable.
- Refunds for deposits will be issued by the Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center if reservation is cancelled.

### Beginning February 20

- All changes and cancellations must be made directly with the hotel.
- If cancellation notice is not received according to the hotel policy, the deposit may be forfeited. Per hotel policy, you must cancel your reservation no later than 72 hours prior to arrival to receive a refund on your deposit.

Support the Section on Disorders of the Spine and Peripheral Nerves by booking your hotel room for the Annual Meeting by using one of the methods listed on the housing form. In order to obtain the necessary meeting and exhibit space at the hotel, the Section on Disorders of the Spine and Peripheral Nerves must commit to a minimum number of guest rooms. If that commitment is not fulfilled, the Section will incur significant financial penalties and have difficulty obtaining sufficient meeting space in the future. Unfortunately, this can have a major impact on the member services and programs that the Section is able to offer in the future. We appreciate your commitment to the Section by staying at the Fontainebleau Miami Beach.

## Transportation to the Hotel

Conveniently located near two of Florida's largest international airports, Miami International (12 miles, 25 min) and Fort Lauderdale International (30 miles, 50 min).

### Miami International:

- \$15–\$30 average cost for Uber or Lyft
- \$35 taxi flat rate each way (taxis are lined up outside of baggage claim at the airport and by valet at the hotel).
- \$21 for one person through Super Shuttle service, outside the baggage claim area, but MUST be reserved 24 hours in advance. Please keep in mind that this is a shared ride. Book online at [miamisupershuttle.com](http://miamisupershuttle.com) or by calling 305-871-2000.
- \$128.68 for a private town car transfer for up to 3 people. This can be arranged by calling the Fontainebleau Miami Beach concierge at 305-674-4641.

### Fort Lauderdale International:

- \$35–\$55 average costs for Uber or Lyft
- \$75–\$90 each way by taxi approximately.
- \$25 per person through Go Shuttle which is outside of the baggage claim area. It MUST be reserved 24 hours in advance. Please keep in mind that this is a shared ride. Book online at [goairportshuttle.com](http://goairportshuttle.com) or by calling 773-363-0001.
- \$149.69 for a private town car for up to 3 people. This can be arranged by calling the Fontainebleau Miami Beach concierge at 305-674-4641.

# REGISTRATION INFORMATION



**ADVANCE REGISTRATION  
DEADLINE FEB. 15, 2019**

## REGISTER TODAY USING ONE OF THESE THREE METHODS:

### ONLINE:

CNS.ORG/SPINE

### FAX:

(972) 349-7715 US & Canada

### MAIL:

DSPN Registration and Housing  
6100 W. Plano Parkway,  
Suite 3500  
Plano, TX 75093

### PHONE:

Call 800-931-9543  
M-F 8am-5pm CST

Allow two business days for registration and housing confirmation for registrations made either via fax or mail. The Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center is not responsible for faxes or e-mails not received due to circumstances beyond their control.

### Credit Card Payments

- US dollars and drawn on a US bank
- Visa
- MasterCard
- American Express

### What's Included in the Registration Fee?

Medical registration includes the following:

- Daily Scientific Sessions
- Friday Evening Beer & Wine Happy Hour Debates
- Entrance to the Exhibit Hall
- One Ticket to Thursday Opening Reception
- Friday Lunch with Exhibitors
- Saturday Lunch with Exhibitors
- Daily Beverage Breaks

### Spouse/Guest Registration Includes the Following:

- Daily Scientific Sessions
- Entrance to the Exhibit Hall
- One Ticket to Thursday Opening Reception

### Child Registration

Although there is no registration fee, children under 18 years of age should register for the 2019 Spine Summit to receive a badge.

- One Ticket to Thursday Opening Reception

Special Note: Children under the age of 18 are not allowed on the exhibit hall floor.

### Speaker Registration

Complimentary registration will not be provided for one-day speakers. All speakers must register at the applicable registration rate.

### Onsite Registration Hours

Thursday, March 14

11:00 am–5:30 pm

Friday, March 15

6:30 am–6:45 pm

Saturday, March 16

6:30 am–3:00 pm

Sunday, March 17

6:30 am–12:30 pm

### Registration Cancellation/Refund Policy

All refund requests must be received in writing by February 25.

Requests accepted via:

**E-mail:** dspn@mcievents.com

**Fax:** (972) 349-7715

**Mail:** DSPN Registration and Housing  
6100 W. Plano Parkway, Suite 3500  
Plano, TX 75093

### Cancellation Date Schedule

Before February 25:

Full registration refund less \$100 processing fee. Special courses, symposia, and events will be refunded in full until this date.

After February 25 and no-shows:

Absolutely no refunds will be issued after this date for registration, special courses, symposia, and events regardless of cause.

### Americans with Disabilities Act/ Special Needs and Requests

The Section on Disorders of the Spine and Peripheral Nerves wishes to take the necessary steps to ensure that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently than other individuals because of the absence of auxiliary aids and services. Please let us know if, under the ADA, you require special accommodations or services in order to attend the Section on Disorders of the Spine and Peripheral Nerves Annual Meeting.

Your requirements should be sent directly to the Section on Disorders of the Spine and Peripheral Nerves Housing and Registration Center by emailing dspn@mcievents.com or calling (800) 931-9543. Please provide any requests at least 30 days prior to the Spine Summit to guarantee accommodation. Scooter and wheelchair rentals are available by contacting the hotel concierge at (305) 674-4641. You can also submit a rental inquiry on the web at [www.scootaround.com](http://www.scootaround.com).

**SAVE \$150 OFF  
YOUR SPINE SUMMIT  
REGISTRATION  
WHEN YOU ATTEND  
THE PAIN SECTION  
2019 BIENNIAL  
MEETING  
MARCH 13–14**

# ADVANCE REGISTRATION AND HOUSING FORM

**FRIDAY, FEBRUARY 15, 2019**

**ALL MEETING CONFIRMATIONS WILL BE SENT VIA E-MAIL**

## FOUR WAYS TO REGISTER IN ADVANCE:

1. **Online:** (Credit card only) [www.spinesection.org](http://www.spinesection.org)
2. **Phone:** (800) 931-9543 or (972) 349-5539
3. **Fax:** (972) 349-7715 (credit card only)

4. **Mail: DSPN REGISTRATION AND HOUSING CENTER**  
6100 W. Plano Parkway, Suite 3500  
Plano, TX 75093

## REGISTRATION INFORMATION

Please print or type legibly using one form per person. The name and address entered below will be used for CME Certificate.

Last Name	First Name	Credentials
Institution/Hospital/Office/Company		NPI Number
Address	City	State/Providence
	Country	Zip/Postal Code
Telephone (if international please include country code)	Fax	E-mail
Spouse/Guest Name (if applicable: please print name as it will appear on badge)		
Child Name(s) and age		

## HOTEL RESERVATIONS

Individuals requiring hotel reservations must first register for the Section on Disorders of the Spine and Peripheral Nerves Annual Meeting.

Arrival Date: \_\_\_\_\_ Departure Date: \_\_\_\_\_  No Room Required Staying at/with: \_\_\_\_\_

Room Preference (check one)  Water View Single/Double – \$439.98\*  Balcony Single/Double – \$508.38\*  
 Junior Suite Single/Double – \$599.58\*  One Bedroom Suite Single/Double – \$667.98

\* Above rates include a daily resort fee, plus applicable state and local taxes. A portion of the room rate will be utilized to cover the cost of registration and housing services.  
 \*Additional Guests: \$30 additional per guest 18 years and older over two guests in the room up to the maximum occupancy for the room type booked.

The Fontainebleau Miami Beach will make every effort to honor specific requests, however, they reserve the right to provide alternative accommodations when necessary.

**Special Requests**  Handicap Accessible Room  Crib (additional fee may apply)  Rollaway bed (additional fee of \$45 + tax per day applies)  
 Special requests are subject to availability upon arrival at the hotel.

Please check this box if you are interested in reserving a room type not listed above. (Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center representative will contact you regarding availability and rates. In the meantime, a standard room rates will be assigned.)

## HOTEL CHANGE/CANCELLATION POLICY

**Through February 20:** All changes are subject to availability and cancellations may be made online at [www.spinesection.org](http://www.spinesection.org) or via e-mail at [dspn@mcievents.com](mailto:dspn@mcievents.com).

**Beginning February 20 to 72 hours prior to your scheduled arrival date:** Please contact the Fontainebleau Miami Beach directly with all changes or cancellations. The hotel will retain the deposit for cancellations not made at least 72 hours prior to your confirmed arrival date. This cancellation policy is strictly enforced and no exceptions will be made. Please retain the cancellation information from the Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center as the hotel cancellation number is proof of the cancellation. This number will be required to resolve any disputes.

## MEETING REGISTRATION FEES

Registration Category	Received on or before February 15, 2019	Received after February 15, 2019
	Advance Rates	Post Advance Registration Rates
Spine Section Member	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
NASS Member	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
Orthopedic Surgeon/ACOS*	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
SRS Member	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
SMISS Member	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
ISASS Member	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
AO Spine Member	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
CSRS Member	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
ACSR Member	<input type="checkbox"/> \$600	<input type="checkbox"/> \$800
Non-Member	<input type="checkbox"/> \$750	<input type="checkbox"/> \$950
Non-Physician, Non-Member	<input type="checkbox"/> \$750	<input type="checkbox"/> \$950
Resident	<input type="checkbox"/> \$50	<input type="checkbox"/> \$100
Resident Non-Member	<input type="checkbox"/> \$75	<input type="checkbox"/> \$125
Medical Student	<input type="checkbox"/> \$50	<input type="checkbox"/> \$100
Nurse	<input type="checkbox"/> \$250	<input type="checkbox"/> \$400
Physician Assistant	<input type="checkbox"/> \$250	<input type="checkbox"/> \$400
Spouse/Guest	<input type="checkbox"/> \$100	<input type="checkbox"/> \$130
Child	<input type="checkbox"/> \$0	<input type="checkbox"/> \$0

\* Orthopedic Surgeon/ACOS Member Registration Includes One-Year Complimentary Adjunct Membership

**Subtotal for Registration Fee Section \$** \_\_\_\_\_

# SPECIAL COURSES TICKET ORDER

Thursday, March 14

1:30–5:30 pm

## SPECIAL COURSES 1–4

- Special Course 1: MIS/Navigation and Robotics Procedural Solutions**  
Medical Registrant \$200
- Special Course 2: Spinal Deformity: Case-based Pearls and Pitfalls for the Practicing Spine Surgeon**  
Medical Registrant \$200
- Special Course 3: Surgical Treatment of Peripheral Pain**  
Medical Registrant \$200
- Special Course 4: Spine Specialty Specific Oral Board Review Course**  
Medical Registrant \$200

## CADAVER LAB

- Hands on Cadaver Session with the Masters (Non-CME)**  
Medical Registrant \$500

Saturday, March 16

1:00–3:00 pm

## SPECIAL COURSES 5–7

- Special Course 5: Inventors and Innovators**  
Medical Registrant \$150
- Special Course 6: Spinal Tumors—Treatment and Complication Avoidance**  
Medical Registrant \$150
- Special Course 7: Causes and Treatments for Neurological Loss associated with Cervical Spine Pathology**  
Medical Registrant \$150

## SPECIAL SEMINAR

- Seminar for APRN and PAs: Complimentary for all registered Nurses & PAs**

**SUBTOTAL FOR SPECIAL COURSES/  
CADAVER COURSE** \$ \_\_\_\_\_

## SATURDAY AFTERNOON ACTIVITIES

- Deep Sea Fishing:** \$100 per person  
*(transportation included)*

Who would you like to share a boat with (maximum of 6)

\*You will be assigned to share a boat with other attendees. Boats hold a maximum of 6

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- 18 Holes of Golf at Normandy Shores:** \$100 per person  
*(transportation included)*

Rental Clubs \$62.50 additional charge (Optional): Ladies or Mens (Circle one)

• Right or Left Handed: \_\_\_\_\_

• Handicap: \_\_\_\_\_

Please note if there is someone you would like to play with (maximum of four). You will be assigned to foursome based on your handicap if no names are listed.

\_\_\_\_\_

\_\_\_\_\_

\*\*Requests to share a boat or be part of a foursome must be made by all parties and are not guaranteed

**REGISTER TODAY AT [CNS.ORG/SPINE](https://www.cns.org/spine)**

## PAYMENT

**HOTEL DEPOSIT TOTAL** \$ \_\_\_\_\_

**REGISTRATION TOTAL** \$ \_\_\_\_\_

**ACTIVITIES TOTAL** \$ \_\_\_\_\_

**GRAND TOTAL** \$ \_\_\_\_\_

**Check:** Full payment must accompany your registration form. Please make REGISTRATION check payable to the DSPN Registration Center. Please make HOUSING check payable to the DSPN Housing Center. Please send both of your checks to: DSPN Registration and Housing Center, 6100 W. Plano Parkway, Suite 3500, Plano, TX 75093. (Any checks received from an overseas bank will be returned. Any checks returned for insufficient funds are subject to additional charges.)

**Credit Card Authorization:** Credit card will be charged immediately.

**Visa**  **MasterCard**  **American Express**

Credit card number

Expiration date

CCV code

Name of Cardholder (print)

Signature (I agree to pay according to the credit card issuer agreement)

**By signing this form:** I authorize the Joint Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center to charge my credit card for the total payment due, acknowledge that the Joint Section on Disorders of the Spine and Peripheral Nerves registration cancellation policies are in effect and grant the Joint Section on Disorders of the Spine and Peripheral Nerves the right to use photos taken at the Joint Section on Disorders of the Spine and Peripheral Nerves Annual Meeting which include me in promotional materials for future meetings.

These fees are subject to audit in case of error, the Joint Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center reserves the right to correct the error and charge the appropriate fees.

**Registration Cancellation Policy—**Full registration refunds, less a \$100 processing fee, will be granted if written requests for cancellation are received by February 25, 2019. No refunds of any kind will be given after this date. Refunds will not be given for no shows. Written requests may be e-mailed to [dspn@wyndhamjade.com](mailto:dspn@wyndhamjade.com), faxed to (972) 349-7715 or mailed to DSPN Registration and Housing Center, 6100 W. Plano Parkway, Suite 3500, Plano, TX 75093

**By submitting this form,** you agree that the CNS can retain this information for the purposes of communication and service support set out in our Privacy Policy, which can be viewed at <https://www.cns.org/privacy-policy>. If you do not want your information retained, please email [privacy@cns.org](mailto:privacy@cns.org).

# EXHIBIT PRODUCTS & SERVICES

Find the latest spine and peripheral nerve technology in the Exhibit Hall. Take time to explore the hall and enjoy one-on-one discussions and hands-on demonstrations with our exhibitors. Learn about the devices and new technologies that can advance your practice.

## Exhibit Hall Features

- Discover state-of-the-art equipment, products, and services.
- Enjoy a corporate sponsored lunch. Corporate partners present the latest cutting-edge technology while providing lunch.
- Participate in *What's New* sessions. Join the crowd during daily beverage breaks on Friday and Saturday, as speakers share the latest in cutting-edge research and technology.

## Exhibit Hours

Friday, March 15	9:00 am–4:30 pm
Saturday, March 16	9:00 am–1:00 pm

## What's New and Beverage Break Schedule

	Morning	Afternoon
Friday, March 15	9:30–10:15 am	2:30–3:15 pm
Saturday, March 16	9:30–10:15 am	

## Corporate Sponsored Lunch Schedule

	Afternoon
Friday, March 15	12:00–1:00 pm
Saturday, March 16	12:00–1:00 pm

## 2018 EXHIBITORS

4WEB Medical	Globus Medical	Neurostructures, Inc.	Spinal Support Solutions
7D Surgical	InVivo Therapeutics Corp	Nordson Medical	Spine Wave
Alphatec Spine	IONM Solutions, Inc.	NovaBone Products	SpineCraft, LLC
Asterias Biotherapeutics	Isto Biologics	NSI–Health Systems	SpineTall
Astura Medical	Joimax, Inc.	NuVasive	Stryker
Axiomed	K2M, Inc.	Oxford University Press	Synaptive Medical
Benvenue Medical	Life Instrument Corporation	Pacira Pharmaceuticals	TeDan Surgical Innovations
Bioventus LLC	LinkSPINE	Paradigm Spine, LLC	Thompson Surgical Instruments, Inc.
Brainlab	Matrix IT Medical Tracking Systems Inc.	Providence Medical Technology	Titan Spine
Carevature Medical Ltd.	Mazor Robotics	RTI Surgical, Inc.	TMG Coins
Cerapedics, Inc.	Medtronic	SafePassage	Vertex Pharmaceuticals, Inc.
DePuy Synthes	Medyssey USA, Inc.	SeaSpine	Xtant Medical
Fehling Surgical Instruments, Inc.	Mizuho America, Inc.	Shukla Medical	Zimmer Biomet
Gauthier Biomedical		SI–BONE, Inc.	

AANS/CNS Section on Disorders of the Spine and Peripheral Nerves  
10 N. Martingale Road, Suite 190  
Schaumburg, IL 60173-2294

# JOIN US



FONTAINEBLEAU  
- Miami Beach -

The Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves

## SPINE SUMMIT 2019

Technical Innovation for Restoring Patient Function

*Miami Beach, Florida*

**MARCH 14-17, 2019**



**Advance Registration Deadline: Friday, February 15, 2019**