25TH ANNUAL MEETING
SAN FRANCISCO MARRIOTT MARQUIS
JULY 19-22, 2017

LOOKING FORWARD TO THE FUTURE

FINAL PROGRAM
Welcome to the Spine Intervention Society’s (SIS) 25th Annual Meeting, July 19–22, 2017 at the San Francisco Marriott Marquis. SIS has a long history in the Bay Area and we are happy to return for this year’s Annual Meeting. Learn about the latest research and the future of spine intervention. Hear from the SIS Education, Health Policy, Research, and Standards Divisions about their latest initiatives and how these efforts affect you, your practice, and your patients’ well-being.

The Annual Meeting General Session, Wednesday-Saturday, July 19-22, 2017 offers 17.75 CME credits. The week includes networking events, a fun run/walk supporting SIS-funded research, a packed exhibit hall, plus multiple precourses including:

- Neurostimulation Bio-Skills Lab
- Ultrasound Interventions of the Spine and Masqueraders Bio-Skills Lab
- Accreditation Course in Evidence-Based Medicine: Part I. Assessing Studies of Treatment
- Accreditation Course in Evidence-Based Medicine: Part II. Assessing Studies of Diagnostic Tests and Strategies
- Coding and Reimbursement: Current Issues and Updates

Join us all week and earn up to 25.75 AMA PRA Category 1 Credit(s)™.

In addition to a review of our bread and butter imaging and injection techniques, we will also address current controversial issues, regenerative medicine trends, and how to expand our differential diagnosis. The information will be both practical and educational and, in some cases, eye-opening. I look forward to seeing you here in San Francisco.

The Society acknowledges and thanks the 25th Annual Meeting Program Committee for their efforts in creating this year’s program.

Scott HORN, DO
ANNUAL MEETING PROGRAM COMMITTEE CHAIR

FOLLOW THE @SPINESOCIETY ANNUAL MEETING MEETING ON TWITTER WITH #SIS25TH

DOWNLOAD THE SIS APP AT SPINEINTERVENTION.ORG/App

Get meeting updates, direct message your colleagues, and participate in General Session polls with the SIS app—the only way to access the attendee list.
MEETING MATERIALS
The Spine Intervention Society is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Spine Intervention Society designates this live activity for a maximum of 17.75 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

HOW TO OBTAIN CREDITS
Meeting evaluations will be emailed to you and must be completed online in order to receive proper CME credit. Your CME certificate will be emailed to you once your evaluation is received.

PHOTOGRAPHY/VIDEOGRAPHY DISCLAIMER
The Society reserves the right to use any photograph or video taken at the 25th Annual Meeting without the expressed written permission of those included in the photograph or video. The Society may use photographs or registrants with or without the registrants’ names and for any lawful purpose, including publicity, advertising, and website and social media content.

By virtue of participation in the 25th Annual Meeting, attendees agree to hold harmless and indemnify the Society from any and all claims involving the use of their picture or likeness.

DISCLOSURE POLICY
SIS plans and implements educational activities in accordance with the Accreditation Council for Continuing Medical Education (ACCMCE) Criteria and Standards for Commercial Support to ensure balance, independence, objectivity, and scientific rigor. As an ACCME-accredited provider, the Society’s policy requires anyone in control of content, including SIS staff, to disclose all financial relationships they have had within the last twelve (12) months with commercial interests whose products or services may impact their presentation.

The 25th Annual Meeting Program Committee Chair reviews all disclosures prior to a presentation and uses a process of resolution that, if not satisfied, results in the removal of the speaker. The intent of this policy is not to prevent expert speakers with relevant relationships with commercial or other interests from involvement in CME, but rather to ensure that the Society’s CME activities promote improvements in healthcare quality and not the specific proprietary or business interest of any commercial enterprise. Disclosure information is made available to all participants at this meeting in the Final Program. Speakers are also required to disclose this information verbally and on the introductory slide at the beginning of each presentation.

To ensure the integrity of members, volunteers, and leaders, and to maintain public confidence, SIS has adopted a policy of uniform disclosure of financial relationships; any individual in control of the content of an SIS-sponsored activity must disclose to the audience any financial relationship in which the individual benefits by receiving a salary, ownership interest (e.g., stocks, stock options or other ownership interest, excluding diversified mutual funds), royalty, intellectual property rights, consulting fee, honoraria, or other financial benefit. Financial benefits are usually associated with roles such as employment, management position, independent contractor (including contracted research), consulting, speaking and teaching, membership on advisory committees or review panels, board membership, and other activities for which remuneration is received or expected.

FDA DISCLOSURE
If a device or drug requiring FDA approval is identified as an important component of a presentation, the author must indicate the FDA status of that device or drug as Approved, Investigational, or Not Approved for distribution within the United States. The FDA has stated that it is the responsibility of the physician to determine the FDA status of each drug or device he or she wishes to use in clinical practice and to use these products in compliance with applicable law.
### ACCREDITATION COURSE IN EVIDENCE-BASED MEDICINE: PART I. ASSESSING STUDIES OF TREATMENT

**LEVEL 4, PACIFIC H**

Instructors/Facilitators: David J. KENNEDY, MD; Wade KING, MMEdSc, MMEd(Pain); Scott KREINER, MD; Zachary MCCORMICK, MD; Byron J. SCHNEIDER, MD; Yakov VOROBEYCHIK, MD, PhD

**ACCREDITATION COURSE IN EVIDENCE-BASED MEDICINE: PART II. ASSESSING STUDIES OF DIAGNOSTIC TESTS AND STRATEGIES** (By Invitation Only)  
**LEVEL 4, PACIFIC H**  
Instructors/Facilitators: Andrew J. ENGEL, MD; John MACVICAR, MB ChB; Clark C. SMITH, MD, MPH; Milan P. STOJANOVIC, MD

### NEUROSTIMULATION BIO-SKILLS LAB

**LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-16**

Course Director: Rodney JONES, MD  
Instructors: Shihab AHMED, MD; Richard BUNDSCHU, MD; Aaron CALODNEY, MD; Thomas COSTELLO, DO; Fred DeFRANCESCH, MD
WEDNESDAY, JULY 19, 2017 (CONTINUED)

PRECOURSES
Additional Registration Required

8:30 a.m.–6:00 p.m. ULTRASOUND INTERVENTIONS OF THE SPINE AND MASQUERADERS BIO-SKILLS LAB LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 1-6
Course Director: Michael B. FURMAN, MD, MS Instructors: Amrit BHARGAVA, MD, MS, Brad GOODMAN, MD, Jonathan S. KRISCHNER, MD; Yung J. LEE, DO; Paul Sean LIN, MD; Ameet NAGPAL, MD, MS, MD; Matthew J. PINGREE, MD
8:00 a.m. Registration
8:30 a.m. Lecture: Ultrasonic Principles and Technical Aspects
8:50 a.m. Lecture: Ultrasonic Guidance as it Relates to Spine Care
9:10 a.m. Lecture: How Ultrasonic Guidance Augments the SS Guidelines
9:30 a.m. Lecture: Coding and Reimbursement
9:45 a.m. Discussion
10:15 a.m. Break
10:30 a.m. Phantom Station: 30-Minute Rotation
11:00 a.m. Bio-Skills Lab: 50-Minute Rotations
12:00 p.m. Lunch
1:40 p.m. Bio-Skills Lab: 50-Minute Rotations
3:20 p.m. Break
3:35 p.m. Bio-Skills Lab: 50-Minute Rotations
5:15 p.m. Discussion
6:00 p.m. Course Adjourns

1:00–6:30 p.m. CODING AND REIMBURSEMENT: CURRENT ISSUES AND UPDATES
LEVEL 2, FOOTBALL C
Instructors: Linda DUCKWORTH, CHC, CPC, Luis A. GUERRERO, MD; Scott HORN, DO
12:30 p.m. Registration
1:00 p.m. Basic Coding: How We Got Here Scott HORN, DO
1:15 p.m. MALIG Me Cozy Scott HORN, DO
1:45 p.m. In-Depth Interventional Spine Coding and Updates Scott HORN, DO / Luis GUERRERO, MD
2:45 p.m. Break
3:00 p.m. E/M: A Common-Sense Approach Linda DUCKWORTH, CHC, CPC
4:00 p.m. Modifiers: Who, What, and When Linda DUCKWORTH, CHC, CPC / Scott HORN, DO
5:00 p.m. Break
5:15 p.m. E/M Audits – An Auditor's Perspective and Hot Topics Linda DUCKWORTH, CHC, CPC
5:45 p.m. Audiance Scenarios, and Discussion Linda DUCKWORTH, CHC, CPC / Luis GUERRERO, MD; Scott HORN, DO
6:30 p.m. Course Adjourns

GENERAL SESSION

5:00–8:00 p.m. REGISTRATION OPEN
LEVEL B2 LOWER, YERBA BUENA GRAND ASSEMBLY, SOUTH REGISTRATION

6:30–7:30 p.m. RESEARCH POSTER PRESENTATIONS WITH AUTHORS LEVEL B2 LOWER, NOB HILL ROOMS A-C
Meet the authors as they showcase their research during an interactive 1-hour CME session. Although posters will be on display during the entire Annual Meeting, you must attend this session to be awarded CME credits.

6:30–8:30 p.m. WELCOME RECEPTION IN THE EXHIBIT HALL LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 7-8
The Welcome Reception is your first networking opportunity during the Annual Meeting and the perfect way to meet new friends and reconnect with your peers as we look forward to the future.

THURSDAY, JULY 20, 2017

GENERAL SESSION

7:45–8:45 a.m. STANDARDS DIVISION MEETING (BY INVITATION ONLY) LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 12-13 MODERATOR: VOROBEYCHIK, MD
8:00 a.m.–6:00 p.m. REGISTRATION OPEN LEVEL B2 LOWER, YERBA BUENA GRAND ASSEMBLY, SOUTH REGISTRATION

8:00–8:30 a.m. WELCOME REMARKS ANNUAL MEETING COMMITTEE CHAIR: SCOTT HORN, DO

8:30–9:00 a.m. WELCOME BREAKFAST IN THE EXHIBIT HALL LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 7-8

8:30–9:00 a.m. OPENING REMARKS ANNUAL MEETING COMMITTEE CHAIR: SCOTT HORN, DO

9:00–10:00 a.m. BIOPHYSICS LECTURE 1: ANATOMY AND PHYSIOLOGY LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

9:15–10:15 a.m. IMAGING PRESENTATION LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

10:15–11:15 a.m. INTERVENTIONAL TECHNIQUES LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

11:15–12:15 p.m. LUNCHEON LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

12:15–1:15 p.m. MEDICAL PROFESSIONALISM LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

1:15–2:15 p.m. PAIN MANAGEMENT LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

2:15–3:15 p.m. CLINICAL PRACTICE LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

3:15–4:15 p.m. PRACTICE MANAGEMENT LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

4:15–5:15 p.m. SPECIAL TOWARDS TUESDAY LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD

5:15–6:15 p.m. ADDITIONAL SESSIONS LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11
MODERATOR: BOSTON SCIENTIFIC, LTD
THURSDAY, JULY 20, 2017

1:45-2:45 p.m.  REGENERATIVE MEDICINE
MODERATOR: David LEVI, MD
Learn the latest information about the rapidly expanding field of regenerative medicine. The speakers discuss the latest research and the clinical use of stem cells, bone marrow aspirate concentration, platelet-rich plasma (PRP), mesenchymal stem cells, and alpha-2-macroglobulin in the interventional spine field. The use of these therapies in clinical practice is also debated.

2:45-3:30 p.m.  A CRITICAL REVIEW OF THE INFLUENTIAL PAPERS OF 2016
MODERATOR: David LEVI, MD
This session presents several studies published in 2016 that merit your attention. These papers were selected by the SIS Research Division as the year's potentially most influential publications for the interventional spine field. A critical assessment of the methods and findings is presented, along with a discussion of their potential impact on your practice.

3:30-4:30 p.m.  FACTFINDERS PRESENT: VARIABLE RISK STRATIFICATION OF NSAIDS
MODERATOR: Jeffrey MAUS, MD
To inject or not to inject? That is the question…. Should we use conscious sedation for our typical injection procedures? This session will review the pros and cons of using conscious sedation and encourage a lively debate involving speakers and audience participants.

4:30-5:30 p.m.  TOPOGRAPHIC ABSTRACT PRESENTATIONS
MODERATOR: Shihab AHMED, MD
BEST CLINICAL ABSTRACT: BEST PAIN ABSTRACT: Multi-Institutional Randomized, Double-Blind, Placebo-Controlled, Prospective Study of Intratecal Lumbar Zygapophysial Joint Corticosteroid Injection(s) as Treatment of Chronic Low Back Pain in a Selected Population
Patricia ZHENG, MD

6:00 p.m.  ADJOURN FOR THE DAY

JULY 20, 2017

4:00-4:07 p.m.  FACTFINDERS PRESENTS: VARIABLE RISK STRATIFICATION OF NSAIDS PRIOR TO SPINE INTERVENTIONS
Zachary MCCORMICK, MD
How do we make decisions regarding continuing or discontinuing the use of various NSAIDs prior to spine interventions? Find out more about risks of different NSAIDs prior to common interventional spine procedures.

4:07-4:15 p.m.  QUICK HIT: ORPHAN PROCEDURES FOR THE SPINE INTERVENTIONALIST - SUPERIOR HYPOGASTRIC PLEXUS BLOCK
Wade FEIGL, MD

4:15-4:30 p.m.  RESEARCH DIVISION UPDATE
Chair: Shihab AHMED, MD, MPH
Dr. Ahmed, Research Division Chair, shares the latest developments on Society-funded research projects and other research initiatives.

4:30-5:30 p.m.  TOP RESEARCH ABSTRACT PRESENTATIONS
MODERATOR: Shihab AHMED, MD

5:09 p.m.  OUTSTANDING ABSTRACT: Cervical Intravertebral Epidural Flow Patterns: An Analysis of the Varied Patterns Seen Using Contralateral Oblique View
Brittany BICKELHAUPT, MD

5:22 p.m.  DISCUSSION

JULY 21, 2017

8:00 a.m.–5:30 p.m.  REGISTRATION OPEN
LEVEL B2 LOWER, YERBA BUENA GRAND ASSEMBLY, SOUTH REGISTRATION

8:00–8:45 a.m.  CONTINENTAL BREAKFAST IN THE EXHIBIT HALL
LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 7-8
8:45–10:00 a.m.  NEUROSTIMULATION
MODERATOR: Shihab AHMED, MD
This session provides an updated view of spinal cord stimulation (SCS) therapy for interventional pain physicians. We will review the most recent research publications on SCS therapy with an emphasis on new innovations and evidence of efficacy. We will also discuss the current understanding of how SCS reduces pain based on both clinical and pre-clinical data.

10:00–10:15 a.m.  SIS BUSINESS MEETING (Members Only)

10:15–10:22 a.m.  FACTFINDERS PRESENTS: SPINE INJECTIONS IN THE IMMUNOSUPRESSED PATIENT AND THE RISKS ASSOCIATED WITH PROCEDURAL CARE
Adrian POUPESCU, MD
To inject or not to inject? That is the question...

10:22–10:30 a.m.  QUICK HIT: ORPHAN PROCEDURES FOR THE SPINE INTERVENTIONALIST - SUPERIOR HYPOGASTRIC PLEXUS BLOCK
Anwar NAGPAL, MD, MS, MD
Chronic pelvic pain has been estimated to affect up to 27% of females, and many SIS members find treating chronic pelvic pain extraordinarily difficult. Determine the indications for and evidence behind the performance of the superior hypogastric plexus block in patients with chronic pelvic pain of malignant and non-malignant origins, the anatomy of the superior hypogastric plexus, and safe techniques for performing the procedure.

11:00–11:15 a.m.  INTERNATIONAL SESSION
MODERATOR: Timothy MAUS, MD
The Spine Intervention Society was founded as and remains an international organization. SpineNet, our rapidly maturing online learning management system, creates tremendous opportunities for SIS to expand its educational mission and foster evidence-based spine interventions worldwide. This task requires more than just technology—fundamental to progress is the art and effort of personal bridge-building with local practitioners and medical societies to carry the message that all our patients benefit when procedures are appropriately indicated and correctly performed.

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25TH ANNUAL MEETING AGENDA

FRIDAY, JULY 21, 2017 (CONTINUED)

12:30–1:45 p.m. NEVRO LUNCH AND PRESENTATION
LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 1-6
Advancing Patient Outcomes: New Insights, Data, and Research Findings with HF10 Therapy (Non-CME)
Chair: Scott Horn, DO

12:30–1:45 p.m. 2017 ANNUAL MEETING PROGRAM COMMITTEE MEETING
BY INVITATION ONLY
LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 10-11

12:30–1:45 p.m. EVIDENCE ANALYSIS COMMITTEE MEETING
BY INVITATION ONLY
LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 12-13

1:45–3:00 p.m. MEMBERSHIP COMMITTEE MEETING
BY INVITATION ONLY
LEVEL B2 LOWER, YERBA BUENA BALLROOM SALONS 14-15

1:45–3:00 p.m. GLUTEAL PAIN: DIFFERENTIAL DIAGNOSIS AND TREATMENT FOR THE SPINE INTERVENTIONALIST
Moderator: Clark C. SMITH, MD, MPH
Gluteal pain can be challenging for both the clinician and patient. In fact, it can be a real pain in the….

1:45–3:00 p.m. FACTFINDERS PRESENTS: ACCEPTABLE BLOOD PRESSURE PRIOR TO PROCEDURE
Fred DeFrancesch, MD

3:00–3:15 p.m. NETWORKING BREAK IN THE EXHIBIT HALL

3:15–3:42 p.m. FACTFINDERS PRESENTS: ACCEPTABLE BLOOD PRESSURE PRIOR TO PROCEDURE

3:42–3:49 p.m. QUICK HIT: ORPHAN PROCEDURES FOR THE SPINE INTERVENTIONALIST - GANGLION IMPAR BLOCK
Johan Hambraeus, MD
This session features a description of the relevant anatomy and how the ganglion impar block is performed safely. Also, a short description of the two major indications, coccygeal pain and novel interventional treatments for gluteal pain.

3:49–4:05 p.m. HEALTH POLICY DIVISION UPDATE
Chair: Scott Horn, DO

4:05–4:20 p.m. TAKE ACTION NOW: PRESERVING ACCESS TO SPINE INTERVENTIONS
Moderator: Kevin Vorenkamp, MD
What evidence and resources do you have at your disposal to make the case to maintain coverage for spine interventions? Do you know what led to successful preservation of coverage in Washington State last year? Do you think the State of Oregon’s decision to eliminate access to spine interventions will be a bellwether for broader coverage challenges?

4:20–4:35 p.m. NETWORKING BREAK IN THE EXHIBIT HALL

4:35–4:50 p.m. Spinal Injections: What Evidence and Resources Do We Have To Maintain Coverage?
David O’Brien, Jr., MD

4:50–5:00 p.m. ADJOURN FOR THE DAY

5:00–5:15 p.m. EBM JOURNAL CLUB (BY INVITATION ONLY)
LEVEL 2, FOOTHILL B

25TH ANNUAL MEETING AGENDA

SATURDAY, JULY 22, 2017

6:00–8:00 a.m. 4TH ANNUAL SK FUN RUN/WALK FOR RESEARCH
Have an unforgettable San Francisco experience with your colleagues and family. Separate registration is required. All registration fees are donated in full to the SIS Research Fund and are tax-deductible.

9:00 a.m.–3:30 p.m. REGISTRATION OPEN

8:30–9:00 a.m. CONTINENTAL BREAKFAST IN THE EXHIBIT HALL

9:00–9:05 a.m. 4TH ANNUAL SK FUN RUN/WALK FOR RESEARCH WINNERS ANNOUNCED

9:05–10:00 a.m. IMAGING OF THE THORACIC SPINE
Professor Nikolai Bogduk joins us via Skype for a short presentation.

10:00–10:30 a.m. PRE-SURGICAL PLANNING: DIAGNOSTIC INTERVENTIONS
Moderator: Zachary McCormick, MD
The use of interventional diagnostic techniques for pre-surgical planning has changed over the years. The speakers give an evidence-based update on the utility of selective nerve root blocks and discography for pre-surgical planning. Application in realistic clinical practice is also discussed.

10:30–10:45 a.m. EDUCATION DIVISION UPDATE

10:45–11:00 a.m. NETWORKING BREAK IN THE EXHIBIT HALL

11:15 a.m.–12:15 p.m. RESEARCH ABSTRACT PODIUM PRESENTATIONS
Moderator: Shihab Ahmed, MD
Authors were invited to present their research from the podium after a rigorous, blinded vetting process. All abstracts presented here also will be published in Pain Medicine.

11:15 a.m. Anticoagulation Practices and Experience with Thromboembolic and Bleeding Complications: A Survey of SIS Members
Matthew Lucas, DO

11:25 a.m. Immediate vs. Prolonged Pain Relief After Sacroiliac Joint Injections with Anesthetic and Corticosteroid: A Prospective Study
Charles ODONOR, MD

11:35 a.m. Does Cervical Interlaminar Epidural Steroid Injection with Low-dose Lidocaine Cause Objective Upper Extremity Weakness? A Preliminary Study
Zachary McCormick, MD

11:45 a.m. Comparison of Automated Percutaneous Lumbar Discectomy (APLD) and Percutaneous Laser Disc Decompression (PLDD) Results with 1 Year Follow-up
Jan DUNCAN, MD

11:55 a.m. Estimating Radiation Exposure From Fluoroscopically-Guided Lumbar Epidural Access
Anand J. JOSHI, MD, MHA

12:05 p.m. Discussion

12:15–1:30 p.m. LUNCH ON YOUR OWN

1:30–1:45 p.m. STANDARDS DIVISION UPDATE
Chair: Yakov Vorobyechik, MD, PhD

1:45–2:00 p.m. MEDICAL LEGISLATURES AND YOUR PRACTICE
This session discusses the legal aspects associated with the practice of medicine.
James M. Nelson, JD

2:00 p.m. Spor the Issues - Is Your Medical Business Operating Legally?
W. Kenneth Davis, Jr., JD

2:30–3:00 p.m. NETWORKING BREAK IN THE EXHIBIT HALL

2:30–3:00 p.m. SKYPE VISIT FROM PROFESSOR NIKOLAI BOGDUK, MD, PHD
Moderator: Timothy Maus, MD

3:00–3:45 p.m. REAL-WORLD TYPICAL PAIN MANAGEMENT CASES
Moderator: Rodney Jones, MD
This session will feature a presentation of real-world pain management cases with a lively panel discussion and debate on how the panel members would manage each case.
Authors: Richard DERBY, MD, Milton H. LANDERS, DO, PhD, John MacVICAR, MB CHB, Timothy MAUS, MD

4:30 p.m. MEETING ADJOURN

14

25TH ANNUAL MEETING AGENDA

LOOKING FORWARD TO THE FUTURE 15
Research is the future of spine intervention. Join us for these important presentations of original research abstracts. These abstracts were evaluated and selected by the Spine Intervention Society’s Research Division.

### RESEARCH POSTER PRESENTATION WITH AUTHORS

**Wednesday, July 19**  
6:30–7:30 p.m.  
LEVEL 2B LOWER, NOB HILL A-C

This 1-hour CME Research Poster Presentation session is designed to facilitate one-on-one discussion with authors regarding their research, results, and methodologies while attendees earn 1 AMA PRA Category 1 Credit(s)™. CME credit is only available during this time.

After the presentations on Wednesday, the research posters will be moved to Yerba Buena Ballroom Salon 7-8 (the Exhibit Hall) through Saturday. Industry-sponsored research posters will be displayed in the Exhibit Hall (see the map on page 5) and are not included in the CME Research Poster Presentation session.

### RESEARCH ABSTRACT PODIUM PRESENTATIONS

During these two sessions, the presenting authors will share the methodology, results, and conclusions of their research studies followed by discussion.

Research abstracts that were selected for podium and poster presentation will be printed in the August 2017 edition of Pain Medicine.

The Top Research Presentations session presents the Best Clinical Abstract, Best Basic Science Abstract, Outstanding Abstract, Best Fellow Abstract, and Best Resident Abstract Awards, as determined by the SIS Research Division. All podium presentations are being held during the General Session on the Level 2B Lower Floor in Yerba Buena Ballroom 9.

### TOP RESEARCH PODIUM PRESENTATIONS

**Thursday, July 20**  
4:30-5:30 p.m.

### RESEARCH PODIUM PRESENTATIONS

**Saturday, July 22**  
11:15 a.m.–12:15 p.m.
RESEARCH POSTER AND PODIUM PRESENTATION INFORMATION

PST17 Damoon REJAEI, MD
The Incidence of Spinal Cord Stimulator Complications from a Single Institution: A Retrospective Chart Review

PST18 Byron J. SCHNEIDER, MD
Effect of Depression on Patient Reported Outcomes Following Cervical Epidural Steroid Injection

PST19 Cristina SHEA, BS Presenting Co-Author: Shihab AHMED, MD
Conventional Thermal Versus Water-Cooled Genicular Nerve Radiofrequency Lesioning (RFL): A Retrospective Chart Review

PST20 Patrick WALLACE, MS
Immediate Versus Delayed Pain Reduction in Ultrasound-Guided Corticosteroid Sacroiliac Joint Injections in Conjunction with Physical Examination Special Tests

PST21 Patricia ZHENG, MD
Improved Functional Capacity but Stagnant Real Life Physical Activity After Both Injection and Surgical Decompression for Lumbar Spinal Stenosis

PST22 Patricia ZHENG, MD
Discriminating Physical Performance Phenotypes of Patients with Chronic Low Back Pain

INDUSTRY-SPONSORED RESEARCH POSTERS

INDPST1 Amarpreet BAINS, PhD
Longitudinal Study of Pain Area Changes and Paresthesia Coverage in Neuropathic Pain Patients

INDPST2 Anthony BERG, MD
Clinical Outcomes Using a Multiple Waveform Spinal Cord Stimulation System

INDPST3 Vishal DESHMUKH, PhD
Discovery of a Small Molecule Wnt Pathway Inhibitor (SM04690) as a Potential Treatment for Degenerative Disc Disease

INDPST4 Nameer HAIDER, MD
Spinal Cord Stimulation (SCS) Trial Outcomes after Conversion to a Multiple Waveform System

INDPST5 Dat HUYNH, PhD
A Data Analytics Approach to Identify Factors Underlying Patient Satisfaction From the RELIEF Global Registry

INDPST6 John MONAGLE, MD
Chronic Pain Patient Outcomes Using a Neurmodulation System with Available Multiple Waveform Programming in Australia

INDPST7 Stephen PYLES, MD
Improved Spinal Cord Stimulation (SCS) Outcomes Associated with Patient Selection, Percutaneous Lead Placement, and Multiple Waveform Programming Technique

INDPST8 Stephen PYLES, MD
Surgical Technique and Clinical Outcome for Targeted Dorsal Nerve Root Neurostimulation for Use in the Treatment of Chronic Foot and/or Ankle Pain

RESEARCH PODIUM PRESENTATIONS

Thursday, July 20
4:30–5:30 p.m.
LEVEL B2 LOWER, YERBA BUENA BALLROOM SALON 9

POD1 Patricia ZHENG, MD
BEST CLINICAL ABSTRACT / BEST FELLOW ABSTRACT
Multi-Institutional Randomized, Double-Blind, Placebo-Controlled, Prospective Study of Intra-articular Lumbar Zygopophysial Joint Corticosteroid Injection(s) as Treatment of Chronic Low Back Pain in a Selected Population

POD2 Georg C. FEIGL, MD
BEST BASIC SCIENCE ABSTRACT
Anatomical Topographical Investigation of the Dorsal Thoracic Branch of the Spinal Nerve: Are There Consequences for Techniques of Thermocoagulation?

POD3 Brittany BICKELHAUPT, MD
BEST RESIDENT ABSTRACT
Cadaveric Study of the Articular Branches of the Shoulder Joint

POD4 Sri MALLEMPATI, MD
OUTSTANDING ABSTRACT
Cervical Interlaminar Epidural Flow Patterns: An Analysis of the Varied Patterns Seen Using Contralateral Oblique View

Saturday, July 22
11:15 a.m.–12:15 p.m.
LEVEL B2 LOWER, YERBA BUENA BALLROOM SALON 9

POD5 Matthew LUCAS, DO
Anticoagulation Practice Habits and Experience with Thromboembolic and Bleeding Complications: A Survey of SIS Members

POD6 Charles ODONKOR, MD
Immediate vs. Prolonged Pain Relief After Sacroiliac Joint Injection with Anesthetic and Corticosteroid: A Prospective Study?

POD7 Zachary McCORMICK, MD
Does Cervical Interlaminar Epidural Steroid Injection with Low-dose Lidocaine Cause Objective Upper Extremity Weakness? A Preliminary Study

POD8 Jan DUNCAN, MD
Comparison of Automated Percutaneous Lumbar Discectomy (APLD) and Percutaneous Laser Disc Decompression (PLDD) Results with 1 Year Follow-up

POD9 Anand B. JOSHI, MD, MHA
Estimating Radiation Exposure from Fluoroscopically-Guided Lumbar Epidural Access
Maximize your practice

Your patients trust you to relieve their pain - OEC can help. From basic to robust, you now can choose from a variety of high quality OEC C-arms that can help you maximize your cases with minimal impact on your budget. Trust that whichever OEC C-arm is right for you, that C-arm is designed to be reliable and easy-to-use to give you the quality images that you need.

OEC can help.

OEC Elite CFD
Premium mobile C-arm with CMOS flat detector

OEC Elite
Superb image quality, enhanced maneuverability

OEC 9900 Elite
Superb IQ in dense anatomy, Digital Subtraction, 55˚overscan

OEC Brivo Plus
Basic imaging at an affordable price. It's simple

Advancing Pain Management…Together.
Learn more at www.gehealthcare.com/surgery

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Shihab AHMED, MD
LINCOLN, MASSACHUSETTS

Dr. Shihab Ahmed is a board-certified Anesthesiologist and Interventional Pain Specialist. After completing his anesthesiology (Brigham and Women’s Hospital, Boston) and pain medicine training (Massachusetts General Hospital), he began his academic career at the MGH Center for Pain Medicine (MGHCPM). At the MGHCPM he teaches pain fellows, residents, and medical students the pathophysiology of pain, specific pain syndromes including cancer pain, and advanced interventional pain therapies such as implantation of indwelling devices. He gives didactic lectures on pain topics to fellows during their training and collaborates with them in his research, case reports, and abstracts for presentation at national pain meetings. He is the Multidisciplinary Pain Service Course Director and is responsible for overseeing the medical students’ clerkships at the MGHCPM from the Harvard Medical School. In his clinical practice in the MGH Pain Center he provides care for an average of 50 patients a week. Because of his expertise in interventional pain management techniques, he offers effective and innovative therapy for his challenging patient population. He is an investigator at the MGH Center for Translational Pain Research (CTPR). His current research focuses on the mechanisms of spinal cord stimulation therapy and how pain transitions from acute to chronic pain. He is currently Chair of the Research Division of the Spine Intervention Society and a member of the Research Committee for the North American Spine Society.

Jeff ARLE, MD, PhD
BOSTON, MASSACHUSETTS

Dr. Arle is currently the Associate Chief of Neurosurgery at Beth Israel Deaconess Medical Center in Boston, the Chief of Neurosurgery at Mt. Auburn Hospital in Cambridge, and an Associate Professor of Neurosurgery at Harvard Medical School. He received his BA in Biopsychology from Columbia University in 1986 and his MD and PhD from the University of Connecticut in 1992. His dissertation work for his doctorate in Biomedical Sciences was in computational modeling in the cochlear nucleus. He then went on to do a residency in neurosurgery at the University of Pennsylvania, incorporating a double fellowship in movement disorder surgery and epilepsy surgery under Drs. Patrick Kelly, Ron Alterman, and Werner Doyle, finishing in 1999.

He edited the text Essential Neuromodulation with Dr. Shils, the first edition published by Elsevier in 2011. A companion text, Innovative Neuromodulation, was just released last month and is now available. He has practiced in the field of functional neurosurgery for 18 years and is experienced in all areas of neuromodulation from deep brain stimulators to vagus nerve, spinal cord, peripheral nerve, and motor cortex stimulators, contributing frequent peer-reviewed publications and numerous chapters to the literature on many aspects of the neuromodulation field. He currently serves as an associate editor at the journals Neuromodulation and Neurosurgery, is the co-chair of the Research and Scientific Policy Committee for the International Neuromodulation Society, and is on the Board of Directors for the International Society for Intraoperative Neurophysiology. His longstanding research interests are in the area of computational modeling in the understanding and improved design of devices used in neuromodulation treatments.

W. Jeremy BECKWORTH, MD
ATLANTA, GEORGIA

Dr. Jeremy Beckworth completed medical school at Loma Linda University in California. He finished a residency in Physical Medicine and Rehabilitation at VCU Medical College of Virginia as well as a pain fellowship at the same institution. He is board certified in Physiatry, Pain Medicine, and Electrodiagnostic Medicine.

Since 2007, Dr. Beckworth has worked at the Emory Spine Center, the largest academic spine center in the US. He currently serves as co-director for the Emory Spine Center. He is also the associate residency program director for the Emory Department of PM&R and has won multiple teacher of the year awards. He is a Research Division member of the Spine Intervention Society. He has been involved in two studies which both won the “Best Basic Science Study” in different years at SIS, one as the principal investigator and another as a co-investigator. He is married and the proud father of two young girls.

Dr. Shihab Ahmed
Shihab AHMED, MD
LINCOLN, MASSACHUSETTS

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Dr. Benny is a board-certified Physical Medicine and Rehabilitation specialist who specializes in spine and musculoskeletal care. He did his internship at Wayne State University and his PM&R residency at the Baylor-University of Texas Alliance in Houston, Texas. He then went on to complete an interventional spine and sports fellowship through the department of PM&R. He currently is in private practice as the founder and medical director of the Spine and Sports Center while continuing to help with resident and fellowship education.

Dr. Benny is a Clinical Adjunct Associate Professor at the Baylor College of Medicine and Clinical Adjunct Assistant Professor at the University of Texas Health Science Center in Physical Medicine and Rehabilitation. He is also clinical faculty at the Houston Methodist Hospital, Primary Care Sports Medicine fellowship. He is a member of the Spine Intervention Society, as part of the Research Division; is involved in the North American Spine Society as part of the Section on Rehabilitation and Interventional Medical Spine (RIMS); and is a member of the American Academy of Physical Medicine and Rehabilitation.

Sigurd Berven, MD studied Human Biology and Economics at Stanford University, graduating in 1987. He then studied Philosophy, Politics, and Economics as a graduate student at University College, Oxford. He studied at Harvard Medical School for his doctorate in medicine, followed by residency in the Harvard Combined Orthopaedic Program. He trained as a fellow at UC San Francisco, and he has been on the faculty at UC San Francisco since August 2000. Dr. Berven is the Professor in Residence at UC San Francisco, and he serves as the Chief of the Spine Service and Director of the Spine Surgical Home Program. His clinical interests include complex spinal deformity in the adult and pediatric patient. His research interests include studies on the value of interventions including non-operative management, operative strategies, and new technologies. He serves on the Board of Directors of the Scoliosis Research Society, the Evaluation Committee of the American Academy of Orthopaedic Surgery, the executive committee of the US Bone and Joint Decade Initiative, and he has been Chairman of the Value Council of the North American Spine Society.

Dr. Berven has been a leader in developing an evidence-based approach to disorders of the spine, including degenerative and deformity pathologies. Through systematic study of clinical outcomes and complications of care, his research has contributed importantly to optimal management of spinal disorders. He served as the co-principal investigator at UC San Francisco for the NIH-funded SPORT study, and he has been the principal investigator on many prospective trials including IDE studies on disc arthroplasty and multicenter studies on clinical outcomes and complications. His present research includes development of criteria for appropriateness of surgery for adult scoliosis and predictive modelling in spine surgery to empower informed choice regarding expected outcomes and risks of surgery.

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Marko BODOR, MD
NAPA, CALIFORNIA
Marko Bodor, MD has an interventional spine and sports medicine practice in Napa, California and is affiliated with the Department of Neurological Surgery at UCSF and the Department of Physical Medicine and Rehabilitation at UC Davis. Dr. Bodor has expertise in diagnostic and interventional ultrasound and regenerative medicine and has developed techniques for ultrasound-guided carpal tunnel release, cervical facet and disc injections. He is the medical director of the Napa Medical Research Foundation, whose goal is to research and develop regenerative medicine techniques to cure common neuromuscular and musculoskeletal diseases.

Nikolai BOGDUK, MD, PhD
NEWCASTLE, NEW SOUTH WALES, AUSTRALIA
In 2014, Professor Bogduk retired as Professor of Pain Medicine at the University of Newcastle and is currently the Director of Clinical Research at the Newcastle Bone and Joint Institute. He spent 43 years teaching Anatomy and Pain Medicine, and researching the anatomical basis, validity, and effectiveness of techniques for the diagnosis and treatment of spine pain and headache. He remains active in the Standards Division of SIS and serves as the SIS Section Editor for Pain Medicine. Otherwise, he maintains a private conservation park west of Sydney, Australia.

Richard BUNDSCHU, MD
BRADENTON, FLORIDA
Dr. Bundschu has been a Master Instructor for the Spine Intervention Society since 2001. He currently practices at Coastal Orthopedics and Pain Management in Bradenton, Florida. He completed a Combined Year Internship at Cook County Hospital in Chicago, then his residency in Anesthesiology and his fellowship in Interventional Pain Management at the University of Miami/Jackson Memorial Hospital. He is board certified in both Anesthesiology and Pain Management by the American Board of Anesthesiology (ABA) and the American Board of Interventional Pain Professionals (ABIPP). He enjoys spending his free time training for triathlons and has completed a full Ironman distance (140.6 miles) as well as two half Ironmans (70.3 miles).

Aaron CALODNEY, MD
TYLER, TEXAS
Dr. Calodney earned his medical degree from the University of Missouri School of Medicine and completed a family medicine internship at St. Joseph’s Hospital in Syracuse, New York. His residency in Anesthesiology and subsequent Interventional Pain Management fellowship were completed at the University of Texas Health Science Center at Houston. He subsequently completed a fellowship in Pediatric Anesthesia at the Denver Children’s Hospital. Dr. Calodney is Past President of the Texas Pain Society. He currently sits on the Board of Directors of the American Society of Interventional Pain Physicians and Advisory Board for the World Institute of Anesthesiology and Pain Medicine, and researching the anatomical basis, validity, and effectiveness of techniques for the diagnosis and treatment of spine pain and headache. He remains active in the Standards Division of SIS and serves as the SIS Section Editor for Pain Medicine. Otherwise, he maintains a private conservation park west of Sydney, Australia.

Dr. Calodney has presented and published many articles and textbook chapters.

Thomas COSTELLO, DO
TREVOSE, PENNSYLVANIA
Dr. Costello is a board-certified Anesthesiologist and Pain Management specialist. He completed his residency in Anesthesiology at the University of Medicine and Dentistry of New Jersey and a fellowship in Pain Management at Albert Einstein Medical Center, Philadelphia. After completing his fellowship in 1989, he entered into private practice in Philadelphia. He continues practicing Pain Medicine in Philadelphia, and is on the staff at Barnes-Jewish Hospital, Temple University Health System. Additionally, Dr. Costello serves on the Board of Governors of the American Osteopathic College of Anesthesiologists. Dr. Costello has been a member of SIS since 1992.

W. Kenneth DAVIS, Jr., JD
CHICAGO, ILLINOIS
Ken Davis is an attorney and partner in the law firm of Katten Muchin Rosenman LLP. He provides counsel to physician groups, hospitals, ancillary service companies, entrepreneurs, and investors for the structuring, growth, and ongoing operations of all types of health care businesses and relationships. His work includes initial business model development, analysis of regulatory, compliance and reimbursement issues, negotiation of contracts, various types of financings (including private equity, debt-based, and leasehold-based), and mergers, acquisitions and joint ventures. His myriad work for clients is often aimed at helping them integrate and improve the efficacy of the health care process.

Prior to joining Katten, Mr. Davis served as vice president and general counsel for Princeps Inc., a Nashville, Tennessee-based physician practice management company focused on diagnostic radiology services. The company was the result of a merger between Healthcare Resource Management Inc. and Princeps Medical Practice Management Inc., which Mr. Davis founded and for which he served in dual capacities as chief operating officer and general counsel.

Dr. Davis earned his A.B. in Economics from the University of Chicago and his JD with honor from DePaul University College of Law. He has long been recognized as a leading individual by Chambers USA in its annual Chambers USA: America’s Leading Lawyers for Business (2008-2016).

Timothy DEER, MD
CHARLESTON, WEST VIRGINIA
Dr. Deer is the President and CEO of The Spine and Nerve Centers of the Virginias and the Center for Pain Relief, Inc. He is also a Clinical Professor of Anesthesiology at the West Virginia University School of Medicine.

Dr. Deer has been a leader in the fields of interventional techniques and neuromodulation for more than two decades. His rich research career has included many pivotal studies to achieve FDA approval, and many “first-in-man” approved devices. Dr. Deer has provided cadaver-based training workshops and live procedures for more than two decades. His work has led to more than 100 peer-reviewed publications, several book chapters, and full text books. Dr. Deer’s publications have included guidance for the proper use of neuromodulation to improve safety and efficacy. His text books have included comprehensive guidance on pain, implantable devices. His current project, Deer’s Illustrated Guide to the Treatment of Pain is currently in development.

Dr. Deer has held many national and international society positions including his current roles as the President of the International Neuromodulation Society (INS) and President of the West Virginia Society of Interventional Pain Physicians (WVSIPP). He is Past Chairman of the American Society of Anesthesiologists Committee of Pain Medicine, a Member of the West Virginia Controlled Substance Monitoring Program, and has been involved in the peer review process to improve the quality of research in the international arena.
Dr. Fred DeFrancesch graduated from Louisiana State University (LSU) School of Medicine in New Orleans in May 1995 and followed at LSU with a combined residency in Internal Medicine and Physical Medicine and Rehabilitation. He is board certified in Physical Medicine & Rehabilitation, Spinal Cord Injury, and Pain Medicine and has served 10 years as an Assistant Clinical Professor at both LSU and Tulane Schools of Medicine. During that time, he also served as active faculty in the ACMSME-accredited Pain Fellowship at LSU.

Dr. DeFrancesch is the founder of NeuroMuscular Medical Associates, a private, multi-specialty group with multiple locations serving southeast Louisiana. He has also founded a private, twelve-month fellowship training physicians in spine interventions and advanced techniques in association with Interventional Spine Specialists, which includes instruction from the esteemed Dr. Charles April. Dr. DeFrancesch is an active member of various medical societies including the American Academy of Physical Medicine & Rehabilitation, the American Academy of Pain Medicine, and the Spine Intervention Society.

Richard DERBY, MD
Daly City, California

Dr. Derby is the Medical Director of Spinal Diagnostics and Treatment Center in Daly City, California. He is a board-certified Anesthesiologist. Dr. Derby received his undergraduate degree from Stanford University and his medical degree from the University of California at Irvine. He completed his residency at the University of California San Francisco.

Dr. Derby is currently on the Board of Directors as a Founding Member of the Spine Intervention Society. He is an active member of several professional societies including the American Society of Anesthesiologists, North American Spine Society, International Intradiscal Therapy Society, and the World Institute of Pain. He holds journal, editorial, and review committee memberships for several professional publications including Pain Medicine, The Spine Journal, Spine, The Clinical Journal of Pain, Pain Practice, and Pain Digest. Awards received include: Lifetime Achievement Award (2011), Best Doctor in America (2007-2008), Friend of Rochester, Minnesota. He graduated magna cum laude from Harvard University in 1998 with an AB in Neuroscience, completed his medical internship at Santa Clara Valley Medical Center in 2004. Dr. Diehn returned to Mayo for radiology residency, as well as a Neuroradiology fellowship as a Mayo Clinic Board officer. At present, she is a Senior Managing Consultant and Compliance Officer where she concentrates her efforts on providers who find themselves under scrutiny, audits, or repayment situations associated with government programs such as the OIG and ZPIC.

Feliks E. DIEHN, MD
Rochester, Minnesota

Dr. Diehn is a Consultant and Associate Professor in Radiology at Mayo Clinic in Rochester, Minnesota. He graduated magna cum laude from Harvard University in 1998 with an AB in Biochemical Sciences. He received his MD from Mayo Medical School in 2003, including a one-year appointment as a Howard Hughes Research Scholar at the National Institutes of Health. He completed a transitional internship at Santa Clara Valley Medical Center in 2004. Dr. Diehn returned to Mayo for radiology residency, as well as a Neuroradiology fellowship as a Mayo Clinic Scholar. He received his Diagnostic Radiology board certification in 2008, and his certificate of added qualification in Neuroradiology in 2010.

Dr. Diehn joined the Mayo Clinic Neuroradiology staff in 2009. He interprets neuroimaging examinations and performs image-guided procedures in the spine, head, and neck. He is actively involved in clinical research and teaching trainees at all levels. Dr. Diehn regularly lectures at local, national, and international meetings. He is an active member of several societies, including the Spine Intervention Society, American Society of Neuroradiology, American College of Radiology, American Society of Spine Radiology, and Radiological Society of North America.

John M. DMURO, DO, MBA
Carson City, Nevada

Dr. DiMuro was appointed to the position of Chief Medical Officer for the State of Nevada by Governor Brian Sandoval in the spring of 2016. He has served full-time in this government role since July 1, 2016. Dr. DiMuro is fellowship trained in pain medicine and dual board certified in both Anesthesiology and Pain Medicine. He graduated cum laude with a Master’s degree in Business Administration from St. Joseph’s University in Philadelphia after 2 1/2 years of on-campus study with a major in healthcare administration. He completed his medical internship at the Tampa Bay Heart Institute prior to his three-year medical residency in anesthesiology from Georgetown University. He then performed one year of additional medical fellowship training in pain medicine from Memorial Sloan-Kettering Cancer Center, Columbia University, and Cornell University in New York City prior to beginning practice in pain medicine in Denver, Colorado. He has served as an oral board examiner in Anesthesiology, a faculty proctor for Boston Scientific in their neuromodulation division, and as a Physician Clinical Reviewer (“PCR”) for NIA Magellan Healthcare. He is a senior proctor for Haylard Health (formerly Kimberly-Clark’s Pain Division) and lectures nationally in both the medical and physical fitness realms. He has participated in various cadaveric dissection research studies and his 2015 abstract submission on hip joint radiofrequency ablation was accepted by the American Society of Regional Anesthesia for publication. He has served as a defense expert consultant for the City of New York stemming from litigation due to the September 11, 2001 World Trade Center terrorist attacks, and continues to serve as a subject matter expert for various medical and legal issues. Dr. DiMuro has been intimately involved with creation of Nevada Governor Brian Sandoval’s controlled substance bill, AB474, which is slated to be passed in the Nevada legislature in the 2017 session.

Linda DUCKWORTH, CMC, CPC
Grain Valley, Missouri

Linda Duckworth has over 30 years of experience in healthcare encompassing practice management and compliance. During the past 16 years, she has focused on the areas of audit, compliance, and consulting. She has developed audit programs for a multitude of specialty practices. She is well acquainted with the billing regulations of Academic and Rural Health Care settings. Linda has developed CME and CEU training courses for physicians and staff and has authored articles for coding and reimbursement industry publications. She has been a speaker at local, regional, and national conferences covering a wide range of topics. Linda is a former AAPC National Advisory Board officer. At present, she is a Senior Managing Consultant and Compliance Officer where she concentrates her efforts on providers who find themselves under scrutiny, audits, or repayment situations associated with government programs such as the OIG and ZPIC.

Mihnea DUMITRESCU, MD
Austin, Texas

Dr. Dumitrescu is board certified in Physical Medicine and Rehabilitation and Pain Medicine. He graduated from University of Texas Southwestern Medical School and completed a residency in Anesthesiology at Louisiana State University in New Orleans. After residency, he pursued a fellowship in Interventional Pain Management and Neuroradiology with Charles April, MD, in New Orleans. His one-year fellowship turned into an almost three-year fellowship in New Orleans, through the turmoil of Hurricane Katrina.

It was with a heavy heart that he left New Orleans and returned to Austin, Texas, where he had finished his undergraduate degree in Philosophy and Religion several years before, at the University of Texas at Austin. In 2007, he established Precision Pain Consultants, dedicated to the diagnosis and treatment of both spinal disorders and sports injuries.

Throughout the years since then, Dr. Dumitrescu has focused on axial lumbar pain of discogenic origin and also treatment of peripheral joint disorders. This has organically led to regenerative medicine, which is now probably the main focus of his practice.

Although he has not abandoned classical interventional pain medicine techniques, the study of regenerative medicine is Dr. Dumitrescu’s main interest at the moment. Platelet-rich plasma, bone marrow derived or adipose derived regenerative cells, amniotic fluid growth factors, and alpha-2-macroglobulin are all used in his practice.

Linda Sandoval is board certified in Physical Medicine and Rehabilitation. She graduated from University of California San Francisco. She completed a transitional internship at Santa Clara Valley Medical Center in 2004. Dr. DiMuro returned to Mayo for radiology residency, as well as a Neuroradiology fellowship as a Mayo Clinic Board officer. At present, she is a Senior Managing Consultant and Compliance Officer where she concentrates her efforts on providers who find themselves under scrutiny, audits, or repayment situations associated with government programs such as the OIG and ZPIC.
Dr. Georg Feigl was born in Graz in 1970. He graduated from the Medical Faculty of the Karl-Franzens University Graz in 1997 and became a board-certified Anatomist in 2003. In the years 2005 and 2006, he worked as a University Assistant at the Division of Anatomy in Geneva, returned to Graz in 2007, and habilitated in 2009. His specialization is ultrasound-anatomy, autonomic nervous system and anatomy in combination with regional anesthesia, pain therapy and neural therapy. Additional scientific interests are inner ear surgery and biomechanics of the human cerebral arteries (Aneurist Project). He is an editorial board member of Clinical Anatomy, Surgical Radiological Anatomy, Anatomy, European Journal of Anatomy, and Open Journal of Pain, honored member of the Hellenic Society for Neural Therapy, member of the Scientific Committee of the ISCAA in Prague 2010, Maribor 2011 and Ankara 2011; organizer of the 5th ISCAA and 1st Pan European Meeting of Anatomiats in Graz 2012; member of the Scientific Board of Austrian Society of Neural Therapy and Austrian Society of Pain, reviewer of seven international journals; teacher of the year 2009 and 2010 of the Medical University of Graz; and top teacher of ISMED (International Schmerzmedizin at the Medical University Vienna) in 2010 and 2014. He received the Otto Bergsmann Preis of the Austrian Society of Neural Therapy in 2010 and poster awards at the meetings of the Austrian Society of Pain in consecutive years from 2009 - 2016, and at the ISCAA meeting in 2015. He has 57 publications and over 500 citations, held more than 200 international presentations and 300 presentations at workshops, and is co-author of the “Atlas für periphere Regionalanästhesie.”

Dr. Jan Duncan specializes in treating injuries of the cervical, thoracic, and lumbar spine. A well-published author, he is highly experienced in an array of advanced spine surgeries including micro lumbar discectomies, and anterior and posterior cervical and lumbar fusions. Dr. Duncan is board certified in orthopedic surgery and served a fellowship in Pediatric Orthopedics, with a special focus on spinal deformity, at Scottish Rite Hospital in Atlanta. Dr. Duncan is a member of the American Academy of Orthopedic Surgeons and North American Spine Society.

Dr. Andrew J. Engel graduated from Cornell University Medical College in 2002. He completed an Internal Medicine internship at the Beth Israel Deaconess Hospital followed by an Anesthesiology residency and Pain Medicine fellowship at the University of Pennsylvania Hospital. He currently practices Pain Management in Chicago. As a member of the Spine Intervention Society, he works on the Standards Division.

Dr. Brad Goodman is a physical medicine and rehabilitation specialist who practices spine and musculoskeletal intervention at Alabama Ortho Spine and Sports in Birmingham, Alabama. He has been a Spine Intervention Society instructor since 1998. Dr. Goodman has published extensively in spine intervention in various spine, pain, and PM&R journals as well as book chapters. Dr. Goodman and his partners (Drs. Mallempati and Carnell) supervise a spine, sports, and musculoskeletal fellowship with an emphasis on fluoroscopic and ultrasound-guided interventions.

Dr. Michael B. Furman earned his BSE and MS in Chemical Engineering respectively from University of Pennsylvania and Cornell University, received his medical degree from Temple University, and completed his internship at York Hospital followed by residency training in Physical Medicine and Rehabilitation at Temple University Hospital. He completed his Interventional Pain fellowship at Georgia Pain Physicians, Atlanta. Dr. Furman is board certified in PM&R with ACGME subspecialization in Pain Medicine and Sports Medicine. He has served on numerous AAPM&R, PASSOR, NASS, and Spine Intervention Society committees and task forces including non-operative treatments, research, medical education, clinical guidelines, maintenance of certification, credentialing, billing-coding, finance, and bylaws. He was chair of the AAPM&R Resident Physician Council from 1992-1993, has served on the PASSOR Board of Governors, and the AAPM&R Board of Governors. He has been course director or instructor at many AAPM&R, PASSOR, NASS, and SIS spine procedure workshops and courses.

Dr. Furman is the Founder and Director of the ACGME Sports Medicine and Interventional Spine Fellowship at OSS Health in York, PA associated with Sinai Baltimore’s Department of Rehabilitation Medicine. Dr. Furman has received several awards for his teaching, service, and clinical care including the PASSOR Distinguished Clinician Award and the Richard and Hinda Rosenthal Foundation Lectureship Award. Dr. Furman is the lead editor and author of Atlas of Image-Guided Spinal Procedures. He teaches internationally on the diagnosis and treatment of spinal disorders, sports injuries, and other painful conditions with numerous original publications and chapters.

Dr. Jatinder Gill is Assistant Professor of Anesthesiology, Critical Care, and Pain Medicine at Harvard Medical School, Boston. In addition to patient care, he is also involved in teaching fellows, residents, and medical students. His primary clinical areas of interest are spinal cord stimulation therapy and management of fragility fractures of the spine. His ongoing areas of research include analysis and development of fluoroscopic views for minimally invasive spine interventions, spinal cord stimulation programming optimization, and investigating interactions of laser with spine tissue. His other areas of interest include sports and high altitude physiology.

Dr. Michael F. Furman, MD, MS

York, Pennsylvania

Dr. Furman earned his BSE and MS in Chemical Engineering respectively from University of Pennsylvania and Cornell University, received his medical degree from Temple University, and completed his internship at York Hospital followed by residency training in Physical Medicine and Rehabilitation at Temple University Hospital. He completed his Interventional Pain fellowship at Georgia Pain Physicians, Atlanta. Dr. Furman is board certified in PM&R with ACGME subspecialization in Pain Medicine and Sports Medicine. He has served on numerous AAPM&R, PASSOR, NASS, and Spine Intervention Society committees and task forces including non-operative treatments, research, medical education, clinical guidelines, maintenance of certification, credentialing, billing-coding, finance, and bylaws. He was chair of the AAPM&R Resident Physician Council from 1992-1993, has served on the PASSOR Board of Governors, and the AAPM&R Board of Governors. He has been course director or instructor at many AAPM&R, PASSOR, NASS, and SIS spine procedure workshops and courses.

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Dr. Horn is an interventional spine and musculoskeletal physiatrist at a private practice in Virginia Beach, Virginia. He earned his Doctorate in Osteopathic Medicine from Des Moines University School of Osteopathic Medicine and completed his residency in Physical Medicine and Rehabilitation at the University of North Carolina Hospital in Chapel Hill. After completing his fellowship training in Interventional Spine Medicine in Winston-Salem, North Carolina, he began his service on the Spine Intervention Society’s Socioeconomic Committee (now Health Policy Division). As chair of the Health Policy Division, Dr. Horn sits on the Board of Directors for SIS. Outside of SIS, he serves as the Co-chair for the NASS Coding Committee and a member of AAPM&R’s Coding and Reimbursement Committee. He volunteers as faculty for spine injection and coding courses and holds appointments as the Spine Intervention Society’s Primary Advisor to the American Medical Association’s CPT Editorial Panel and Alternate Advisor to the RUC.

Dr. Guerrero is serving as the Co-chair for the NASS Coding Committee and a member of AAPM&R’s Coding and Reimbursement Committee. Outside of SIS, he serves as the President-Elect of the North Carolina Society of PM&R. Anand is also a member of the Spine Intervention Society’s Standards Division, the Patient Safety Committee, and the Appropriate Use Criteria Committee. He is a Member-at-Large on the Board of Directors for the American Academy of Physical Medicine & Rehabilitation (AAPM&R).

Dr. Kennedy practices Interventional Pain Medicine in Taree, NSW, Australia, using high-definition imaging in the cardiac catheterization laboratory of the Mayo Private Hospital. He has worked there for the last two years. Before that, he worked in Newcastle, NSW for 17 years, originally as a research fellow in the Mater Pain Service, later in the Newcastle Pain Management and Research Group, and then in the Newcastle Bone and Joint Institute (all under the leadership of Professor Nikolai Bogduk). In those units he was involved in the development and refining of spine interventions under Prof. Bogduk’s direction. Since 2004 Dr. King has also worked in private practice, applying all evidence-based methods of managing patients’ pain including spine interventions performed strictly in accordance with the Spine Intervention Society Guidelines. He has taught in postgraduate courses in Pain Medicine and Musculoskeletal Medicine at the Universities of Newcastle and Sydney (in Australia) and the University of Otago (in New Zealand). He also teaches Evidence-Based Medicine. His publications include chapters in current textbooks. He first spoke as an invited plenary speaker at an SIS Annual Meeting in Sydney, Australia in 1998 (with a saucepan on his head, as some may remember) and has been an invited plenary speaker at each Annual Meeting from 2011 until the present. He is a member of the Spine Intervention Society Standards Division, the Patient Safety Committee, and the Appropriate Use Criteria Committee.
Scott Kreiner, MD
Phoenix, Arizona

Dr. Kreiner has been a board-certified Physiatrist since 2000. He attended college at the University of Arizona, where he completed his Bachelor of Science degree in Mechanical Engineering in the Biomechanical Engineering program. Following his undergraduate studies, Dr. Kreiner stayed in Tucson and enrolled in medical school at the University of Arizona College of Medicine. His internship was spent at Tucson Medical Center. Then he moved to Dallas, where he completed his residency in Physical Medicine and Rehabilitation at the University of Texas at Southwestern. In July of 1999, he returned to Arizona as an associate, and later a partner, at Ahwatukee Sports & Spine.

Outside of medicine, Dr. Kreiner enjoys spending time with his wife and three children. He has coached youth baseball and football, and when not busy with these commitments, has great times golfing, mountain biking, snow skiing, and playing softball.

Milton H. Landers, DO, PhD
Wichita, Kansas

Dr. Landers has practiced Interventional Pain since 1987. He currently specializes in Interventional Pain Medicine with the Kansas Spine Institute, Wichita, Kansas. Dr. Landers is currently Clinical Professor, Department of Anesthesia, University of Kansas School of Medicine. He graduated from the University of Oregon with degrees in Philosophy and Biology and an MS in Biology/Developmental Genetics; University of Vermont, PhD Zoology/Cell Biology; University of Health Sciences, DO. He has published numerous articles on Interventional Pain Medicine, Insect Physiology, Genetics, and Animal Science.

Dr. Landers was the Chief of Anesthesia Services, USAF Regional Medical Center, Elmendorf, Alaska, and a founding member and Trustee of the Alaska Osteopathic Medical Association. Over the years, he has served the (International) Spine Intervention Society (SIS) as Chair of Education Committee, and President and Chairman of the Board of Directors. He was the recipient of the SIS Charles April Excellence in Teaching Award. Dr. Landers is currently on the Standards Division and serves on multiple committees for the North American Spine Society (NASS). He serves on the Board of Directors for Physical Rehabilitation in Charlotte, North Carolina where he served as Chief Resident. Following residency, he completed his fellowship in spine and musculoskeletal medicine in New Orleans at LSU with Dr. Charles April. In 2003, he joined APM Spine and Sports Physicians and currently practices in Virginia Beach and Norfolk, Virginia.

Other areas of clinical interest and expertise include the use of neuro-musculoskeletal ultrasound. He is skilled in guided peripheral joint injections, and novel techniques in regenerative medicine. He serves as an editorial reviewer for The Spine Journal, Pain Medicine, and PM&R journals. Dr. Levi is honored to be vice-chair of the Spine Intervention Society’s Research Division as well as a SIS Bio-Skills Lab Instructor. In addition, he serves as an instructor and lecturer for North American Spine Society injection courses.

Dr. Levi is an active researcher and published author in the fields of fluoroscopically-guided spinal injections, ultrasound-guided peripheral joint injections, and novel techniques in regenerative medicine. He serves as an editorial reviewer for The Spine Journal, Pain Medicine, and PM&R journals. Dr. Levi is honored to be vice-chair of the Spine Intervention Society’s Research Division as well as a SIS Bio-Skills Lab Instructor. In addition, he serves as an instructor and lecturer for North American Spine Society injection courses.

Dr. Lin enjoys spending time with family, snowboarding, and rock climbing.

Dr. Levi received his undergraduate degree from Tulane University in New Orleans. He earned his Doctorate of Medicine from Eastern Virginia Medical School. He completed his residency in Physical Medicine and Rehabilitation at Carolinas Rehabilitation in Charlotte, North Carolina where he served as Chief Resident. Following residency, he completed his fellowship in spine and musculoskeletal medicine in New Orleans at LSU with Dr. Charles April. In 2003, he joined APM Spine and Sports Physicians and currently practices in Virginia Beach and Norfolk, Virginia.

Dr. Levi is board certified by the American Board of Physical Medicine and Rehabilitation. He is an active member of several organizations including the American Academy of Physical Medicine & Rehabilitation, Spine Intervention Society, North American Spine Society, American Institute of Ultrasound Medicine, and World Academy of Pain Medicine Ultrasonography. He has lectured extensively on back and neck disorders as well as spine injection procedures.

Dr. Lin enjoys spending time with family, snowboarding, and rock climbing.

Dr. Levi is an active researcher and published author in the fields of fluoroscopically-guided spinal injections, ultrasound-guided peripheral joint injections, and novel techniques in regenerative medicine. He serves as an editorial reviewer for The Spine Journal, Pain Medicine, and PM&R journals. Dr. Levi is honored to be vice-chair of the Spine Intervention Society’s Research Division as well as a SIS Bio-Skills Lab Instructor. In addition, he serves as an instructor and lecturer for North American Spine Society injection courses.

Dr. Paul S. Lin is a physiatrist serving patients in York, Pennsylvania. He specializes in physical medicine and rehabilitation. Dr. Lin specializes in the diagnosis and non-surgical treatment of back and neck pain, as well as joint pain. He has special interest in the non-surgical care of spine, musculoskeletal ultrasound, sports medicine, and electrodiagnostic studies. Dr. Lin is board certified in Physical Medicine & Rehabilitation, Sports Medicine, and Musculoskeletal Ultrasound. In his leisure time, Dr. Lin enjoys spending time with family, snowboarding, and rock climbing.

Dr. Loomba is board certified in both Anesthesiology and Pain Medicine. He is currently employed by the Henry Ford Health System where he is the Director of Research of the Department of Anesthesiology, Pain Management, and Perioperative Medicine. He serves as an expert reviewer and editorial board member for several esteemed medical journals. He has been an active participant of SIS in his capacity as a member of Evidence Analysis Committee of the Standards Division. He also serves on the Board of Directors for Michigan Society of Anesthesiologists (MSA) and contributes to the Pain and Continuing Medical Education Committee with regard to continuing medical education and certification in anesthesia.

Dr. Lin enjoys spending time with family, snowboarding, and rock climbing.
**MODERATOR, PLANNER, AND SPEAKER BIOGRAPHIES**

**Matthew LUCAS, DO**
**ATHERTON, CALIFORNIA**

Dr. Lucas is a fourth-year Physical Medicine and Rehabilitation resident at Stanford University Hospital in Palo Alto, California. Prior to this, he completed his internship at Good Samaritan Regional Medical Center in Corvallis, Oregon. He is originally from Colorado where he completed his undergraduate in Sports Medicine at Colorado State University and later received his medical degree from Rocky Vista University College of Osteopathic Medicine in Parker, Colorado. His specific interests include interventional pain management and regenerative orthopedics. In his free time, he is an avid outdoorsman and enjoys exploring remote fly fishing destinations around the country.

**John MacVICAR, MB CHB**
**SYDENHAM, CHRISTCHURCH, NEW ZEALAND**

Dr. MacVicar was born and raised in the Scottish Highlands and educated at the University of Glasgow Medical School. He has lived and worked in Christchurch, New Zealand since 1980. He is vocationally registered with the Medical Council of New Zealand in Musculoskeletal Medicine and is the medical director of a multidisciplinary rehabilitation clinic. His main clinical interest is the evidence-based use of interventional techniques for the investigation and treatment of pain. He was trained in the application of these techniques through the Department of Clinical Research at the University of Newcastle, Australia. He has been a member of the Spine Intervention Society since 2004 and is the Society’s current President.

**Sri MALLEMPATI, MD**
**BIRMINGHAM, ALABAMA**

“...When it comes to a patient’s suffering, I strive to alleviate it as if it were my own pain. You see, my role is not only to correct physical problems but also to help my patients tackle whatever hurdles may be ahead.”

Specializing in Physical Medicine and Rehabilitation, Dr. Mallempati understands the importance of a trusting patient-doctor relationship and how that correlates with an individual attaining or her optimal health. Originally from India, Dr. Mallempati completed his internship, residency, and fellowship in Brooklyn, Dallas, and Birmingham, before calling Birmingham his home. He is an avid sportsman, enjoying such activities as running, soccer, and hiking, even going as far as climbing Mt. Kilimanjaro in December 2009. He and his wife, an Assistant Professor at the University of Alabama Birmingham, have three children. Along with being board certified in the specialty of Physical Medicine and Rehabilitation (PM&R), he is also board certified in the sub specialties of Electrodiagnostic Medicine, Pain Medicine, and Sports Medicine which shows his keen interest in the field of musculoskeletal medicine.

**Timothy MAUS, MD**
**ROCHESTER, MINNESOTA**

Dr. Maus graduated from Mayo Medical School in 1981, completed a Diagnostic Radiology residency at the Mayo Graduate School of Medicine in 1985, and subsequently joined the Mayo Clinic Department of Radiology. After several years working primarily in Vascular and Interventional Radiology, Dr. Maus completed a Neuroradiology Fellowship in 1994, received his Certificate of Additional Qualification in Neuroradiology in 1996, and remains a Senior Member of the American Society of Neuroradiology.

Fostering an interest in image-guided pain interventions, Dr. Maus founded a section within Radiology to provide image-guided pain management procedures in 1999, working closely with PM&R, Neurology, and Surgical colleagues in the Mayo multidisciplinary Spine Center. He has authored numerous book chapters and peer-reviewed articles on spine imaging and interventions. He has been a Mayo Fellows Association Teacher of the Year in Radiology, the recipient of the Mayo Individual Award for Excellence in 2003 and 2009, and received the Carmen Award for Excellence in Clinical Practice in the Mayo Department of Radiology in 2012. Dr. Maus currently serves on the Spine Intervention Society Board of Directors as Vice President, is a member of the SIS Education Division, and at this meeting will be will be presented for member approval as the next SIS President.

**Zachary MCCORMICK, MD**
**SAN FRANCISCO, CALIFORNIA**

Dr. McCormick is an Assistant Professor of Orthopaedic Surgery, board-certified Physiatrist, and Interventional Pain Specialist at the University of California, San Francisco. He attended medical school at the University of Pennsylvania School of Medicine. He completed internship and residency training at Northwestern University/The Rehabilitation Institute of Chicago, as well as a fellowship in Pain Medicine at Northwestern University. He is the chair of the Spine Intervention Society Board of Directors and is the President of the Society.

He has received research awards from various Pain Medicine and PM&R medical societies, the Howland Hughes Medical Institute, and the National Institute of Diabetes Digestive & Kidney Diseases (NIH).

**Brandon J. MESSERLI, DO**
**KIRKLAND, WASHINGTON**

Dr. Messerli earned his medical degree at the Ohio University College of Osteopathic Medicine before completing his internship and residency at the University of Washington and fellowship in interventional pain management and sports medicine at EvergreenHealth. He is board certified with the ABPMP, subspecialty certified in Sports Medicine, and RMSK credentialed in ultrason. Dr. Messerli practices at EvergreenHealth Sport & Spine Care in Kirkland, Washington. He is active with teaching the sport and spine fellows at EvergreenHealth, residents from the University of Washington Medical Center, and medical students at Pacific Northwest University of Health Sciences. He has been a member of the Spine Intervention Society Health Policy Division since 2015, and helped to successfully defend interventional spine procedure coverage with the Washington State Health Technology Assessment. Dr. Messerli enjoys time with his wife and daughter, hiking, biking, kayaking, skiing, and traveling.

**David C. MILLER, MD**
**LAFAYETTE, INDIANA**

After graduating with a degree in English from Purdue University, Dr. Miller obtained a Master’s degree in Physiology from the University of California at Riverside and completed an NIH fellowship in the doctoral Neuroscience Program in the Brain Research Institute at UCLA. He completed his MD at Loma Linda University, Loma Linda, California followed by PGY1 in General Surgery at the University of Iowa and then a residency in Anesthesiology (1981) also at the University of Iowa. Dr. Miller is board certified with the American Society of Anesthesiologists, Diplomat American Board of Pain Medicine, American Board of Interventional Pain Physicians, and is a Fellow of Interventional Pain Practice. He has practiced interventional pain for thirty years. With the Spine Intervention Society, he completed EBM I, II, & III. He has had the great honor of serving the Society on the Standards and Patient Safety Committee. He has published over 60 peer-reviewed journal articles and lectures nationally on his research, which focuses on the safety and efficacy of spine and pain interventions. As a hobby, he is interested in Endocrinology and is a NAMS-Certified Menopause Practitioner, and co-author of a women’s health book with his wife (Womenopause, O-Books, London, UK, 2018). He has a life-long interest in piano, poetry, and history.
MODERATOR, PLANNER, AND SPEAKER BIOGRAPHIES

Anmeet NAGPAL, MD, MS, MEd
SAN ANTONIO, TEXAS

Dr. Nagpal is a board certified PM&R and Pain Medicine physician who is a Clinical Assistant Professor in the Department of Anesthesiology at UT Health San Antonio. He is the Associate Program Director of the Pain Medicine Fellowship at UT Health SA and the Medical Director of the UT Health SA Pain Medicine Clinic as well. He has a Master’s in Science in Biophysics from Georgetown University and a Master’s in Education in Health Care Curriculum & Instruction from the University of Houston. He completed medical school in 2008 at New York Medical College and went on to complete his PM&R Residency at the University of Texas Health Science Center at Houston/Baylor College of Medicine PM&R Allergy Program and his Pain Medicine Fellowship at UT Health SA. In April of 2017, Dr. Nagpal took over as the Medical Director of Dannemiller, Inc. an international health care education company. Dr. Nagpal speaks regularly at national meetings, including the annual meetings of AAPM&R, ASA, ASRA, and the Dannemiller Pain Medicine Review Course. His areas of ongoing research include conjoint couples therapy for chronic pain and novel radiofrequency ablation procedures for sacroiliac complex pain. His primary clinical interest is chronic pelvic pain in women.

James M. NELSON, JD
 WALNUT CREEK, CALIFORNIA

Mr. Nelson was born and raised in Oakland, California. He received his undergraduate degree with honors from the University of Puget Sound in 1972 and spent the better part of two years working as a research assistant in the Washington State Senate before he attended Armstrong College, receiving his law degree in 1979. After becoming a member of the California State Bar in 1980, Mr. Nelson served as a Deputy District Attorney for the County of Alameda from 1980-1982. Since 1982, Mr. Nelson has specialized in the defense of physicians, hospitals, and their employees in medical malpractice actions and before administrative hearings.

In 2001, he formed the law firm with Tom Donnelly and Dave Depolo. Mr. Nelson is admitted to practice before all of the Courts of the State of California, the U.S. Northern and Eastern District Courts, and the U.S. Ninth Circuit Court of Appeals. He authored and edited numerous articles on medical and legal subjects. He has been active in presenting and leading legal and medical seminars, as well as giving speeches to medical and legal audiences throughout Northern California. He has tried more than 80 cases to jury verdict. He has been elected to membership in the American Board of Trial Advocates, where he holds the advanced rank of Advocate. He also has been elected to membership in the California Medical Legal Committee. He has received the highest rating (AV) for legal ability and ethical standards by Martindale-Hubbell. Mr. Nelson is also a member of the Association of Defense Counsel of Northern California and Nevada, as well as the Bar Associations of Alameda County and Contra Costa County. Mr. Nelson has been selected as the 2015 San Francisco Medical Malpractice Defense Lawyer of the Year. He has also been selected for inclusion in The Best Lawyers in America, Top Attorneys in Northern California, Northern California Super Lawyers, San Francisco Magazine Top Northern California Lawyers, San Francisco Chronicle’s Top Attorneys, and Oakland Magazine’s Top Lawyers.

David O’BRIEN, Jr., MD
Winston Salem, North Carolina

Dr. O’Brien is a past Spine Intervention Society Board member and currently serves as the Director of Physiatry & Interventional Spine Fellowship at Orthocarolina in Winston-Salem, North Carolina. He is an adjunct Associate Professor for the University of North Carolina School of Medicine and holds four board certifications: in Physiatry, Pain Medicine, Sports Medicine, and Electrodagnostic Medicine. Dr. O’Brien has given numerous national and international presentations in addition to publishing a number of articles and book chapters on the subject of spine care, medical coding, and healthcare policy. Dr. O’Brien served as co-chair for the 2009 North American Spine Society Annual Meeting, and has served as course director and/or instructor for numerous spine-related injection courses and conferences. He currently sits on the NASS Board of Directors as Director of Health Policy. Dr. O’Brien is on the SIS Health Policy Division. He has served on numerous committees within NASS, AAPM&R, and SIS. He is an advisor to the AMA, AAPM&R, and numerous CPT and RUC-related proposals on numerous statements of position, local and national coverage determination policies, and various projects dealing with healthcare policy and coverage. He is an associate editor for The Spine Journal and editorial reviewer for the PM&R Journal and SpineLine.

Charles ODONKOR, MD
Baltimore, Maryland

Dr. Odonkor received his medical degree from the Yale University School of Medicine, and completed graduate training in Cell, Molecular, and Developmental Biology at Washington University in St. Louis. He finished residency training in Physicaliatry at the Johns Hopkins University School of Medicine concurrently completing a one-year fellowship in Health Systems Management, Patient Safety, and Quality Improvement Science at the Armstrong Institute and Leadership Academy. He will be pursuing further training in Spine Medicine at Stanford University. Dr. Odonkor has been recognized with numerous awards including: the Young Investigator Award by the American Pain Society, the Best Paper Award by the Association of Academic Physiatry, and the Regenerative Medicine Scholarship Award from the Interventional Orthopedics Foundation. Dr. Odonkor is keenly interested in developing novel paradigms which incorporate neuroimaging and bio-informatics to elucidate clinic taxonomies and the pathophysiology underlying chronic back pain phenotypes, as well as establishing more quantifiable objective measures of chronic low back pain and associated functional outcomes. He also has interests in regenerative therapies as well as comparative effectiveness research interventions for chronic low back pain.

Matthew J. PINGREE, MD
Rochester, Minnesota

Matthew J. Pingree graduated from Medical College of Wisconsin where he received his MD degree. He then completed his Physical Medicine and Rehabilitation Residency in 2003 at the Mayo Clinic in Rochester, Minnesota. This was followed by an EMG/Neuromuscular Medicine Fellowship at the Mayo Clinic Arizona campus in 2004. Dr. Pingree then went into private practice for three years where he was a partner in a spine pain management practice. In 2007, he returned to the Mayo Clinic in Minnesota where he completed a Pain Medicine Fellowship and during that time was awarded the Mayo Foundation Scholar in 2008. Matt currently works as a consultant at the Mayo Clinic and spends most of his time in pain medicine, holding joint appointments in the Department of Anesthesiology, Division of Pain Medicine and Department of Physical Medicine and Rehabilitation and the position of Assistant Professor of Physical Medicine and Rehabilitation at the Mayo Clinic College of Medicine. His interests include advancing the use of ultrasound in pain medicine and interventional neuromodulation. He has been published in Pain Practice, Journal of Ultrasound Medicine, and Muscle & Nerve and has additional projects that have been accepted for future publication.

Adrian POPESCU, MD
Philadelphia, Pennsylvania

Dr. Popescu is an Assistant Professor of Physical Medicine and Rehabilitation at the Hospital of the University of Pennsylvania. He serves as the Site Director for the Pain Medicine Fellowship at VAMC Philadelphia and a core faculty for the Pain Medicine Division of the Department of Anesthesiology and Critical Care at the University of Pennsylvania. He completed his internship and residency in Physical Medicine and Rehabilitation at the University of Pennsylvania, where he served as Chief Resident, followed by a Pain Medicine fellowship with the Department of Anesthesiology and Critical Care at the Hospital of the University of Pennsylvania. He fosters a prospering interdisciplinary environment as well as residents and fellows’ education in spine disorders and pain medicine. Dr. Popescu serves on the Spine Intervention Society Standards Division’s Evidence Analysis and Patient Safety Committees.
Wenchun QU, MD, PhD
ROCHESTER, MINNESOTA

Dr. Wenchun Qu is board certified in Physical Medicine and Rehabilitation (PM&R), Pain Medicine, and Regenerative Medicine. He is an Assistant Professor of PM&R at Mayo College of Medicine, currently serving as the Director of Regenerative Pain Medicine Practice, Chair of the Spine Research Committee, and a consultant with appointments at Department of PM&R, Division of Pain Medicine and Spine Center at Mayo Clinic, Rochester, Minnesota. Dr. Qu earned his medical degree from Second Medical University in Shanghai, China, a PhD in Occupational Science, and an MS in Biostatistics at the University of Southern California. He completed a fellowship in Pain Medicine and Residency in PM&R at Mayo Clinic Rochester, postdoctoral fellowship at the University of Pennsylvania, and a residency in Orthopedic Surgery in 309 Hospital in China.

He is the founding director of Regenerative Pain Medicine Practice. He directs multiple clinical trials, laboratory research, and outcomes studies for spine and musculoskeletal conditions. He has expertise in interventional pain management of spine conditions as well as ultrasound-guided treatment of joint, tendon, and soft tissue conditions.

Dr. Qu has more than 30 scientific publications, two books, and has won the Best Basic Science Research Award of the Spine Intervention Society, Best Abstract Award of the American Academy of Pain Medicine, and Best of Meeting Award of the American Society of Regional Anesthesia and Pain Medicine. His work is currently supported by $2 million in funds provided by the medical industry, the Korean Ministry of Health, and the Mayo Clinic.

He is a prolific speaker at international and national conferences on Regenerative Medicine, Pain Medicine, Spine, and PM&R topics. Actively involved in multiple regenerative medicine, PMR, and pain societies, Dr. Qu serves on the editorial boards and as a reviewer of multiple peer-reviewed journals.

Josh RITTENBERG, MD
OAKLAND, CALIFORNIA

Dr. Rittenberg is Chief of the Physical Medicine and Rehabilitation Department at Kaiser Permanente in Oakland, California. He is a Spine Intervention Society Master Instructor, on the faculty of many of the Society’s Bio-Skills Labs. He is the Chair of the Spine Intervention Society Education Division and has served on the Annual Meeting Program Committee. Dr. Rittenberg attended medical school at New York Medical College and completed his internship at St. Vincent’s Hospital in Manhattan. He received his residency training in Physical Medicine and Rehabilitation at the University of Pennsylvania in 2003, and has collaborated with Dr. Glenn Buttermann on studies of spinal biomechanics in an animal model for testing artificial discs. He has assumed a leadership role in Minnesota, serving on the chronic pain guidelines working group of the Institute for Clinical Systems Improvement, and as President of the Minnesota Society of Interventional Pain Physicians. Dr. Rittenberg is a long-standing member of the Spine Intervention Society and serves as an Intervention Society instructor, Spine Intervention Society-accredited in evidence-based medicine, and serves as a referee for the Pain Medicine journal.

Byron J. SCHNEIDER, MD
NASHVILLE, TENNESSEE

Dr. Schneider is an Assistant Professor with the Department of Physical Medicine and Rehabilitation (PM&R) at Vanderbilt University Medical Center. Prior to this, he completed his PM&R residency and Interventional Pain Fellowship at Stanford University. Born in Canada, Dr. Schneider moved to Lexington, Kentucky in 2002 and graduated summa cum laude with a Bachelor of Science and completed medical school at the University of Kentucky. In addition to multiple publications, he has presented at a variety of national meetings the past four years, including at the past three Spine Intervention Society Annual Meetings. He currently serves on the SIS Evidence Analysis Committee, Patient Safety Committee, Membership Committee, and Research Division.

Anthony SCHWARZER, MD, PhD
NEWCASTLE, NEW SOUTH WALES, AUSTRALIA

Dr. Schwarzer is a Rheumatologist and Interventional Pain Physician. After graduating from the University of Sydney in Medicine in 1981, he trained in Rheumatology. Mentored by Professor Nikolai Bogduk, he completed a PhD on the role of the zygapophysial joint in chronic low back pain. Dr. Schwarzer spent 1992 in the U.S. where he undertook clinical research with Dr. Charles Aprill in New Orleans and Dr. Rick Derby in San Francisco, culminating in scientific papers on the spine and pain.

He later completed a graduate diploma and then a masters in Pain Medicine with the University of Sydney, after which he became a Fellow of the Faculty of Pain Medicine with the Australian and New Zealand College of Anesthetists. He also became a Fellow of the Australasian Faculty of Musculoskeletal Medicine and its President. He was a Senior Lecturer in Anatomy and medical representative on the Ethics Committee at the University of Newcastle. He has been in private practice in rheumatology, musculoskeletal medicine, pain medicine, and spine medicine since 1997. He is currently the Chairman of the Medical Advisory Committee at Hunter Valley Private Hospital. He has published a number of papers in peer-reviewed journals in rheumatology, spine medicine, and pain medicine and has presented at many scientific meetings over more than 20 years. His research interest has been in the causes and sources of low back pain.

Dr. Schwarzer is currently a member of the Spine Intervention Society Research Division, a committee he previously chaired. He was also the first fellow member of the Society, served as a SIS Board Member, and ultimately Society President.
Vinil SHAH, MD  
SAN FRANCISCO, CALIFORNIA

Vinil Shah, MD, is an Assistant Professor of Clinical Radiology in the Neuroradiology subspecialty in the Department of Radiology and Biomedical Imaging at the University of California, San Francisco (UCSF). He received his medical degree from the University of Pittsburgh School of Medicine in Pennsylvania and completed a one-year internship at the Memorial Sloan Kettering Cancer Center in New York in 2007. Dr. Shah did his Radiology residency from 2007-2011 at UCSF, serving as chief resident in 2010. From 2011-2013, he completed a clinical fellowship and a Chief fellowship in Neuroradiology at the Massachusetts General Hospital in Boston. From 2013–2014, Dr. Shah was a clinical fellow in Musculoskeletal Imaging and Intervention at the same institution. In August 2014, Dr. Shah accepted the position of Assistant Professor of Clinical Radiology in Neuroradiology at UCSF. Dr. Shah’s research interests include studying spinal imaging biomarkers to help guide intervention and assessing clinical outcomes of spine intervention. Dr. Shah is also involved in global health and international outreach efforts, and is an active member of the International Collaborations Committee of the ASNR. Other interests include structured reporting, teaching, and radiology curricula development.

David SIBELL, MD  
PORTLAND, OREGON

Dr. Sibell is a Professor in the Oregon Health & Science University Department of Anesthesiology & Perioperative Medicine. His clinical work is primarily in the OHSU Comprehensive Pain Center, focusing on the treatment of patients suffering from acute and chronic spine pain. He also serves as OHSU’s Medical Director of Ambulatory Clinical Informatics. He attended University of Vermont College of Medicine, and completed residency in Anesthesiology and fellowship in Pain Medicine at University of Virginia. When not providing care for patients, or working to improve patient service and provider utility via OHSU’s electronic health information systems, he can be found in Oregon’s hills and dales, discovering the bounty that the rain has to offer.

Virtaj SINGH, MD, MBA  
SEATTLE, WASHINGTON

Dr. Singh is a board-certified Physiatrist with subspecialty certification in Pain Medicine. Dr. Singh earned his medical degree from Baylor College of Medicine and completed his residency in Physical Medicine and Rehabilitation at the University of Washington. Following residency, he completed a fellowship in Pain Medicine at the University of Washington. Dr. Singh currently serves as the Medical Director at Seattle Spine and Sports Medicine. He is also clinical faculty at the University of Washington in the Department of Physical Medicine and Rehabilitation and enjoys the opportunity to educate medical students, residents, and fellows. Outside of work, Dr. Singh most enjoys spending time with his loved ones and avidly participating in a variety of recreational sports including football, soccer, basketball, softball, volleyball, golf, bowling, and even kickball. He very proudly boasts that he is a 3-time kickball champion (hopefully soon to be a 4-time champion) and is more than willing to recount any stories of his past kickball success and glory.

Clark C. SMITH, MD, MPH  
NEW YORK, NEW YORK

Dr. Smith is an Associate Professor of Rehabilitation and Regenerative Medicine at Columbia University College of Physicians and Surgeons. He specializes in treating patients with acute and chronic sports and spine injuries. Dr. Smith is board certified in both Physical Medicine and Rehabilitation and Pain Medicine. He completed his undergraduate education at Duke University, received his MD and Masters of Public Health (MPH) from Tulane University, underwent residency training in Physical Medicine and Rehabilitation at Emory University where he also served as Chief Resident, and completed a multidisciplinary pain medicine fellowship at Northwestern University and the Rehabilitation Institute of Chicago. Dr. Smith uses a multidisciplinary non-operative approach to treating acute and chronic sports and spine problems. Depending on the scope and severity of the problem, treatment options may include individualized therapy programs or non-operative interventional procedures targeted at a particular injury or problem. Procedures that Dr. Smith performs include: ultrasound and fluoroscopically-guided joint injections, Platelet Rich Plasma (PRP), spine injections, epidural steroid injections, radiofrequency ablation, and many others. The goal of Dr. Smith’s treatment is to help every patient achieve his or her highest level of performance and function. Dr. Smith is a peer reviewer for Pain Medicine, PM&R, and has published articles in multiple peer-reviewed journals.

Matthew SMUCK, MD  
REDWOOD CITY, CALIFORNIA

Dr. Matthew Smuck is the Chief of PM&R and Associate Professor of Orthopaedic Surgery at Stanford University. He is the Medical Director of Rehabilitation Services for Stanford Hospitals and Clinics where he specializes in the comprehensive conservative management of spine disorders. He is a Deputy Editor of The Spine Journal, Co-Editor of the Orthopedics Knowledge Update in Spine, 4th edition, and is on the Assistant Editorial Board of the European Spine Journal. His research interests lie in objective measures of activity and outcomes assessment in musculoskeletal diseases, and in maximizing the effectiveness and safety of percutaneous spine interventions. Dr. Smuck regularly lectures on his research in the U.S. and abroad. His work has received best paper awards from numerous societies and journals, including: SIS, NASS, ISSLS, PM&R Journal, and The Spine Journal.

Milan P. STOJANOVIC, MD  
BOSTON, MASSACHUSETTS

Dr. Stojanovic was the Principal Founder of the Interventional Pain Program at Massachusetts General Hospital, Harvard Medical School where he served as its Director for 12 years. He currently serves as Vice-Chair of the Spine Intervention Society Standards Division, and also as a Spine Section Co-Editor for Pain Medicine. Dr. Stojanovic is the Chief of Pain Medicine, Anesthesiology, Critical Care, and Pain Medicine Service, VA Boston Healthcare System, Harvard Medical School. He had the unique experience of training and mentoring many respected leaders in the field of interventional pain for the last 23 years. Dr. Stojanovic sits on the editorial board of several medical journals, and is credited with more than 60 publications. He is on the Board of Examination for the World Institute of Pain and is an examiner for the Fellow in Interventional Pain Practice Examination. He served as a Director-at-Large for the American Society of Interventional Pain Physicians. Dr. Stojanovic was a co-founder and co-owner of the Spine and Pain Institute of New England. He did his post-doctoral residency training in Internal Medicine, Pediatrics, and Anesthesiology, and completed two pain management fellowships. Dr. Stojanovic has a unique experience, combining many years of both academic and private practice of Interventional Pain Medicine. He has dedicated his career to improving technical expertise and excellence in interventional procedures, outcome measurement, teaching, and clinical research.
Dr. Vorobeychik is Fellowship Director at Evergreen Sport and Spine Center in Kirkland, Washington where she practices full time. Prior, she was Director of Musculoskeletal and Spine Care for VA Puget Sound and faculty for the PM&R department at the University of Washington in Seattle. She earned her medical degree from Kirscollege College of Osteopathic Medicine before completing a preliminary year at Johns Hopkins in Baltimore, Maryland. Following her PM&R residency at University of Washington, she completed a musculoskeletal medicine and interventional spine fellowship in Bellevue, Washington. Dr. Vorobeychik is board certified in Physical Medicine and Rehabilitation, Pain Medicine, and Sports Medicine. She specializes in comprehensive non-operative spine and musculoskeletal care, including fluoroscopically- and ultrasound-guided interventions. For the Spine Intervention Society, she serves on the Education Division. Other organizational involvement includes NASS (Chair of the Exercise Committee, Residents/Fellow Education Committee member), AAPM&R (Program Committee), AAPMU (Ultrasound Instructor), and McKenzie Institute USA (Board of Directors).

Dr. Vorobeychik is Professor of Anesthesiology and Neurology and the Director of Interventional Pain Management at HMC. Dr. Vorobeychik serves as the Chair of the Spine Intervention Society Standards Division. He attended medical school in Russia and worked as a neurologist in Moscow for ten years. During that time his special interest was the treatment of neuropathic pain. Upon coming to the United States, Dr. Vorobeychik completed his neurology residency at Hahnemann University in Philadelphia and subsequently worked there as a faculty member of its Neurology department. Later on, he enrolled in the pain fellowship training program at Massachusetts General Hospital’s Anesthesia department. Having graduated from this program, he accepted a position at HMC Anesthesia Department, where he was appointed the Director of Interventional Pain Management. Dr. Vorobeychik is certified by the American Board of Psychiatry and Neurology with sub-specialization in Pain Medicine. He is an author of original research articles and book chapters. He is actively involved in teaching fellows, residents, and medical students at HMC. Dr. Vorobeychik serves as the Chair of the Spine Intervention Society Standards Division.

Dr. Vorobeychik is Fellowship Director at Evergreen Sport and Spine Center in Kirkland, Washington where she practices full time. Prior, she was Director of Musculoskeletal and Spine Care for VA Puget Sound and faculty for the PM&R department at the University of Washington in Seattle. She earned her medical degree from Kirscollege College of Osteopathic Medicine before completing a preliminary year at Johns Hopkins in Baltimore, Maryland. Following her PM&R residency at University of Washington, she completed a musculoskeletal medicine and interventional spine fellowship in Bellevue, Washington. Dr. Vorobeychik is board certified in Physical Medicine and Rehabilitation, Pain Medicine, and Sports Medicine. She specializes in comprehensive non-operative spine and musculoskeletal care, including fluoroscopically- and ultrasound-guided interventions. For the Spine Intervention Society, she serves on the Education Division. Other organizational involvement includes NASS (Chair of the Exercise Committee, Residents/Fellow Education Committee member), AAPM&R (Program Committee), AAPMU (Ultrasound Instructor), and McKenzie Institute USA (Board of Directors).

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Shibah AHMED, MD: Any position in a healthcare, medical, or physician society/association (committee, board,工作组/Taskforce, etc.): SIS Board. Advisory committees or review panels: Drug Formulary Commission, Commonwealth of Massachusetts. Service as a consultant, expert witness, speaker, or author: SIS Speaker and expert witness for medical legal cases. Travel expenses: Reimbursement of speaking at conferences and Board meeting by SIS. Grant and research support: Department of Anesthesia, Critical care and Pain Medicine, Massachusetts General Hospital, Boston, MA and NIH.

Jeff ARLE, MD, PhD: Service as a consultant, expert witness, speaker, or author with a commercial interest: Consultant to Globus Medical, Abbott, Boston Scientific, Medronic, Nevro, LivNova. Advisory or review committees or panels with a commercial interest: Wenzel Spine - unpaid - scientific advisory board. Advisory committees or review panels: INS - co-chair, Science and Research Policy Committee; NANS - Neuronavigation Appropriateness Consensus Committee; INS and NANS and Pain section of AANS, ASSFN - abstract review. Any position in a healthcare, medical, or physician society/association (committee, board,工作组/Taskforce, etc.): Mark Bicket, MD Board member: Maryland PMR. Travel expenses: Hotel accommodation for conference at Indian PMR conference.

Mark BICKET, MD: Any position in a healthcare, medical, or physician society/association (committee, board,工作组/Taskforce, etc.): American Pain Society Early Career Advisory Group, American Society of Anesthesiologists Young Physicians Committee, ASA Membership Committee, ASA Communications Committee.

Marko BODOR, MD: Grant and research support: Napa Medical Research Foundation - Director of Medical Research.

Nikolai BOGDUK, MD, PhD: Travel expenses: Paid travel expenses as invited speaker: Service as a consultant, expert witness, speaker, or author: Independent reports for lawyers in medicolegal cases. Invited speaker for scientific meetings of the New Zealand Association of Musculoskeletal Medicine. Received, or became entitled to receive, directly or indirectly, any payment, favors, or any other personal benefits from SIS or as a result of your relationship with SIS: Honorarium for serving as Spine Section editor for Pain Medicine.

Richard BUNDSCHU, MD: Private investments (venture capital, startup) in a commercial interest: Nevro, stock ownership (bought with my money at fair market value on the open stock market, not given): Service as a consultant, expert witness, speaker, or author with a commercial interest: Nevro. Consultant and Principal Investigator for several studies. Services: I have been paid as a consultant for Nevro. Travel expenses: Travel expenses for invited presentations. Service as a consultant, expert witness, speaker, or author: SIS Faculty, received, or became entitled to receive, directly or indirectly, any payment, favors, or any other personal benefits from SIS or as a result of your relationship with SIS: SIS instructor.

Aaron CALDONNEY, MD: Service as a consultant, expert witness, speaker, or author with a commercial interest: Speaker for Stryker, Spine, Nevro. Advisory or review committees or panels with a commercial interest: Medtronic - Advisor. Travel expenses: Flights and Hotel related to speaking/teaching engagements. Any position in a healthcare, medical, or physician society/association (committee, board,工作组/Taskforce, etc.): American Society of Interventional Pain Physicians.

Thomas COSTELLO, DO: Any position in a healthcare, medical, or physician society/association (committee, board,工作组/Taskforce, etc.): Consultant for NASS, Consultant and Principal Investigator for several studies. Travel expenses: Reimbursement of travel expenses from SIS.

Ken DAVIS: Service as a consultant, expert witness, speaker, or author: Invited speaker Imaging in Economics Program, the Annual Meeting of the Radiology Society of North America, the Healthcare Law & Compliance Institute, and the Annual Meeting of the Radiology Business Management Association.

Timothy DEER, MD: Stock ownership or investment interest (including stock option grants, equity, warrants) in a commercial interest: Bioness, Verto Medical, Axonics, Ethos, SpineThera, and Saluda - All Stock Owners only serve as a consultant, expert witness, speaker, or author with a commercial interest: Abbott, Medtronic, Bioness, Verto Medical, Neuro, Flowtron, Axonics, Ethos, SpineThera, Saluda, Mainstay - Consultant for all; Jazz Pharm - Speaker. Advisory or review committees or panels with a commercial interest: Abbott, Medtronic, Bioness, Nevro, Flowtron, Jazz Pharm, Axonics, Travel expenses: Travel expense reimbursements for meetings and programs. Grant and research support: Abbott, Medtronic, Bioness, Jazz Pharm, Mainstay - research.

Fred DiFRANCESCHI, MD: Position as an employee, proprietor, director, or managing partner of a commercial interest: NeuroMuscoMedicall Associates. Stock ownership or investment interest (including stock option grants, equity, warrants) in a commercial interest: Direct holdings StarPharma and Sangamo Diverse holding through various funds. Service as a consultant, expert witness, speaker, or author with a commercial interest: Speaker: Depomed and Edge Therapeutics: Multiple entities. Travel expenses: SIS and Depomed. Advisory committees or review panels: SIS. John the Baptist Parish Health Care Advisory Committee. Any position in a healthcare, medical, or physician society/association (committee, board,工作组/Taskforce, etc.): SIS. Service as a consultant, expert witness, speaker, or author: SIS.

Felix E. DIEHN, MD: Travel expenses: Expense reimbursement for SIS meetings/conferences.

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Linda DUCKWORTH, CCH, CPC: Service as a consultant, expert witness, speaker, or author: My primary position is an Auditor/Consultant for a firm.

Andrew J. ENGEL, MD: Travel expenses: SIS travel to Annual Meeting. Service as a consultant, expert witness, speaker, or author: Expert witness.

Michael B. FURMAN, MD, MS: Travel expenses: Abbott travel to course. Any position in a healthcare, medical, or physician society/association (committee, board,工作组/Taskforce, etc.): Course faculty for NASS and SIS. Service as a consultant, expert witness, speaker, or author: Royalties, Elsevier. Grant and research support: Mesoblast.

Brad GOLDMAN, MD: Position as an employee, proprietor, director, or managing partner of a commercial interest: Discignis - own a minor amount of stock in the company (not a publicly-traded company). Stock ownership or investment interest (including stock option grants, equity, warrants) in a commercial interest: Discignis - own a minor amount of stock in the company. Service as a consultant, expert witness, speaker, or author with a commercial interest: Consultant fees with Discignics and Vertiflex. Travel expenses: Discignics, Vertiflex, and SIS. Service as a consultant, expert witness, speaker, or author: Editor and author for Furman’s Atlas of Spinal Intervention.

Scott HORN, DO: Any position in a healthcare, medical, or physician society/association (committee, board,工作组/Taskforce, etc.): SIS participant with CPT/RUC, Alternate CPT Advisor for AAMFR. Coding Co-chair for NASS.
PROGRAM PARTICIPANT FINANCIAL DISCLOSURES

Rodney JONES, MD: Travel expenses: SIS course.


David J. KENNEDY, MD: Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): Board of Governors - AAPM&R. Service as a consultant, expert witness, speaker, or author: None. Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): North American Spine Society - travel expenses for courses and presentations. Travel expenses: Spine Intervention Society: Research Grant, Duke Health: Internal Funding.

Jonathan S. KIRSCHNER, MD: Stock ownership or investment interest (including stock option grants, equity, warrant): Nutrigen - wife has stock options. Service as a consultant, expert witness, speaker, or author with a commercial interest: Book royalties from textbooks “Atlas of Ultrasound Guided Musculoskeletal Interventions” - Springer and “Atlas of Interventional Spine Procedures” - Elsevier. Honoraria for giving lectures at the Kessler Board Review Course and for the NYU School of Physical Therapy. Advisory or review committees or panels with a commercial interest: Fidia Pharmaceuticals. Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): AAPM&R. Travel expenses: Travel to Fidia Advisory Board Meeting.

Timothy MAUS, MD: Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): SIS Board: Service as a consultant, expert witness, speaker, or author: Speaker for SIS, American Academy of Orthopaedic Surgeons, Mayo Clinic, European Pain Federation. Travel expenses: Reimbursement of speaking travel expenses by SIS, Mayo Clinic, American Academy of Neurology, European Pain Federation.

Zachary MCCORMICK, MD: Grant and research support: SIS grant, Foundation of PM&R grant, Midwest Pain Society - travel expenses for attending sessions at any of these grant funds. Travel expenses: SIS Board travel expenses.

Jonathan COOK, MD: Service as a consultant, expert witness, speaker, or author: None. Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): North American Spine Society. Travel expenses: Travel expenses provided by SIS.


Anthony SCHWARZER, MD, PhD: Stock ownership or investment interest (including stock option grants, equity, warrant): Nutrigen. Service as a consultant, expert witness, speaker, or author: None. Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): The Spine Journal (editorial). Advisory committees or review panels: The Spine Journal: Journal of Spine Surgery.

Vinil SHAH, MD: Travel expenses: Travel reimbursement from SIS as instructor: Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): SIS Education Division, ASNR Fellowship Program Director Committee. Service as a consultant, expert witness, speaker, or author: Provided consultation services for 3 malpractice cases to Donnelly Nelson Depolo & Murray APC, Pennsylvania Physicians For Legal Review, Inc., and Dickinson Wright, PLLC.

David SIBELL, MD: Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): AAPM&R. Travel expenses: Travel to Fidia Advisory Board Meeting.

David O’BRIEN Jr., MD: Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): Directors of North American Spine Society (NASS). Service as a consultant, expert witness, speaker, or author: None. Travel expenses: SIS - travel expenses for meetings and courses.

Scott KREINER, MD: Any position in a healthcare, medical, or physician society/association (committee, board, workgroup/taskforce, etc.): NASS (Board Member, Co-Chair Coverage Committee, Co-Chair Evidence Based Guidelines Committee, Editor). Travel expenses: Airfare, lodging reimbursement. Other events, transactions, arrangements, or other situations that have occurred or may occur in the future: I will be serving on Medtronic AUC for spine augmentation (airfare and lodging will be reimbursed).
NO FINANCIAL RELATIONSHIPS TO DISCLOSE:

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Shahab AHMED, MD: Grant and Research Support: Department of Anesthesiology, Critical Care and Pain Medicine, Massachusetts General Hospital, Boston, MA and NIH.

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INDPST4

Amirpreet BAINS, PhD: Stock ownership or investment interest (including options, warrants): Boston Scientific, 1 common share. Other financial or material support in conflict with participation: Employee of Boston Scientific Neuromodulation.

INDPST3

Charlene BARROGA, PhD: Stock ownership or investment interest (including options, warrants): Samumed LLC employed stock. Any position as proprietor, director, managing partner, or key employee: Samumed LLC employee. Intellectual Property Rights: Samumed LLC employee. Other financial or material support in conflict with participation: Samumed LLC employee salary.

INDPST6

Nick CHRISTEWS, MD: Service as a director, consultant, expert witness, speaker, author: Consulting agreement, Boston Scientific Neuromodulation.

PS12

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INDPST2

Chad DOMANGUE, MD, PhD: Service as a director, consultant, expert witness, speaker, author: Consultant to Boston Scientific.

POD3

Maxim ECKMANN, MD: Grant and Research Support: Neuromodulation fellowship education grants from Medtronic, St. Jude Medical, Boston Scientific.

INDPST4

Eduardo GARCIA, MD: Service as a director, consultant, expert witness, speaker, author: Consultant for Boston Scientific.

INDPST4

Peter GEORGIUS, MD: Service as a director, consultant, expert witness, speaker, author: Consultant for Boston Scientific.

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David J. KENNEDY, MD: Service as a Director, Consultant, Expert Witness, Speaker, Author: Expert Witness: State Farm.

ADVOCACY COMMITTEES OR REVIEW PANELS: PM&R (Senior Editor), American Academy of Physical Medicine and Rehabilitation (Chairman), Spine Intervention Society (Board of Directors).

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RESEARCHER'S NAME

POD1, PODS, POD2, POD7, PST12

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POD7, PST16

Matthew SMUCK, MD: Stock Ownership or Investment Interest (including options, warrants): Novidea, Lumin Body.

Tech, BlueJay Mobile Health. Service as a Director, Consultant, Expert Witness, Speaker, Author: Expert Witness - State Farm, Kaisar Permanente. ADVOCACY COMMITTEES OR REVIEW PANELS: The Spine Journal (Deputy Editor), North American Spine Society (Board of Directors), Spine Intervention Society (Board of Directors).

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POD7, PST16

Nathan MILLER, MD: Consulting Agreement with Merit Health Resources. Proceeds donated to charity.

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POD7, PST16

Patricia ZHENG, MD: Stock Ownership or Investment Interest (including options, warrants): Samumed LLC employee.

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Rudolf LIKAR, MD: Other Financial or Material Support in Conflict with Participation: Boston Scientific Corporation (Senior Editor), American Academy of Physical Medicine and Rehabilitation (Senior Editor).
The Spine Intervention Society welcomes industry involvement as a way to help reach its established mission and vision while limiting the financial burden on its members. The Board of Directors and 25th Annual Meeting Program Committee are committed to maintaining valued industry relationships without compromising the independence and credibility of our activities and programs. As such, the Society, officers, speakers, and staff follow guidelines, policies, and processes that are based on, and usually surpass, recommendations from the ACCME and the American Medical Association.

The Spine Intervention Society, its officers, and staff do not endorse or promote any company involved in this year’s Annual Meeting. For more information and SIS policies on relationships with industry, CME, disclosure, transparency, and compliance, please email education@SpineIntervention.org.

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The Spine Intervention Society is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. As such, all CME activities are planned in accordance with the ACCME Accreditation Criteria and Standards for Commercial Support and are free from influence, bias, and input from commercial interests. The Society has sole responsibility for selecting program topics, speakers, moderators, and program content, and has established policies and guidelines for disclosing and resolving relevant financial relationships and conflicts prior to activity planning.

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The Society permits industry to host paid independent symposia, non-CME sessions offered at the Annual Meeting which are free of charge to meeting attendees.

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- Advanced Cervical Bio-Skills Lab: Techniques for the Cervicogenic Headache Diagnosis and Management
  - Aurora, Colorado

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  - Downers Grove, Illinois

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  - Tampa, Florida

**October 4-5**
- Imaging Anatomy for the Spine Interventionalist
  - Washington, DC

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Learn about the remaining CME Courses for this year and reserve your spot. Register early, as events fill quickly. SpineIntervention.org | registration@SpineIntervention.org | 630.203.2252.

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