PRELIMINARY SCIENTIFIC PROGRAM

ADVANCE REGISTRATION DEADLINE: FRIDAY, FEBRUARY 16, 2018

THE ANNUAL MEETING OF THE AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

SPINE SUMMIT 2018
RESTORING ALIGNMENT IN AN ERA OF GLOBAL CHANGE

MARCH 14–17 2018

LOEWS ROYAL PACIFIC RESORT at Universal Orlando®

REGISTER FOR SPINE SUMMIT 2018 AT CNS.ORG/SPINE
We invite you to join us at Spine Summit 2018 on March 14–17, 2018, as we return to the celebrated Loews Royal Pacific Resort at Universal Orlando®. Buckle up for the most exciting spine meeting of the year—Restoring Alignment in an Era of Global Change, with colleagues and industry leaders from across the globe!

Collaborate with spine and peripheral nerve surgeons at the forefront of the field to discover the latest innovations in the field and discuss strategies to find balance and direction in a time of rapid and meaningful change in health care. We have more of what you want at Spine Summit 2018, including can’t-miss special courses, intriguing breakouts, and spirited debates on controversial topics in our field.

We welcome our international partner, the Brazilian Neurosurgical Society, who will be offering their perspectives at the Brazilian Spine Symposium on Wednesday. We’re also thrilled to present legendary, championship-winning NFL Hall of Fame running back Jerome “The Bus” Bettis, who will share his personal experience from years being battered on a grueling football field.

This year, we’re proud to honor Meritorious Awardees Rick Sasso and Vincent Traynelis, and Meritorious Member Awardees, Paul McCormick and John McGillicuddy, for their incredible careers in spinal surgery. 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 Charlie Kuntz Scholarship Awards, the J.A.N.E. Award, the Mayfield Awards, and the Kline Peripheral Nerve Top Abstract Award.

Be sure to visit our Exhibit Hall to see the latest and greatest in technology, products, and services. As always, you’ll enjoy a lively Opening Reception and Young Neurosurgeons Reception and Dinner. Make time to enjoy any or all of the three theme parks available at Universal Orlando®.

The 34th Annual Meeting of the Section on Disorders of the Spine and Peripheral Nerves provides you an unparalleled opportunity to stay at the leading edge of spine and peripheral nerve surgery, while enjoying the beauty and excitement of Orlando!

Make your arrangements and register today at cns.org/spine.

MEETING HIGHLIGHTS
- Your choice of seven Special Courses
- Young Neurosurgeons Reception and Dinner
- Special presentation by NFL Hall of Fame Inductee Jerome Bettis
- Hands-on Cadaver Course
- David Cahill Controversy sessions
- 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 2018

DATES TO REMEMBER

FEBRUARY 16
- Advance Registration and Housing Deadline

THROUGH MARCH 9
- All changes and cancellations must be made through the DSPN Registration and Housing Center

BEGINNING MARCH 10
- All changes and cancellations must be made directly with the hotel

FEBRUARY 26
- Special Courses and event tickets will be refunded in full until this date
- Written cancellation must be received by February 26. A $100 processing fee will be charged, regardless of cause
- Absolutely no refunds given after February 26, regardless of cause
**WEDNESDAY**  
**March 14**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>11:00 am–5:30 pm</td>
<td>Registration</td>
</tr>
<tr>
<td>12:30–1:30 pm</td>
<td>Pre-meeting non-CME Sponsored Lunch Symposia</td>
</tr>
</tbody>
</table>
| 1:30–5:30 pm    | • Special Course 1  
|                | MIS/Navigation and Robotics Procedural Solutions                      |
|                | • Special Course 2  
|                | Essentials of Spinal Deformity Required for all Spinal Surgeons       |
|                | • Special Course 3  
|                | Surgical Treatment of Peripheral Pain                                 |
|                | • Special Course 4  
|                | Spinal Tumoral Pathology Made Easy (DX-management)                    |
|                | • Special Course 5  
|                | Spinal Trauma a Global Perspective in a World of Change (Brazilian Spine Symposium) |
| 6:30–8:00 pm   | Opening Reception                                                   |

**THURSDAY**  
**March 15**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 am–6:00 pm</td>
<td>Registration</td>
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<tr>
<td>6:30–7:30 am</td>
<td>Complimentary Breakfast</td>
</tr>
<tr>
<td>7:00–7:45 am</td>
<td>Challenging Cases 1</td>
</tr>
<tr>
<td>7:45–8:00 am</td>
<td>Introductory Remarks</td>
</tr>
<tr>
<td>8:00–9:30 am</td>
<td>Scientific Session 1: Spine in an Era of Global Change</td>
</tr>
<tr>
<td>9:00 am–4:30 pm</td>
<td>Exhibit Hall Open</td>
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<tr>
<td>9:30–10:15 am</td>
<td>Beverage Break and What’s New Sessions 1 in the Exhibit Hall</td>
</tr>
<tr>
<td>10:15 am–12:00 pm</td>
<td>Scientific Session 2: Sports-related Spine Trauma</td>
</tr>
<tr>
<td>12:00–1:00 pm</td>
<td>• Non-CME Sponsored Lunch Symposia</td>
</tr>
<tr>
<td></td>
<td>• Lunch in Exhibit Hall</td>
</tr>
<tr>
<td>1:00–2:30 pm</td>
<td>Scientific Session 3: SRS—Critical Knowledge Needed for Adult Deformity Surgery: MIS and Open</td>
</tr>
<tr>
<td>2:30–3:15 pm</td>
<td>Beverage Break and What’s New Sessions 2 in the Exhibit Hall</td>
</tr>
<tr>
<td>2:30–4:30 pm</td>
<td>CME Peripheral Nerve Course Case-based Approaches to Peripheral Nerve Trauma and Other Conditions</td>
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<tr>
<td>3:15–4:25 pm</td>
<td>• Top Oral Abstracts Concurrent Session 1</td>
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<td>• Top Oral Abstracts Concurrent Session 2</td>
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<tr>
<td></td>
<td>• Top Oral Abstracts Concurrent Session 3</td>
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<tr>
<td>4:30–6:00 pm</td>
<td>Beer and Wine Happy Hour Debates</td>
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**FRIDAY**  
**March 16**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>6:30 am–6:30 pm</td>
<td>Registration</td>
</tr>
<tr>
<td>6:30–7:30 am</td>
<td>Complimentary Breakfast</td>
</tr>
<tr>
<td>7:00–8:00 am</td>
<td>Challenging Cases 2</td>
</tr>
<tr>
<td>8:00–9:30 am</td>
<td>• Minimally Invasive/Motion Preservation Breakout</td>
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<tr>
<td></td>
<td>• Spinal Trauma/General Spine 1 Breakout</td>
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<tr>
<td></td>
<td>• Making a Difference: Spine Surgeons Improving Healthcare and Patient Outcomes Breakout</td>
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<tr>
<td></td>
<td>• General Spine 2 Breakout</td>
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<tr>
<td>9:00 am–1:00 pm</td>
<td>Exhibit Hall Open</td>
</tr>
<tr>
<td>9:30–10:15 am</td>
<td>Beverage Break and What’s New Sessions 3 in the Exhibit Hall</td>
</tr>
<tr>
<td>10:15–11:45 am</td>
<td>Scientific Session 4: Current Health Care Trends</td>
</tr>
<tr>
<td>11:45 am–12:00 pm</td>
<td>DSPN Business Meeting</td>
</tr>
<tr>
<td>12:00–1:00 pm</td>
<td>• Non-CME Sponsored Lunch Symposia</td>
</tr>
<tr>
<td></td>
<td>• Lunch in Exhibit Hall</td>
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</tbody>
</table>
| 1:00–2:30 pm   | • Special Course 6  
|                | Incorporating the MIS Concept/ Techniques in Your Practice           |
|                | • Special Course 7  
|                | Optimize Your surgical Outcomes: Clinical Pathways Working for You. What Are You Missing? |
| 2:30–3:30 pm   | Special Seminar for APRN & PAs                                       |
| 2:30–6:30 pm   | Non-CME Hands-on Cadaver Course: Innovative Techniques in Minimally Invasive and Deformity Surgery |
| 7:30–9:30 pm   | Young Neurosurgeons Reception and Dinner                             |

**SATURDAY**  
**March 17**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>6:45 am–12:30 pm</td>
<td>Registration</td>
</tr>
<tr>
<td>6:45–7:45 am</td>
<td>Complimentary Breakfast</td>
</tr>
<tr>
<td>7:15–8:45 am</td>
<td>• Peripheral Nerve, Basic Science Breakout</td>
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<tr>
<td></td>
<td>• Spine Deformity Breakout</td>
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<tr>
<td></td>
<td>• General Spine 3 Breakout</td>
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<tr>
<td></td>
<td>• General Spine 4 Breakout</td>
</tr>
<tr>
<td>8:45–9:45 am</td>
<td>ABNS Oral Exam and MOC Update—What Tools Do You Need to Succeed?</td>
</tr>
<tr>
<td>9:45–10:00 am</td>
<td>Beverage Break</td>
</tr>
<tr>
<td>10:00 am–12:30 pm</td>
<td>Cahill Controversies</td>
</tr>
<tr>
<td>12:30 pm</td>
<td>Meeting Concludes</td>
</tr>
</tbody>
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**PROGRAM AT-A-GLANCE**

**We welcome our International Partner, Brazilian Society of Neurosurgery**

![SBN Logo]

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**PRELIMINARY SCIENTIFIC PROGRAM**
Wednesday March 14, 2018

12:30–1:30 pm
Pre-meeting Non-CME Lunch Seminar

1:30–5:30 pm
MIS/Navigation and Robotics Procedural Solutions

**SPECIAL COURSE 1**

**COURSE DIRECTORS:** Roger Hartl, Paul Park

**FACULTY:** Roger Hartl, J. Patrick Johnson, Ronald A. Lehman, Jean-Pierre Mobasser, Paul Park, Eric A. Potts, Michael P. Steinmetz, Laura A. Snyder, Khoi Duc Than, Nicholas Theodore, Juan S. Uribe

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

**LEARNING OBJECTIVES:** Upon completion of this course, participants will be able to:
1. Understand current evidence supporting the use of spinal navigation in minimally invasive surgery
2. Learn the role of robotics in 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

1:35–1:50 pm
Applications and Evidence for Spinal Navigation in Minimally Invasive Spine Surgery
Laura A. Snyder

1:50–2:00 pm
Navigation—MIS TLIF (Technique)
Roger Hartl

2:00–2:10 pm
Navigation—Percutaneous Screw Fixation (Technique)
Jean-Pierre Mobasser

2:10–2:20 pm
Navigation—Spinal Tumor (Technique)
Khoi D. Than

2:20–2:30 pm
Navigation—Spinal Deformity (Technique)
J. Patrick Johnson

2:30–2:40 pm
Navigation—Lateral Applications (Technique)
Paul Park

2:40–2:50 pm
Questions and Discussion

2:50–3:20 pm
Hands-on Workshop (Navigation)

3:20–3:40 pm
Break

3:40–3:50 pm
Image-guided Rod Contouring
Juan S. Uribe

3:50–4:00 pm
Robot-assisted Pedicle Screw Placement
Nicholas Theodore

4:00–4:10 pm
Current Evidence for and Future Applications for Robotics in Spinal Surgery
Ronald A. Lehman

4:10–4:20 pm
Cost Effectiveness of Navigation
Eric A. Potts

4:20–4:30 pm
Questions and Discussion

4:30–4:40 pm
Break

4:40–4:50 pm
How to Advocate for New Technology at Your Hospital
Michael P. Steinmetz

4:50–5:30 pm
Hands-on Workshop Robotics

**SPECIAL COURSE 2**

**COURSE DIRECTORS:** Steven D. Glassman, Praveen V. Mummaneni

**FACULTY:** Todd Albert, Neel Anand, Sigurd Berven, Shay Bess, John R. Dimar, Adam S. Kanter, Lawrence Lenke, Praveen V. Mummaneni, Justin S. Smith

**COURSE DESCRIPTION:** This course is designed to provide all the basics in diagnosis and management of adult spinal deformity. It will cover the latest innovations on deformity from fundamentals in diagnosis and planning including surgical strategies and different technical options, ranging from open to hybrid and minimally invasive techniques. The course is designed for non-deformity surgeons, but also will have content that will apply to deformity surgeons.

4:50–5:00 pm
Essentials of Spinal Deformity Required for all Spinal Surgeons

4:50–5:00 pm
Hands-on Workshop Robotics

PRELIMINARY SCIENTIFIC PROGRAM
LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Understand the basic fundamentals of adult spinal deformity
2. Learn when to apply different deformity surgical techniques
3. Differentiate the use of open versus hybrid versus minimally invasive surgery for adult spinal deformity

1:30–1:40 pm
Introduction
Praveen V. Mummaneni

1:40–2:00 pm
Thoracolumbar Deformity Classification and Optimal Treatment Paradigms
Lawrence Lenke

2:00–2:20 pm
For Which Lumbar Degenerative States Should Sagittal Balance be a Priority?
Sigurd Berven

2:20–2:40 pm
Spondylolisthesis—Low-grade and High-grade Options
John R. Dimar

2:40–3:00 pm
Break

3:00–3:20 pm
How to Build the Ideal Spinal Deformity Team
Todd Albert

3:20–3:40 pm
Deformity and its Effect on PROS
Shay Bess

3:40–4:00 pm
Less Invasive Techniques for Deformity Correction
Adam S. Kanter

4:00–4:20 pm
Break

4:20–4:40 pm
Minimally Invasive Considerations and Case Presentations
Neel Anand

4:40–5:00 pm
Case Presentations from the Participants
Justin S. Smith

5:00–5:30 pm
Questions and Discussion

SPECIAL COURSE 3
Surgical Treatment of Peripheral Pain

COURSE DIRECTORS: Line G. Jacques, Mark A. Mahan

Faculty:

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

1:35–1:50 pm
Reconstruction for Pain
Robert J. Spinner, Eric L. Zager

1:50–2:05 pm
Ablative Surgery: DREZotomy, Neuroma Resection
Allan J. Belzberg

2:05–2:20 pm
Decompression Surgery for Upper Extremity Pain Syndromes
Christopher J. Winfree

2:20–2:35 pm
Decompression Surgery for Lower Extremity Syndromes
Aaron G. Filler

2:35–2:50 pm
Medical Management: New Options
Allan J. Belzberg

2:50–3:05 pm
Pre-operative Evaluation
Robert J. Spinner

3:05–3:30 pm
Case Discussion: Brachial Plexus Avulsion
Allan J. Belzberg

3:30–3:45 pm
Break

3:45–4:00 pm
Dorsal Root Ganglion Stimulation
Line G. Jaques

4:00–4:15 pm
Epidural Stimulation: High Frequency Versus Traditional
Line G. Jacques

4:15–4:30 pm
Peripheral Nerve Stimulation: New Technologies
Mark A. Mahan

4:30–4:45 pm
Meralgia Paresthetica: To Cut or Not
Amgad S. Hanna
4:45–5:00 pm
Occipital Neuralgia: Decompress, Divide, or Stimulate
Amgad S. Hanna

5:00–5:25 pm
Case Discussion: Dorsal Root Ganglion Versus Epidural Stimulation for CRPS
Line G. Jacques

5:25–5:30 pm
Questions and Discussion

SPECIAL COURSE 4
Spinal Tumoral Pathology Made Easy (DX-management)

COURSE DIRECTORS: John E. O’Toole, Daniel M. Sciubba

Faculty:

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. Implement the most appropriate treatment approach for patients with symptomatic metastatic spinal lesions
2. Explain to patients the differences in morbidity and outcomes between en bloc resection versus surgery plus radiation therapy for primary spinal malignancies
3. Select the most appropriate patients for minimally invasive resection of intradural spinal tumors

1:30–1:35 pm
Introduction
John E. O’Toole, Daniel M. Sciubba

1:35–1:45 pm
Illustrative Cases
John E. O’Toole

1:45–3:10 pm
Debate: Management of Vertebral Column Metastasis (Case Presentation)

1:45–2:00 pm
Overview of Management Principles
Michael S. Virk

2:00–2:15 pm
Open Surgical Decompression, Anterior Column Reconstruction
John H. Shin

2:15–2:30 pm
Open Separation with Focused Radiation
Ilya Laufer

2:30–2:45 pm
Minimally Invasive Surgery with Radiation
Dean Chou

2:45–3:00 pm
Percutaneous Stabilization with LITT
Claudio E. Tatsui

3:00–3:10 pm
Questions and Discussion

3:10–3:15 pm
Break

3:15–4:10 pm
Debate: Management of Solitary Primary Malignant Spine Lesion (Case Presentation)

3:15–3:30 pm
Overview of Diagnosis and Management Principles
Charles Fisher

3:30–3:45 pm
En Bloc Resection and Instrumented Fusion (Multiple Resection and Stabilization Techniques)
Ziya L. Gokaslan

3:45–4:00 pm
Combination of Surgery with High-dose Radiation (Planning of Surgery with Photon/Proton/Carbon Ion)
Joseph H. Schwab

4:00–4:10 pm
Questions and Discussion

4:10–4:15 pm
Break

4:15–4:45 pm
Debate: Sacral Destructive Lesion (Case Presentation)

4:15–4:25 pm
Intralesional Debulking with Adjuvant Management (Including SBRT, Denosumab, Embolization)
Laurence D. Rhines

4:25–4:35 pm
En Bloc Surgical Resection with Sacro-pelvic Reconstruction
Ehud Mendel

4:35–4:45 pm
Questions and Discussion

4:45–5:30 pm
Case Presentation: Intradural Spinal Tumor

4:50–5:00 pm
Patient Selection and Technical Aspects of Sage Intramedullary Tumor Resection
Paul C. McCormick

5:00–5:10 pm
Minimally Invasive Resection of Intradural, Extramedullary Tumors
John E. O’Toole
MEETING AGENDA

5:10–5:20 pm
Molecular Profiling, Detection, and Targeting of Spine Tumors
Chetan Bettegowda

5:20–5:30 pm
Patient Report Outcomes Following Spine Tumor Surgery
Justin E. Bird

SPECIAL COURSE 5
Spinal Trauma a Global Perspective in a World of Change (Brazilian Spine Symposium)

COURSE DIRECTORS: Asdrubal Falavigna, Cristiano M. Menezes

FACULTY: Alécio Barcelos, Ricardo Botelho, Luis Eduardo Carelli, Murilo Tavares Dafer, Andrew Dailey, Fernando Dantas, Asdrubal Falavigna, Ronald Farias, Andrei Joaquim, Kumar Kakarla, Marcos Masini, Cristiano Menezes, Jerônimo Milano

COURSE DESCRIPTION: This special course is designed to overview and provide the required tools to perform spinal procedures using conventional and emerging surgical techniques. This course will cover essential topics including fundamentals of spinal alignment and optimal workflow from planning to postoperative care. At the end of the course, the participants will be confident evaluating and managing the full spectrum of spinal pathologies including degenerative, trauma, tumor, and deformity.

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Understand the full spectrum of spinal pathologies and surgical indications
2. Describe the ideal candidate for open and minimally invasive surgical techniques
3. Learn the pathways to manage adverse surgical outcomes

1:30–2:10 pm
Odontoid Fracture in Elderly

1:30–1:35 pm
Case Presentation
Andrew Dailey

1:35–1:50 pm
How to Select the Best Treatment – Brace or Surgery?
Ronald Farias

1:50–2:05 pm
Discussion
Asdrubal Falavigna

2:05–2:10 pm
Case Resolution
Andrew Dailey

2:10–2:50 pm
Unilateral Cervical Facet Dislocation

2:10–2:15 pm
Case Presentation
Alécio Barcelos

2:15–2:30 pm
Tips and Tricks for Reduction and Fixation: Anterior Versus Posterior
Alécio Barcelos

2:30–2:45 pm
Discussion
Ricardo Botelho

2:45–2:50 pm
Case Resolution

2:50–3:30 pm
Central Cord Injury Syndrome

2:50–2:55 pm
Case Presentation
Fernando L.R. Dantas

2:55–3:10 pm
Management of Acute Spinal Cord Injury

3:10–3:25 pm
Discussion
Jerônimo Milano

3:25–3:30 pm
Case Resolution
Fernando L.R. Dantas

3:30–3:45 pm
Break

3:45–4:25 pm
Burst Fracture in Neurologic Intact Patient

3:45–3:50 pm
Case Presentation
Andrei Joaquim

3:50–4:05 pm
Conservative Versus Surgical Treatment
Cristiano M. Menezes

4:05–4:20 pm
Discussion
Asdrubal Falavigna

4:20–4:25 pm
Case Resolution
Andrei Joaquim

4:25–5:05 pm
Thoracolumbar Fractures – Fixation with Fusion Versus Non–Fusion

4:25–4:30 pm
Case Presentation
Nooj Kazemi

4:30–4:45 pm
Posterior Spinal Fixation with Fusion Versus Non-fusion
Luis Eduardo Carelli

4:45–5:00 pm
Discussion
Marcos Masini

5:00–5:05 pm
Case Resolution
Nooj Kazemi
5:05–5:10 pm
Case Presentation
Murilo Tavares Daher

5:10–5:25 pm
Surgical Techniques Post Traumatic Deformity Correction
Kumar Kakarla

5:25–5:30 pm
Case Resolution
Murilo Tavares Daher

6:30–8:00 pm
Opening Reception
Watch the sunset while enjoying a lavish array of food and beverages.

THURSDAY
MARCH 15, 2018

6:30–7:30 am
Complimentary Breakfast

7:00–7:45 am
Challenging Cases 1
Moderators: David J. Hart, Bradley Jacobs, Justin Slavin

7:45–8:00 am
Opening Remarks
Juan S. Uribe

SCIENTIFIC SESSION 1
8:00–9:30 am
Spine in an Era of Global Change

MODERATORS: Daniel J. Hoh, R. John Hurlbert


LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Analyze the findings of novel neurosurgical studies, and critique the design and methodology of these studies
2. List important areas for further knowledge development and research
3. Describe past and current innovations that are transforming spine surgery today

8:00–8:40 am
J.A.N.E and Mayfield Award Presentations
Daniel C. Lu

8:40–8:45 am
Introduction of DSPN Chair
Shekar N. Kurpad

8:45–9:00 am
DSPN Chair’s Address
Marjorie C. Wang

9:00–9:05 am
Introduction of Meritorious Award, Neurosurgery: Vincent Traynelis
John E. O’Toole

9:05–9:15 am
Meritorious Award Recipient, Neurosurgery
Vincent C. Traynelis

9:15–9:20 am
Introduction Meritorious Award Recipient, Orthopedics: Rick Sasso
Praveen V. Mummaneni

9:20–9:30 am
Meritorious Award, Orthopedics
Rick Sasso

9:30–10:15 am
Beverage Break and What’s New Session 1 in the Exhibit Hall

SCIENTIFIC SESSION 2
10:15 am–12:00 pm
Sports-related Spine Trauma

MODERATORS: David O. Okonkwo, Juan S. Uribe


LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Identify management of spine injuries in athletes
2. Describe recent advances in basic and clinical spinal cord injury research
3. Evaluate return-to-play after spinal injury and surgery

10:15–10:25 am
Introduction of Jerome Bettis (NFL Hall of Fame)
Joseph C. Maroon

10:25–10:55 am
Special Lecture: From Injury to the Field
Jerome Bettis

10:55–11:15 am
Question and Answer with Jerome Bettis
Regis W. Haid

11:15–11:25 am
Advances in SCI with Clinical Application
Allan D. Levi
11:25–11:35 am  Return to Play After Spinal Injuries  
Alexander R. Vaccaro

11:35–11:45 am  Fuse or Not to Fuse After Cervical Traumatic HNP on Athletes  
Michael G. Fehlings

11:45–11:50 am  Cervical “Stingers” and Return to Normal with Stenotic Canal  
David O. Okonkwo

12:00–1:00 pm  Lunch with Exhibitors or Attend a Non–CME Sponsored Lunch Session

SCIENTIFIC SESSION 3

1:00–2:30 pm  SRS–Critical Knowledge Needed for Adult Deformity Surgery: MIS and Open

MODERATORS: Praveen V. Mummaneni, Justin S. Smith

SPEAKERS: Sigurd Berven, John R. Dimar, Kai-Ming G. Fu, Steven D. Glassman, Gregory M. Mundis Christopher I. Shaffrey, Michael Y. Wang

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Educate the audience regarding indications and contraindications for adult spinal deformity surgery
2. Educate the audience on complication avoidance for spinal deformity surgery
3. Improve understanding of MIS applications to adult deformity surgery and the current limits of MIS techniques

1:00–1:09 pm  What Scoliosis Measurements Should I Use and When?  
John R. Dimar

1:09–1:18 pm  Indications and Contraindications for Adult Deformity Surgery  
Christopher I. Shaffrey

1:18–1:27 pm  Optimizing Bone Health in the Adult Deformity Patient  
Sigurd Berven

1:27–1:36 pm  How to Avoid PJK  
Steven D. Glassman

1:36–1:46 pm  Questions and Discussion

1:46–1:55 pm  MISDEF Algorithm  
Kai-Ming G. Fu

1:55–2:04 pm  Anterior and Lateral MIS Correction Strategies  
Gregory M. Mundis

2:04–2:13 pm  Posterior MIS Correction Strategies: Is there a Limit to Extent of Correction?  
Michael Y. Wang

2:13–2:30 pm  Questions and Discussion

PERIPHERAL NERVE COURSE

2:30–4:30 pm  Case-based Approaches to Peripheral Nerve Trauma and Other Conditions

COURSE DIRECTOR: Holly Gilmer


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 additionally 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

2:30–2:38 pm  Introduction – Peripheral Nerve History and Physical Exam  
Allan J. Belzberg, Holly Gilmer

Rajiv Midha

2:48–2:58 pm  Brachial Plexus Trauma  
Eric L. Zager

2:58–3:03 pm  Discussion  
John E. McGillicuddy

3:03–3:11 pm  Upper Extremity Nerve Trauma  
Wilson Z. Ray

3:11–3:14 pm  Discussion  
Eric L. Zager
**3:14–3:22 pm**
Lower Extremity Nerve Trauma  
Mark A. Mahan

**3:22–3:25 pm**
Discussant  
Shaun T. O’Leary

**3:25–3:35 pm**
Beverage Break and Discussion

**3:35–3:43 pm**
Upper Extremity Entrapment  
Amgad S. Hanna

**3:43–3:46 pm**
Discussant  
Justin M. Brown

**3:46–3:54 pm**
Lower Extremity Entrapment  
Marie-Noelle Hebert-Blouin

**3:54–3:57 pm**
Discussant  
Robert J. Spinner

**3:57–4:07 pm**
Nerve Tumors  
Zarina S Ali

**4:07–4:17 pm**
Neuropathic Pain Management  
Line G. Jacques

**4:17–4:20 pm**
Discussant  
Allan J. Belzberg

**4:20–4:30 pm**
Conclusion and Questions

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**ORAL PRESENTATIONS**

**3:15–4:25 pm**
Oral Presentations

**LEARNING OBJECTIVES**: Upon completion of this course, participants will be able to:
1. Analyze the findings of novel neurosurgical studies, and 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**  
MODERATOR: John H. Chi

**Top Abstracts Concurrent Session 2**  
MODERATOR: Michael P. Steinmetz

**Top Abstracts Concurrent Session 3**  
MODERATOR: Rishi K. Wadhwa

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**BEER AND WINE HAPPY HOUR DEBATES**

**4:30–6:15 pm**

**MODERATORS**: Daniel J. Hoh, Adam S. Kanter


**LEARNING OBJECTIVES**: Upon completion of this course, participants will be able to:
1. Learn to differentiate different points of view while practicing on the spine field
2. Understand different models of spinal surgical practices
3. To discuss advantages and disadvantages of single surgeon versus multiple surgeons performing complex spinal procedures
4. Develop an understanding of the complexity of surgeon/industry relationship

**4:30–4:45 pm**
Reception

**4:45–4:48 pm**
Introduction  
Daniel J. Hoh, Adam S. Kanter

**4:48–5:17 pm**
Spine Practice Model

**4:48–4:54 pm**
Private Practice is Still Sustainable  
John J. Knightly

**4:54–5:00 pm**
Modified Academic and Entrepreneurial MSO Model Works  
Todd Albert

**5:00–5:06 pm**
Privademics is the Way to Go  
Alexander R. Vaccaro

**5:06–5:12 pm**
Academic Practice: Give Away Money for Glory  
Christopher I. Shaffrey

**5:12–5:17 pm**
Discussion and Verdict  
Paul C. McCormick

**5:17–5:34 pm**
Two Surgeons for Complex Spine Cases

**5:17–5:23 pm**
Standard of Care  
Christopher P. Ames

**5:23–5:29 pm**
Reality of RVU Incentivized Environment  
Gregory M. Mundis

**5:29–5:34 pm**
Discussion and Verdict  
John E. McGillicuddy
MEETING AGENDA

PRELIMINARY SCIENTIFIC PROGRAM

5:34–5:51 pm
Ambulatory Spine Centers

5:34–5:40 pm
Efficient and Improving Patient Outcomes
Domagoj Coric

5:40–5:46 pm
Just a Way to Get More Money From the System
Shay Bess

5:46–5:51 pm
Discussion and Verdict
John R. Dimar

5:51 pm–6:15 pm
Conflict of Interest—Industry Relationships

5:51–5:57 pm
Selling Your Soul to the Devil (Affects Your Clinical Judgement and Biases Your Surgical Plan)
Daniel K. Resnick

5:57–6:03 pm
The Multi-million Dollar Industry Needs our Input and it is Just Fair to Get Economically Compensated
Regis W. Haid

6:03–6:15 pm
Discussion and Verdict
Mark E. Shaffrey

FRIDAY
MARCH 16, 2018

6:30–7:30 am
Complimentary Breakfast

7:00–8:00 am
Challenging Cases 2
MODERATORS: Faiz U. Ahmad, Ali A. Baaj, Edwin Ramos

BREAKOUT SESSIONS

8:00–9:30 am
MINIMALLY INVASIVE/MOTION PRESERVATION BREAKOUT
MODERATORS: Victor W. Chang, Khoi D. Than

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Analyze the findings of novel neurosurgical studies, and 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

8:00–9:24 am
Abstract Presentations

9:24–9:26 pm
Questions

9:26–9:30 am
Awards

SPINAL TRAUMA/GENERAL SPINE 1 BREAKOUT
MODERATORS: Daniel C. Lu, Wilson Z. Ray

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. To analyze the findings of novel neurosurgical studies, and critique the design and methodology of these studies
2. To list important areas for further knowledge development and research
3. To compare indications and clinical outcomes for various management approaches to spinal trauma

8:00–9:24 am
Abstract Presentations

9:24–9:26 am
Questions

9:26–9:30 am
Award Presentation

MAKING A DIFFERENCE: SPINE SURGEONS IMPROVING HEALTHCARE AND PATIENT OUTCOMES BREAKOUT
MODERATORS: Nathaniel P. Brooks, Aruna Ganju

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Analyze the findings of novel neurosurgical studies, and critique the design and methodology of these studies
2. List important areas for further knowledge development and research
3. Discuss implications of current and future healthcare policy changes on spine care

8:00–9:24 am
Abstract Presentations

9:24–9:26 am
Questions

9:26–9:30 am
Award Presentation

GENERAL SPINE 2 BREAKOUT
MODERATORS: Jesus Lafuente, Daniel Refai

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Analyze the findings of merging spinal 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 management approaches to spinal deformity

8:00–9:24 am
Abstract Presentations
**SCIENTIFIC SESSION 4**

**10:15–11:45 am**  
*Current Health Care Trends*

**MODERATOR:** Erica F. Bisson

**FACULTY:** Peter D. Angevine, Holly Gilmer, Paul C. McCormick, John E. McGillicuddy, Scott A. Meyer, John K. Ratliff, Daniel Refai, Mark E. Shaffrey, Luis M. Tumialan

**LEARNING OBJECTIVES:** Upon completion of this course, participants will be able to:
1. Discuss how outcomes collection and quality measures may have significant impact on spine practices
2. Describe the impact of value-based care on spine practice
3. Identify strategies for addressing current changes in value-based care

**10:15–10:20 am**  
The Rise of the Narrow Network and its Effect on Spine Surgery  
Luis M. Tumialan

**10:20–10:30 am**  
The Risk: Benefit Profile of a Spine Bundle  
Scott A. Meyer

**10:30–10:45 am**  
How Hospital Efficiency Can Bend the Cost Curve for Spine Care  
Daniel Refai

**10:45–11:00 am**  
The Single Vendor Model: Should We or Should We Not  
Mark E. Shaffrey

**11:00–11:15 am**  
CPT Update for 2018  
John K. Ratliff

**11:15–11:20 am**  
Introduce Paul McCormick  
Peter D. Angevine

**11:20–11:30 am**  
Meritorious Member Spine Award  
Paul C. McCormick

**11:30–11:35 am**  
Introduce John E. McGillicuddy  
Holly Gilmer

**11:35–11:45 am**  
Meritorious Member Peripheral Nerve Award  
John E. McGillicuddy

**DSPN BUSINESS MEETING**

**11:45–12:00 pm**  
**MODERATOR:** Juan S. Uribe

**FACULTY:** John J. Knightly, Christopher E. Wolfia, Ashwini D. Sharan, Michael Y. Wang, Adam S. Kanter, Scott A. Meyer

**11:45–11:48 am**  
Washington Committee Report  
Scott A. Meyer

**11:48–11:50 am**  
Secretary’s Report  
Adam S. Kanter

**11:50–11:53 am**  
Treasurer’s Report  
Michael Y. Wang

**11:53–11:56 am**  
Future Sites Committee Report  
Christopher E. Wolfia

**11:56–11:58 am**  
Nominating Committee  
John J. Knightly

**11:58 am–12:00 pm**  
CNS Update  
Ashwini D. Sharan

**SPECIAL COURSE 6**

**1:00–2:30 pm**  
Incorporating the MIS Concept/Techniques in Your Practice

**COURSE DIRECTORS:** Richard G. Fessler, Paul Park


**COURSE DESCRIPTION:** This course will explore recent advances in the management of spinal trauma, degenerative cervical myelopathy, spinal deformity, and chronic pain. Faculty will overview current research in the area of spinal cord injury and spinal biologics. Novel technology in the field of robotics, navigation, and neuromodulation will be introduced. Strategies for optimizing spine practice in the era of value-based care will be reviewed.

**LEARNING OBJECTIVES:** Upon completion of this course, participants will be able to:
1. Discuss current concepts regarding management of spinal trauma, degenerative cervical myelopathy, spinal deformity, and chronic pain
2. Describe novel research in spinal cord injury and spinal biologics
3. Review recent advances in robotics, navigation, and neuromodulation

**1:00–1:08 pm**  
Introduction  
Richard G. Fessler, Paul Park

**1:00–1:08 pm**  
Lunch with Exhibitors or Attend a Non-CME Sponsored Lunch Session
1:00–1:08 pm
Opening Remarks
Dean Chou, Robert G. Whitmore

1:08–1:16 pm
Pathways from Non-operative to Operative Care
Dean Chou

1:16–1:24 pm
The Role of Pain Interventionalists in a Comprehensive Spine Center: A Balancing Act
Robert G. Whitmore

1:32–1:40 pm
Pathways for Degenerative, Inpatient Surgery
Zoher Ghogawala

1:40–1:48 pm
Pathways for Inpatient Lateral Lumbar Surgery
Mohamad Bydon

2:04–2:12 pm
Pathways for Adult Deformity, Complex Spine Surgery
Ricardo B.V. Fontes

2:12–2:20 pm
Pathways for Frail, Elderly Patients Requiring Surgery
Rajiv Sethi

2:20–2:30 pm
Questions and Discussion
Dean Chou, Robert G. Whitmore

SPECIAL COURSE 8

Mentoring from A to Z: Learning from the Masters
This course will explore the role of mentoring in neurosurgery. The faculty will overview the different aspects on mentoring and understanding the challenges after the formal residency and fellowship training. Strategies for optimizing spine practice will be reviewed.

1:00 - 2:30pm *Attendance by nomination only. If you are a resident and would like to attend this course, ask your program director to nominate you! See details on cns.org/spine.

APRN SPECIAL SEMINAR

2:30–3:30 pm
Special Seminar for APRN and PAs

COURSE DIRECTORS: Eric A. Potts, Megan Bellman

FACULTY: Gina Connolly, Sara McEvoy, Donna Purviance, 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. Understand the impact of comorbidities on patient outcomes
3. Realize the impact of preoperative and postoperative patient communication
4. Understand the importance of work life balance
**MEETING AGENDA**

**2:30–2:42 pm**  
**Differentiating Causes of Arm and Leg Pain: Cervical Spine vs. Shoulder; Lumbar Spine vs. Hip**  
Donna Purviance

**2:42–2:54 pm**  
**Management of Medical Comorbidities (DM, Anticoagulation, Nutrition)**  
Sara McEvoy

**2:54–3:06 pm**  
**Advanced Perioperative Management: Support Staff, Patient Education and Pain Management**  
Emma Schulte

**3:06–3:18 pm**  
**Intraoperative Challenges**  
Megan Bellman

**3:18–3:30 pm**  
**Work-Life Balance**  
Gina Connolly

**HANDS-ON CADAVER COURSE**

**2:30–6:30 pm**  
**Hands-on Cadaver Course: Innovative Techniques in Minimally Invasive and Deformity Surgery (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.

**3:00–4:30 pm**  
**The Psychology of Leadership, in partnership with Women in Neurosurgery (WINS) Spine**

**COURSE DIRECTOR:** Ann M. Parr  
**SPECIAL SPEAKER:** Gae Walters

**COURSE DESCRIPTION:** In this premier leadership program, participants will explore how to make the most of their natural talents, leverage their strengths, and enhance their leadership capabilities. When leaders know what they do best, they can then seek ways to apply these strengths to the challenges ahead. Leaders who use their strengths every day in the work they do are more productive, effective, and professionally fulfilled.

Participants will receive an extensive analysis of their leadership behaviors including any potential blind spots. The Myers Briggs Type Indicator, a widely used and scientifically validated system, has proven highly effective in helping leaders communicate more effectively, set strategic direction, improve decision-making, and build on their strengths.

**LEARNING OBJECTIVES:** Upon completion of this course, participants will be able to:
1. Gain a clearer understanding of their leadership style and how personality preferences influence how they typically interact with colleagues
2. Enhance awareness of personality preferences based on behavior cues and learn how those preferences affect communication and decision making
3. Engage with peers to create group chemistry
4. Understand and appreciate the contributions of each individual on the team
5. Strengthen team functioning and push performance to the next level
6. Leverage their own strengths and the strengths of colleagues
7. Utilize a wider range of communication and problem solving approaches
8. Establish acceptance for ideas and influence outcomes
9. Recognize the different communication and problem solving approaches of colleagues and team members

**7:30–9:30 pm**  
**Young Neurosurgeons Reception and Dinner**  
**Speaker:** Vincent C. Traynelis

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**SATURDAY**

**MARCH 17, 2018**

**6:45–7:45 am**  
**Complimentary Breakfast**

**BREAKOUT SESSIONS**

**7:15–8:45 am**

**PERIPHERAL NERVE, BASIC SCIENCE BREAKOUT**

**MODERATORS:** John K. Ratliff, Michael S. Virk

**LEARNING OBJECTIVES:** Upon completion of this course, participants will be able to:
1. Analyze the findings of novel neurosurgical studies, and 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 management approaches to spine and peripheral nerve disorders

**7:15–8:39 am**  
**Abstract Presentations**

**8:39–8:43 am**  
**Questions**

**8:43–8:45 am**  
**Award Presentation**
MEETING AGENDA

SPINAL DEFORMITY BREAKOUT

MODERATORS: Ali A. Baaj, Tyler R. Koski

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Analyze the findings of novel neurosurgical studies, and 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 management approaches to spinal deformity

7:15–8:39 am
Abstract Presentations
8:39–8:43 am
Questions
8:43–8:45 am
Award Presentation

GENERAL SPINE 3 BREAKOUT

MODERATORS: Asdrubal Falavigna, Daniel J. Hoh

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Analyze the findings of novel neurosurgical studies, and 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 management approaches to spine and peripheral nerve disorders

7:15–8:39 am
Abstract Presentations
8:39–8:43 am
Questions
8:43–8:45 am
Award Presentation

GENERAL SPINE 4 BREAKOUT

MODERATORS: Adrian T.H. Casey, Luke P. Hnenny

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Analyze the findings of novel neurosurgical studies, and 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 management approaches to spine and peripheral nerve disorders

7:15–8:39 am
Abstract Presentations
8:39–8:43 am
Questions
8:43–8:45 am
Award Presentation

ABNS ORAL EXAM AND MOC UPDATE

8:45–9:45 am
ABNS Oral Exam and MOC Update—What Tools Do You Need to Succeed?

COURSE DIRECTOR: Richard G. Ellenbogen

FACULTY: Anthony L. Asher, Richard G. Ellenbogen, Mark N. Hadley, Christopher I. Shaffrey

COURSE DESCRIPTION: This course is dedicated and focused on delivering and discussing the structure of the ABNS and provide an update on the new Oral exam format and MOC process for neurosurgeons. The faculty include current leaders on the ABNS organization. There will be an interactive session with open discussion between faculty and participants.

LEARNING OBJECTIVES: Upon completion of this course, participants will be able to:
1. Understand the methodology and fundamentals of the ABNS
2. Learn the changes on the Oral and MOC certification process
3. Discuss the differences between the old and new ABNS certification process

8:45–9:00 am
Overview of the ABNS
Richard G. Ellenbogen

9:00–9:15 am
The “New” Oral Exam: Current Format, Case Collection, Case Selection, Format of the Examination
Mark N. Hadley

9:15–9:25 am
Process if a Failure Occurs
Christopher I. Shaffrey

9:25–9:35 am
The “New” MOC, Parts 1 through 4 Explained: Why Everyone Will Want to Do MOC
Anthony L. Asher

9:35–9:45 am
Questions and Discussion
Richard G. Ellenbogen

9:45–10:00 am
Beverage Break
<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>10:00-10:32 am</td>
<td>Burst Fracture TLICS4</td>
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<td>10:00–10:04 am</td>
<td><strong>Case Presentation</strong> Joseph S. Cheng, David O. Okonkwo</td>
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<td>10:04–10:12 am</td>
<td>Brace and Conservative Treatment James S. Harrop</td>
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<td>10:12–10:20 am</td>
<td>Open Fusion and Instrumentation Steven D. Glassman</td>
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<td>10:20–10:28 am</td>
<td>MIS Internal Bracing Michele M. Johnson</td>
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<td>10:28–10:32 am</td>
<td><strong>Discussion and Verdict</strong> Joseph S. Cheng, David O. Okonkwo</td>
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<td>10:32–11:04 am</td>
<td>Multisegmental Cervical Stenosis</td>
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<td>10:32–10:36 am</td>
<td><strong>Case Presentation</strong> Joseph S. Cheng, David O. Okonkwo</td>
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<td>10:36–10:44 am</td>
<td>Anterior 4-level Approach Vincent C. Traynelis</td>
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<td>10:44–10:52 am</td>
<td>Posterior Laminectomy and Fusion Rick Sasso</td>
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<td>10:52–11:00 am</td>
<td>Posterior Laminoplasty Allan D. Levi</td>
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<td>11:00–11:04 am</td>
<td>Discussion and Verdict R. John Hurlbert</td>
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<td>11:04–11:36 am</td>
<td>T/L Pedicle Screw Fixation</td>
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<td>11:04–11:08 am</td>
<td><strong>Case Presentation</strong> Joseph S. Cheng, David O. Okonkwo</td>
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<td>11:08–11:16 am</td>
<td>Free-hand Pedicle Screw Placement Lawrence Lenke</td>
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<td>11:16–11:24 am</td>
<td>Fluoroscopic Pedicle Screw Placement Luis M. Tumialan</td>
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<td>11:24–11:32 am</td>
<td>Navigated Pedicle Screw Placement Tyler R. Koski</td>
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<td>11:32–11:36 am</td>
<td><strong>Discussion and Verdict</strong> Zoher Ghogawala</td>
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<td>11:36 am–12:00 pm</td>
<td>Multisegmental Cervical Stenosis/ HNP with Radicuopathy</td>
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<td>11:36–11:40 am</td>
<td><strong>Case Presentation</strong> Joseph S. Cheng, David O. Okonkwo</td>
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<td>11:40–11:48 am</td>
<td>Monitoring is not Indicated and it is Just Protecting from Medicolegal Issues Bill Sullivan</td>
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<td>11:48–11:56 am</td>
<td>Intraoperative Multimodality Monitoring Improve Outcomes and Should be Mandatory Jeffrey Wang</td>
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<td>11:56 am–12:00 pm</td>
<td><strong>Discussion and Verdict</strong></td>
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<td>12:00–12:30 pm</td>
<td>SI Joint Case</td>
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<td>12:00–12:04 pm</td>
<td><strong>Case Presentation</strong> Joseph S. Cheng, David O. Okonkwo</td>
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<td>12:04–12:12 pm</td>
<td>SI Fusion David W. Polly</td>
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<td>12:12–12:20 pm</td>
<td>Leave the SI Joint Alone Michael Y. Wang</td>
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<tr>
<td>12:20–12:30 pm</td>
<td><strong>Discussion and Verdict</strong> Charles A. Sansur</td>
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**CAHILL CONTROVERSIES**

**MODERATORS:** Joseph S. Cheng, David O. Okonkwo

**FACULTY:** Zoher Ghogawala, Steven D. Glassman, James S. Harrop, R. John Hurlbert, Michele M. Johnson, Tyler R. Koski, Lawrence Lenke, Allan D. Levi, David W. Polly, Charles A. Sansur, Rick Sasso, Vincent C. Traynelis, Luis M. Tumialan, Michael Y. Wang

**LEARNING OBJECTIVES:** Upon completion of this course, participants will be able to:
1. Understand different indications managing spinal burst fractures
2. Differentiate approaches for degenerative conditions on the cervical spine and their surgical procedures.
3. Learn surgical and non-surgical indications for the management of the sacroiliac joint pathologies
4. Acquire knowledge of optimal techniques for placement of spinal pedicle screws

**MEETING AGENDA**

**12:30 pm**
Meeting Adjorns
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 23 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 18 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 Wednesday Special Course. Attendees will receive a maximum of 1.50 AMA PRA Category 1 Credits™ for an eligible Friday afternoon Special Course. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Join us at Spine Summit 2018 to honor our Meritorious Awardees!

This year, we’re pleased to host Dr. Vincent Traynelis and Dr. Rick Sasso as Meritorious Awardees and they’ll share their view on global change during both their award presentations and at the popular Cahill Controversies Sessions.

Our Meritorious Member Awardees, Dr. John McGillicuddy and Dr. Paul McCormick, will discuss current health care trends during award presentations and at the Beer and Wine Happy Hour Debates.

*We look forward to their contributions!*

<table>
<thead>
<tr>
<th>VINCENT TRAYNELIS</th>
<th>RICK SASSO</th>
<th>JOHN McGILLCUDDY</th>
<th>PAUL MCCORMICK</th>
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<tbody>
<tr>
<td>Meritorious Award, Neurosurgery</td>
<td>Meritorious Award, Orthopedic Surgery</td>
<td>Meritorious Member Award</td>
<td>Meritorious Member Award</td>
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SOCIAL EVENTS AND GENERAL INFORMATION

Opening Reception
Wednesday, March 14
6:30–8:00 pm
Enjoying a lavish array of food and beverages as you network with old friends and new 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.

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 2018 Spine Summit 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.

Area Attractions
This is your chance to enjoy a South Seas vacation without sailing halfway around the globe. Feel the excitement of a time when adventurous travelers first island-hopped the South Pacific. A lagoon and sandy-white beach set the stage for your adventure.

But the magic doesn’t stop there. All guests staying at the Loews Royal Pacific Resort receive exclusive theme-park benefits that will make your time at Universal Orlando® even more thrilling.

After hours of excitement, come back to an oasis of calm. Sip a mai tai in the Orchid Court Lounge and enjoy its shimmering reflection pool—where you can watch the waters dance past carved statues of imperial-style elephants. Take time to savor the colorful Balinese umbrellas, called tedung—they’re a symbol of protection dating back to the 13th century.

Right next door are three spectacular theme parks: Universal Studios Florida®, Universal’s Islands of Adventure®, and Universal’s Volcano Bay®. Be sure to visit Universal CityWalk® entertainment complex, where unforgettable family fun includes restaurants and entertainment that every member of your family will enjoy!

We strongly encourage you to make theme park arrangements in advance. The concierge team will be available to assist you on site as well.

Children’s Programs and Child Care Services
The Loews Royal Pacific Resort offers several options for your babysitting needs. There is a Kids Camp operated by Kids’ Nite Out. This service is for children ages 4-14 and rotates among the three on-site resorts. The cost is $15 per hour, per child, and meals are an additional $15 per child. Camp hours are Sunday–Thursday from 5:00 pm–11:30 pm, and Friday and Saturday from 5:00 pm–12:00 am. Please contact the Concierge for the weekly camp location schedule and to make reservations.

This company also offers in-room babysitting along with Sunshine Babysitting. Both companies are licensed, bonded, and insured. Listed below is detailed information, along with a link to their website.

Kid’s Nite Out
www.kidsniteout.com
Reservations: (407) 828-0920
1 child: $18.00 per hour
4-hour minimum
$10 transportation fee for each reservation
24-hour Cancellation Policy

Sunshine Babysitting
www.sunshinebabysitting.com
Reservations: (407) 421-6505
1 child: $14 per hour
4-hour minimum
$10 transportation fee for each reservation
24-hour cancellation policy

*Please note price may vary depending on time of service, holidays, and/or special events.

The Section on Disorders of the Spine and Peripheral Nerves is not affiliated with nor is it endorsing the services of any childcare program. Please contact the resort concierge at (408) 293-5000 for additional information and applicable fees.

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 meeting programming. Your voice is important and your opinions are valued!

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

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 Loews Royal Pacific in designated areas only.
Hotel Accommodations
The Loews Royal Pacific Resort offers luxury accommodations and amenities your whole family is sure to enjoy, from fine dining to a host of recreation activities. Smoking is allowed in designated outdoor areas only.

Resort Amenities:
- Complimentary in-room internet access
- Deluxe guest rooms
- Lagoon-style swimming pool

Hotel Room Rates
Standard Guest Room
- $275.63 Single/Double*
- $303.75 Triple*
- $331.88 Quad*

* Above rates include applicable state and local taxes. A portion of the room rate will be utilized to cover the cost of registration and housing services.

These special rates are only available until the February 16, 2018 cut-off date. The Section on Disorders of the Spine and Peripheral Nerves cannot guarantee the availability of this rate after the cut-off date. If available, the hotel will also honor these rates three days prior to and three days after the official meeting dates of March 14-17, 2018. 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 cns.org/spine 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 register before making your hotel arrangements. Rooms are subject to availability. Reserve your room by February 16, 2018.

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 charged in mid-February. 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 March 9
- 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 registration is cancelled.

Beginning March 10
- 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.
- Check your hotel confirmation and contact the hotel directly for information.

Support the Section on Disorders of the Spine and Peripheral Nerves by booking your hotel room 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 Loews Royal Pacific.

Transportation to the Resort Shuttle
The hotel does not provide complimentary transportation. However, Destination MCO is their preferred transportation company, and they can be reached at 407-422-2522 or online at http://destinationmco.com/service-overview.html. They offer private livery transportation services and can arrange group transportation as well.

Individual shuttle services can also be arranged through Mears Transportation prior to arrival online at http://www.mearstransportation.com/global/orlando/.
**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:
- Medical Registration includes the following:
- Daily continental breakfasts
- Daily beverage breaks
- Daily Scientific Sessions
- Entrance to the Exhibit Hall
- One ticket to Wednesday Opening Reception
- Entry to Thursday Lunch with Exhibitors
- Entry to Friday Lunch with Exhibitors

Spouse/Guest Registration includes the following:
- Daily continental breakfasts with medical attendees
- Daily Scientific Sessions
- Entrance to the Exhibit Hall
- One ticket to Wednesday Opening Reception

Child Registration
(Although there is no registration fee, children under 18 years of age should register for the Spine Summit to receive a badge.)
- Daily continental breakfasts with medical attendees
- Daily Scientific Sessions
- One ticket to Wednesday Opening Reception

Special note: Children under the age of 18 are not allowed on the exhibit 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**
- Wednesday, March 14: 11:00 am–5:30 pm
- Thursday, March 15: 6:30 am–6:00 pm
- Friday, March 16: 6:30 am–6:30 pm
- Saturday, March 17: 6:45 am–12:30 pm

**Registration Cancellation/Refund Policy**
All refund requests must be received in writing by February 26.

Requests accepted via:
- E-mail: dspn@wyndhamjade.com
- Fax: 972-349-7715
- Mail: DSPN Registration and Housing 6100 W. Plano Parkway, Suite 3500 Plano, TX 75093

**Cancellation Date Schedule**
Before February 26: Registration=Full Refund less $100 processing fee. Special Courses will be refunded in full until this date.

After February 26 and No-shows: Absolutely no refunds will be issued after this date for Registration or Special Courses 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 at wyndhamjade.com or call (866) 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 ScootAround, Inc. at their toll-free hotline: (888) 441-7575. You can also submit a rental inquiry on the web at www.scootaround.com.

**Important Dates to Remember**
- **February 16**: Advance Registration and Housing Deadline
- **February 26**: 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 26, regardless of cause.
ADVANCE REGISTRATION AND HOUSING FORM

DEADLINE: FEBRUARY 16, 2018

ALL MEETING CONFIRMATIONS WILL BE SENT VIA E-MAIL

FOUR WAYS TO REGISTER IN ADVANCE:
1. Online: (Credit card only) cns.org/spine
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 your CME Certificate.

Last Name  First Name  Credentials
Institution/Hospital/Office/Company
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(s)

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): □ Single (1 person)–$275.63* □ Double (2 people, 1 bed)–$275.63* □ Double/Double (2 people, 2 beds)–$275.63*
□ Triple (3 people)–$303.75  □ Quad (4 people)–$331.88
* Above rates include applicable state and local taxes. A portion of the room rate will be utilized to cover the cost of registration and housing services. A deposit equal to one night’s room and tax must accompany all payments made by check.

The Loews Royal Pacific 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 may apply)
Special Requests are subject to availability upon arrival at the hotel.

□ Please check this box if you are interested in reserving a suite. (Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center representative will contact you regarding suite availability and rates. In the meantime, a standard room will be assigned.)

HOTEL CHANGE/CANCELLATION POLICY
Through March 9, all changes are subject to availability and cancellations may be made online at cns.org/spine or via e-mail at dspn@wyndhamjade.com.
Beginning March 9 to 72 hours prior to your scheduled arrival date—please contact the Loews Royal Pacific directly with all changes or cancellations. The hotel will retain the deposit for cancellations noted made at least seven days 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

<table>
<thead>
<tr>
<th>Registration Category</th>
<th>Received on or before February 16, 2018</th>
<th>Received after February 16, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Advance Rates</td>
<td>Standard Rates</td>
</tr>
<tr>
<td>Spine Section Member</td>
<td>□ $600</td>
<td>□ $800</td>
</tr>
<tr>
<td>NASS Member</td>
<td>□ $600</td>
<td>□ $800</td>
</tr>
<tr>
<td>Orthopedic Surgeon/ACOS*</td>
<td>□ $600</td>
<td>□ $800</td>
</tr>
<tr>
<td>SRS Member</td>
<td>□ $600</td>
<td>□ $800</td>
</tr>
<tr>
<td>SMISS Member</td>
<td>□ $600</td>
<td>□ $800</td>
</tr>
<tr>
<td>ISASS Member</td>
<td>□ $600</td>
<td>□ $800</td>
</tr>
<tr>
<td>AO Spine Member</td>
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<td>□ $800</td>
</tr>
<tr>
<td>CSRS Member</td>
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<td>□ $800</td>
</tr>
<tr>
<td>ACSR Member</td>
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<td>□ $800</td>
</tr>
<tr>
<td>Non-Member</td>
<td>□ $750</td>
<td>□ $950</td>
</tr>
<tr>
<td>Non-Physician, Non-Member</td>
<td>□ $750</td>
<td>□ $950</td>
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<tr>
<td>Resident</td>
<td>□ $50</td>
<td>□ $100</td>
</tr>
<tr>
<td>Resident Non-Member</td>
<td>□ $75</td>
<td>□ $125</td>
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<tr>
<td>Medical Student</td>
<td>□ $50</td>
<td>□ $100</td>
</tr>
<tr>
<td>Nurse</td>
<td>□ $250</td>
<td>□ $400</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>□ $250</td>
<td>□ $400</td>
</tr>
<tr>
<td>Spouse/Guest</td>
<td>□ $100</td>
<td>□ $130</td>
</tr>
<tr>
<td>Child</td>
<td>□ $0</td>
<td>□ $0</td>
</tr>
</tbody>
</table>

Subtotal for Registration Fee Section $
**SPECIAL COURSES TICKET ORDER**

**WEDNESDAY, MARCH 14  1:30–5:30 pm**

<table>
<thead>
<tr>
<th>SPECIAL COURSES 1–5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Course 1: MIS/Navigation and Robotics Procedural Solutions</td>
<td>Medical Registrant $200</td>
</tr>
<tr>
<td>Special Course 2: Essentials of Spinal Deformity Required for all Spinal Surgeons</td>
<td>Medical Registrant $200</td>
</tr>
<tr>
<td>Special Course 3: Surgical Treatment of Peripheral Pain</td>
<td>Medical Registrant $200</td>
</tr>
<tr>
<td>Special Course 4: Spinal Tumoral Pathology Made Easy</td>
<td>Medical Registrant $200</td>
</tr>
<tr>
<td>Special Course 5: Brazilian Spine Symposium</td>
<td>Medical Registrant $200</td>
</tr>
</tbody>
</table>

**FRIDAY, MARCH 16  1:00–2:30 pm**

<table>
<thead>
<tr>
<th>SPECIAL COURSES 6–8</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Course 6: Incorporating the MIS Concept and Technique in Your Practice</td>
<td>Medical Registrant $150</td>
</tr>
<tr>
<td>Special Course 7: Optimize Your Surgical Outcomes—Clinical Pathways Working for You. What are You Missing?</td>
<td>Medical Registrant $150</td>
</tr>
</tbody>
</table>

**FRIDAY, MARCH 16  2:30–6:30 pm**

<table>
<thead>
<tr>
<th>CADAVER LAB</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadaver Lab (Non-CME)</td>
<td>Medical Resident $500</td>
</tr>
</tbody>
</table>

**FRIDAY, MARCH 16  2:30–3:30 pm**

<table>
<thead>
<tr>
<th>SPECIAL SEMINARS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Seminar for APRN/PA</td>
<td></td>
</tr>
<tr>
<td>The Psychology of Leadership ($50)</td>
<td></td>
</tr>
</tbody>
</table>

| SUBTOTAL FOR SPECIAL COURSES/ CADAVER COURSE SESSION | $ ______________ |

**PAYMENT**

| HOTEL TOTAL | $ ____________ |
| REGISTRATION 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 26, 2018. 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, faxed to (972) 349-7715 or mailed to DSPN Registration and Housing Center, 6100 W. Plano Parkway, Suite 3500, Plano, TX 75093.

**REGISTER TODAY AT CNS.ORG/SPINE!**
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 the latest 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 Thursday and Friday, as speakers share the latest in cutting-edge research and technology.

**Exhibit Hours**

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, March 15</td>
<td>9:00 am–4:30 pm</td>
</tr>
<tr>
<td>Friday, March 26</td>
<td>9:00 am–1:00 pm</td>
</tr>
</tbody>
</table>

**What’s New Schedule**

<table>
<thead>
<tr>
<th>Day</th>
<th>Morning</th>
<th>Afternoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, March 15</td>
<td>9:30–10:15 am</td>
<td>2:30–3:15 pm</td>
</tr>
<tr>
<td>Friday, March 16</td>
<td>9:30–10:15 am</td>
<td></td>
</tr>
</tbody>
</table>

**Corporate Sponsored Lunch Schedule**

<table>
<thead>
<tr>
<th>Day</th>
<th>Morning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, March 15</td>
<td>12:00–1:00 pm</td>
</tr>
<tr>
<td>Friday, March 16</td>
<td>12:00–1:00 pm</td>
</tr>
</tbody>
</table>

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**2017 EXHIBITORS**

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

THE ANNUAL MEETING OF THE AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

SPINE SUMMIT 2018
RESTORING ALIGNMENT IN AN ERA OF GLOBAL CHANGE

MARCH 14–17, 2018
LOEWS ROYAL PACIFIC RESORT at
Universal Orlando®

ADVANCE REGISTRATION DEADLINE:
FRIDAY, FEBRUARY 16, 2018