

Seeing Spine Radiology More Clearly at ASSR 2020



## 23RD ANNUAL SYMPOSIUM OF THE AMERICAN SOCIETY OF SPINE RADIOLOGY

# ASSR

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**FEBRUARY 12-16, 2020**

The Ritz-Carlton, Laguna-Niguel • Dana Point, California

 #ASSR20



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# Welcome



Dear Friends,

As President and Program chair of the ASSR 2020 Annual Symposium, I welcome you to Dana Point and congratulate the program and executive committees for a great program with exceptional faculty at this beautiful venue. The theme of the Symposium is "Seeing Spine Radiology More Clearly at ASSR 2020." With a long history of providing a wealth of education and training in diagnostic and interventional spine radiology, the ASSR 2020 Program and Executive Committees have done an exceptional job of selecting topics and faculty to present the best in spine radiology. ASSR faculty come from around the globe bringing their expertise in spine imaging and intervention. Many of the sessions are SAM sessions to help you assess your knowledge and meet increasing credentialing requirements.

The scientific abstract submissions were remarkable this year! We had 130 abstract submissions, 98 diagnostic and 32 interventional. 24 we selected for oral presentation and the majority are mentored paper submissions. Thanks to Jason Talbott and Levi Chazen for their efforts in developing a robust program for abstract handling and much gratitude to the many reviewers!

We are using Diagnosis Live for our first ever ASSR Bootcamp SAM programming and we are launching a new Hands-on Workshop for Trainees and Young Professionals. The faculty in these sessions are excited to explore new teaching methods and we look forward to your feedback to make the meeting ever better!

I am excited to present the first combined session on Traumatic Spine Imaging in the ED along with members of the American Society of Emergency Radiology. The interaction should be lively and provide a new perspective on traumatic spine injuries.

I want to thank the members of the ASSR Committees, Executive, Program Web and Social Media, Abstracts and Awards, and the Nominating and Gold medal Committees. Thanks very much to the newly established Past Presidents Council for their advice and ideas. I'm also grateful for others who have helped with ideas and faculty recruitment. Numerous volunteers were always ready to pitch in to make the ASSR and the Annual Meeting the best it can be.

I thank Rick Wiggins for his calm under fire and his help with the website, the ASSR powerpoint template and his help, along with Erica Kruse of the ASNR in the CME accreditation process.

Speaking of the ASNR, Mary Beth Hepp and Kristi Olson have been wonderful partners in this year of change for the ASSR I am very grateful for their assistance with management and advice. Thanks to our new meeting management partner Veritas Meeting Solutions. This is our inaugural meeting. Together, say hello and welcome them to our Society as you see them at the meeting.

We thank our Industry Partners for their support of the Society, the Annual Meeting and the Hands-on Spine Intervention Workshop. Visit the booths and see the innovative tools available for imaging and intervention.

Most of all I am grateful to you, the attendees who make this effort to orchestrate a valuable learning experience well worth the effort! Learn lots and have fun!

All the best,

*Michele*

*Michele H Johnson MD, FACR, FASER  
ASSR 2020 President and Program Chair*

**23<sup>rd</sup> Annual Symposium | February 12-16, 2020**  
**The Ritz-Carlton, Laguna-Niguel, Dana Point, California**

**SEEING SPINE RADIOLOGY MORE CLEARLY AT ASSR 2020**



# 2020 Faculty

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University of Pittsburgh Medical Center

**AMIT AGGARWAL, MD**

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**SEEING SPINE RADIOLOGY MORE CLEARLY AT ASSR 2020**

# 2020 Faculty

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**STEVEN YEVICH, MD, MPH**  
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# Interprofessional Continuing Education Rush Accreditation



In support of improving patient care, Rush University Medical Center is accredited by the American Nurses Credentialing Center (ANCC), the Accreditation Council for Pharmacy Education (ACPE), and the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing education for the healthcare team.

Rush University Medical Center designates this live activity for a maximum of 29.75 AMA PRA Category 1 Credit(s)<sup>™</sup>. Physicians should claim only credit commensurate with the extent of their participation in the activity.

## EDUCATIONAL OBJECTIVES

**At the completion of this Symposium, participants should be able to:**

- Explain concepts of machine learning and AI as they impact spine imaging
- Review diagnosis, patient selection and treatment for spontaneous intracranial hypotension
- Describe the SINS classification and options for treatment of oncologic disease
- Recall nomenclature of spinal degenerative disease and interpretation of pre and post op imaging
- Review updates on Economics and Health Policy as they relate to spine imaging and intervention
- Review patient centric issues in spine imaging and intervention including health disparities and enhancing patient value
- Interpret spine interventions from the basic to the advanced as well as the imaging required prior to intervention
- Review emergency imaging of spine trauma with an anatomic approach including the AO classification system and what the surgeon needs to know
- Compare the pathophysiology and imaging features of spine infection, tumors and mimics
- Review the ACR decision support and ACR guidelines for blunt spine trauma
- Describe the future of spine imaging with advanced spinal cord and high-field MRI as well as spectral imaging
- Interpret methods of digital teaching and training for spine radiologists both diagnostic and interventional in preparation for practice

## ASSR SPINE HANDS-ON WORKSHOP EDUCATIONAL OBJECTIVES

**At the end of this workshop participants should be able to:**

- Perform general assessment of patients prior to spine intervention
- Perform needle access for pain management including epidural steroid injections, facet injections, synovial cyst treatment and discography
- Demonstrate the technical aspects of the vertebral body access for biopsy, augmentation and ablation
- Practice the use of fluoroscopy as an image guidance tool for spine intervention and recognize how these techniques differ from CT or ultrasound-guided procedures
- Recognize the use of CT as an image guidance tool for spine intervention and how these techniques differ from fluoroscopy-guided procedures
- Describe the use of ultrasound as an image guidance tool for spine intervention without radiation
- Provide radiation safety for patients and practitioners during spine intervention

As of February 6, 2020, sessions are qualified by the American Board of Radiology in meeting the criteria for self-assessment toward the purposes of fulfilling requirements in the ABR Maintenance Certification Program will be designated as (SAM). \*Those with an asterisk are pending approval at time of print.



# Meeting Highlights

**WEDNESDAY, FEBRUARY 12**

Faculty & Vendor Roundtable | 4:30 - 5:30pm  
The Ritz Carlton Ballroom

**WEDNESDAY, FEBRUARY 12**

Women with Spine Meet & Greet | 5:30 - 8:00pm  
Exhibit Hall & Courtyard

**WEDNESDAY, FEBRUARY 12**

Welcome Reception | 5:30 - 8:00pm  
Exhibit Hall & Courtyard

**SATURDAY, FEBRUARY 15**

Closing Reception | 6:00 - 9:00pm

**FRIDAY, FEBRUARY 14**

**1ST ANNUAL ASSR  
5K RUN/WALK**

6:00am - 7:00am



**ASSR FUN RUN**  
THE AMERICAN SOCIETY OF SPINE RADIOLOGY



# AGENDA

23<sup>rd</sup> Annual Symposium | February 12-16, 2020  
The Ritz-Carlton, Laguna-Niguel, Dana Point, California  
**SEEING SPINE RADIOLOGY MORE CLEARLY AT ASSR 2020**

## Tuesday, February 11, 2020

4:00 pm – 6:00 pm Registration

## Wednesday, February 12, 2020

7:00 am – 5:30 pm Registration

7:00 am – 7:50 am Continental Breakfast for Registrants / Visit Exhibits

7:50 am – 8:00 am Welcome

8:00 am – 4:30 pm **ASSR 2020 SPINE HANDS ON WORKSHOP** *Pacific Promenade*  
**(CONCURRENT SESSION \*Separate registration required)**

**Faculty:** Timothy J. Amrhein, MD, John D. Barr MD, FACR, FSIR, FAHA, FSNIS, Allan Brook, MD, FACR, FSIR, Cynthia T. Chin, Bohdan W. Chopko, MD, PhD, Amish Doshi, MD, Joshua Hirsch, MD, FACR, FSIR, FSNIS, Jack Jennings, MD, PhD, Michele H. Johnson, MD, FACR, FASER, Majid Khan, MD, Peter G. Kranz, MD, Greg Lawler, MD, Luigi Manfré, MD, Todd Miller, MD, Jonathan M. Morris, MD, Daniel T. D. Nguyen, MD, Edward Quigley, MD, PhD, Lubdha Shah, MD, Steven Yevich, MD, MPH

8:00 am – 4:30 pm **ASSR 2020 SPINE BOOTCAMP – THE SAMS YOU’LL NEED...**  
**(CONCURRENT SESSION)**

8:00 am – 10:00 am **SESSION 1: PATIENT PRESENTS WITH BACK PAIN (SAM)**  
Moderators: Lubdha Shah, MD and Tina Young Poussaint, MD, FACR

8:00 am **1.1** Degenerative Disc Disease and Stenosis *Gregory Punch, MD*

8:15 am **1.2** Post-Traumatic Back Pain *Joseph Graves, MD*

8:30 am **1.3** Post-Traumatic Neck Pain *Sowmya Mahalingam, MD*

8:45 am **1.4** Back Pain in a Child *Tina Young Poussaint, MD, FACR*

9:00 am **1.5** Spine Infections *Leonardo Macedo, MD*

9:15 am **1.6** Percutaneous Spine Interventions for Back Pain *Juan Carlos Perez Lozada, MD*

9:30 am **1.7** Spondyloarthritides *William B. Morrison, MD*

9:45 am **1.8** Osseous Lesions *Troy Hutchins, MD*

10:00 am – 10:30 am Refreshment Break / Visit Exhibits

10:30 am – 12:00 pm **SESSION 2: PATIENT PRESENTS WITH NEUROLOGIC DEFICIT (SAM)\***  
Moderators: J. Levi Chazen, MD and Jennifer McCarty, MD

10:30 am **2.1** Neurologic Deficits in Oncology *J. Levi Chazen, MD*

10:45 am **2.2** Post-Traumatic Neurologic Deficit *Jennifer McCarty, MD*

11:00 am **2.3** Neurologic Deficit in a Child *Rupa Radhakrishnan, MBBS, MS*

11:15 am **2.4** Brachial Plexopathy *Lubdha Shah, MD*

11:30 am **2.5** Acute Myelopathies: Children and Adults *Feliza Restrepo, MD*

11:45 am **2.6** Post Treatment Neurologic Deficits *Kambiz Nael, MD*

12:00 pm – 1:00 pm Lunch for Registrants / Visit Exhibits

# ASSR



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<b>Wednesday, February 12, 2020</b>	
<b>1:00 pm – 2:30 pm</b>	<b>SESSION 3: PATIENT PRESENTS WITH CONGENITAL ABNORMALITY (SAM)</b> Moderators: Hollie A. Lai, MD and Sam Payabvash, MD
1:00 pm	<b>3.1</b> Imaging Spectrum of Neural Tube Defects <i>Sam Payabvash, MD</i>
1:15 pm	<b>3.2</b> Congenital Torticollis <i>Aashim Bhatia, MD, MS</i>
1:30 pm	<b>3.3</b> Neurophakomatosis <i>Christie M. Malayil Lincoln, MD</i>
1:45 pm	<b>3.4</b> Chiari and Syringohydromyelia <i>Judith Gadde, DO, MBA</i>
2:00 pm	<b>3.5</b> Scoliosis and Spinal Muscular Atrophy <i>Aseem Sharma, MD</i>
2:15 pm	<b>3.6</b> Congenital Tumors and Cysts <i>Hollie A. Lai, MD</i>
<b>2:30 pm – 3:00 pm</b>	<b>Refreshment Break / Visit Exhibits</b>
<b>3:00 pm – 4:30 pm</b>	<b>SESSION 4: PATIENT PRESENTS WITH INCIDENTAL FINDING (SAM)*</b> Moderators: Ichiro Ikuta, MD, MMSc and Annie Wang, MD
3:00 pm	<b>4.1</b> Approach to the Incidental Finding <i>Ichiro Ikuta, MD, MMSc</i>
3:15 pm	<b>4.2</b> Incidental Findings in the Chest <i>Francisco F. Rivas-Rodriguez, MD</i>
3:30 pm	<b>4.3</b> Incidental Findings in Children and Adults <i>Maria Patino, MD</i>
3:45 pm	<b>4.4</b> Incidental Findings in the Abdomen and Pelvis <i>Vikas Jain, MBBS, MD</i>
4:00 pm	<b>4.5</b> Incidental Findings in the Athlete <i>Annie Wang, MD</i>
4:15 pm	<b>4.6</b> Role of Additional Imaging and Biopsy <i>Ajit Fernandes, MD</i>
<b>4:30 pm – 5:30 pm</b>	<b>FACULTY AND VENDOR ROUNDTABLE</b>
<b>5:30 pm – 8:00 pm</b>	<b>WOMEN WITH SPINE MEET AND GREET WITH WELCOME RECEPTION</b>

*All sessions are located in the Ritz Carlton Ballroom unless otherwise noted.*

**Save THE DATE**  
**February 17 - 21, 2021**

The Sheraton New Orleans  
500 Canal Street • New Orleans, LA

American Society of Spine Radiology  
Founded 1993

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# AGENDA

23<sup>rd</sup> Annual Symposium | February 12-16, 2020  
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## Thursday, February 13, 2020

7:00 am – 5:30 pm	Registration
7:00 am – 7:50 am	<b>Continental Breakfast for Registrants / Visit Exhibits</b>
7:00 am – 7:50 am	<b>Clinical Update Breakfast Session, Sponsored by Philips</b> <i>What Lurks Beyond the Neural Foramina?</i> Chip Truwit, MD
8:00 am – 10:15 am	<b>JOINT SESSION 1:</b> <i>Controversies in Spine 2020</i> Moderators: Michael Modic, MD and Gordon Sze, MD, FACR
8:00 am	Machine Learning and AI: Where Are We Going? <i>Lawrence N. Tanenbaum, MD, FACR</i>
8:15 am	New Contrasts in Spine Imaging: Artificial Intelligence and Beyond <i>Alexander Radbruch, MD</i>
8:30 am	Patient Selection and Targeted Therapies for Spontaneous Intracranial Hypotension I <i>Peter G. Kranz, MD</i>
8:45 am	Patient Selection and Targeted Therapies for Spontaneous Intracranial Hypotension II <i>Wouter I. Schievink, MD</i>
9:00 am	Spine Oncology: Assessment and Reporting <i>Wende N. Gibbs, MD</i>
9:15 am	Oncologic Indications for Percutaneous Augmentation and Stabilization <i>Eric Lis, MD</i>
9:30 am	Oncologic Indications for Surgical Decompression and Stabilization <i>Maxwell Laurans, MD, MBA, FAANS</i>
9:45 am	Scoliosis 2.0 in 2020: Personalized Medicine <i>Bohdan W. Chopko, PhD, MD</i>
10:00 am	Regenerative Medicine: How Can We Contribute? <i>Chris Warner, MD</i>
10:15 am – 10:45 am	<b>Refreshment Break / Visit Exhibits</b>
10:45 am – 12:15 pm	<b>DIAGNOSTIC BREAKOUT SESSION 1:</b> <i>The Pavilion</i> <i>Degenerative Disease: From Diagnosis to Post Treatment</i> Moderators: Stephen Rothman, MD and Sophia Symko, MD, MS
10:45 am	Practical Nitty Gritty of Counting, Nomenclature and Structured Reporting <i>Miriam Peckham, MD</i>
11:00 am	Vertebral Degeneration: Endplate Changes, Nodes, Clefts, and Cysts <i>Allison Grayev, MD</i>
11:15 am	How I Interpret Disc Disease: Tears, Discal Cysts, Protrusions and Herniations <i>Jeffrey Ross, MD</i>
<b>DIAGNOSTIC PAPERS I</b>	
11:30 am	Dynamic Flexion and Extension MRI for the Evaluation of Cervical Stenosis <i>Benjamin Laguna, MD</i>
11:35 am	<i>National Utilization Trends in MR Spine Imaging for the Medicare Population</i> <i>Ankit Gandhi, MD</i>
11:40 am	Visual and Quantitative Assessment on the Annulus Fibrosus in Intervertebral Disc Degeneration with Gradient Echo Phase Imaging <i>Joon-Yong Jung, MD</i>
11:45 am	Disc Prosthesis: Indications, Appearances and Failures <i>Paul E. Kim, MD</i>
12:00 pm	Spinal Fusion: Indications, Appearances and Failures <i>Sonia Bermudez, MD</i>
10:45 am – 12:15 pm	<b>INTERVENTIONAL SESSION 1:</b> <i>Fundamental Interventions: Where We All Begin (SAM)</i> Moderators: Paul Kalapos, MD and Alan Reeves, MD
10:45 am	Imaging Protocols to Facilitate Intervention <i>Amit Aggarwal, MD</i>
11:00 am	LP/Myelography: Needles, Opening Pressure and Difficult Access <i>Todd Miller, MD</i>
11:15 am	Idiopathic CSF Leak: Step by Step Management <i>Timothy J. Amrhein, MD</i>

## Thursday, February 13, 2020

### INTERVENTIONAL SCIENTIFIC PAPERS I

**11:30 am** Computed Tomography Versus Fluoroscopic Guided Sacroiliac Joint Intra-articular Injections in Sacroiliac Joint Pain: A Prospective, Randomized, Single-Blinded Study  
*Ahmed Awad Abdelaziz Bessar, MD*

**11:35 am** Head rotation effectively shifts vasculature out of the trajectory of anterolateral approach fluoroscopic guided cervical transforaminal epidural steroid injections  
*Kelly Dahlstrom, DO*

**11:40 am** The Radiation Protection Effect of Lead Curtain During Fluoroscopic Guided Procedure  
*Woong Ki Han, MD*

11:45 am Steroids: Epidurals, Facets and Formulation Selection  
*Richard Silbergleit, MD*

12:00 pm 3-D Printing – Ready for Prime Time  
*Edward Quigley, MD, PhD*

**12:15 pm – 1:15 pm** Lunch for Registrants / Visit Exhibits

**12:15 pm – 1:15 pm** Clinical Update Lunch Session, Sponsored by Vivex Biologics, Inc.  
*Supplementing and Regenerating the Degenerated Lumbar Disc: Updates from the VAST Clinical Trial*, Christopher Hancock, MD

**1:15 pm – 3:15 pm** JOINT SESSION 2:  
*Economics and Health Policy*

Moderators: Robert M. Barr, MD, FACR and Michele H. Johnson, MD, FACR, FASER

1:15 pm D.C. Comes to Laguna Beach – Health Policy Update  
*Joshua Hirsch, MD, FACR, FSIR, FSNIS*

1:30 pm Advancing our Interests and Enhancing Patient Value: Advocacy and the Spine Radiologist  
*Raymond Tu, MD, MS, FACR*

1:45 pm Artificial Intelligence, Reimbursement and Health Economics  
*Adam Flanders, MD*

2:00 pm MACRA and Payment Policy Updates  
*Gaurang V. Shah, MD, FACR, FASFR*

2:15 pm Interventional Spine Care and Healthier Populations – Getting to the Right Answer  
*Jeffery A. Stone, MD, FACR*

2:30 pm Health Disparities and Spine Care  
*John Jordan, MD*

2:45 pm Comparative Effectiveness Research and Care Delivery: A Type of Fusion We Can All Support  
*Jeffrey (Jerry) G. Jarvik, MD, MPH*

3:00 pm Spine Research Panel: Questions, Answers, Discussion  
*Faculty plus Lubdha Shah, MD and Peter G. Kranz, MD*

**3:15 pm – 3:45 pm** Refreshment Break / Visit Exhibits

**3:45 pm – 5:45 pm** DIAGNOSTIC BREAKOUT SESSION 2:  
*Pediatric Imaging* *The Pavilion*

Moderators: Timothy N. Booth, MD and Diana Rodriguez, MD

3:45 am Pediatric Craniocervical Junction Made Easy  
*Karuna Shekdar, MD*

4:00 pm Brachial Plexus Imaging  
*Jonathan D. Samet, MD*

4:15 pm Spine Imaging in Non-Accidental Trauma  
*Alok Jaju, MD*

### DIAGNOSTIC PAPERS II

**4:30 pm** Total Spine MRI in the Evaluation of Non-accidental Trauma in Children  
*Thomas Reher, MD*

**4:35 pm** Elevating Clinical Spine and Brain MR Image Quality with Deep Learning Reconstruction  
*Lawrence Tanenbaum, MD, FACR*

**4:40 pm** Deep Learning AI Technology Matches Lumbar Spine MRI Image Quality at About 1/3 the Scan Time  
*Lawrence Tanenbaum, MD, FACR*



# AGENDA

23<sup>rd</sup> Annual Symposium | February 12-16, 2020  
 The Ritz-Carlton, Laguna-Niguel, Dana Point, California  
**SEEING SPINE RADIOLOGY MORE CLEARLY AT ASSR 2020**

## Thursday, February 13, 2020

4:45 pm	Pediatric Marrow Disease <i>Neil Lall, MD</i>
5:00 pm	Pediatric Myelopathies <i>Teresa Celaya Gross Kelly, MD</i>
5:15 pm	Spinal Vascular Disease <i>Susan Palasis, MD</i>
5:30 pm	Test the Radiologist <i>Karen Moeller, MD</i>
<b>3:45 pm – 5:45 pm</b>	<b>INTERVENTIONAL SESSION 2: Intermediate Interventions: Accessible to All (SAM)</b> Moderators: Vito Errico, MD and Keith Elliot Kortman, MD
3:45 pm	Third Generation Vertebroplasty; Vertebral Implants <i>Bassem Georgy, MD</i>
4:00 pm	Advanced Epidural Access <i>Allan Brook, MD, FACR, FSIR</i>
4:15 pm	Intercostal Blocks and Trigger Point Injections <i>Vikas Agarwal, MD</i>
<b>INTERVENTIONAL SCIENTIFIC PAPERS II</b>	
<b>4:30 pm</b>	Fluoro-Guided Transforaminal Lumbar Puncture for Intrathecal Nusinersen in Patients with Spinal Muscular Atrophy and Complex Spines <i>Brian Cristiano, MD</i>
<b>4:35 pm</b>	Comparison of Curved and Straight Needles in Kyphoplasty <i>Michael Landman, MD</i>
<b>4:40 pm</b>	Sacroplasty: 16 years of Experience <i>Vera Mayercik, MD</i>
4:45 pm	Spinal Pain Pumps <i>Douglas P. Beall, MD</i>
5:00 pm	Peripheral Neuromodulation, DRG and Spinal Cord Stimulators <i>Olivier Clerk-Lamallice, MD, MSc, FRCPC, FIPP</i>
5:15 pm	Ablation: Hot or Cold <i>Jack Jennings, MD, PhD</i>
5:30 pm	Microwave Ablation <i>Majid Khan, MD</i>

## Friday, February 14, 2020

<b>6:00 am – 7:00 am</b>	<b>1st Annual ASSR 5K Run/Walk</b>
7:00 am – 1:00 pm	Registration
<b>7:00 am – 7:50 am</b>	<b>Continental Breakfast for Registrants / Visit Exhibits</b>
<b>8:00 am – 8:30 am</b>	<b>JOINT SESSION 3: Gold Medal Award Presentation</b> <b>John Mathis MD, The Scientific Development of Vertebroplasty</b> Moderators: Wendy A. Cohen, MD and Sylvie Destian, MD
<b>8:30 am – 9:45 am</b>	<b>JOINT SESSION 4: ASSR Past President's Best SAM Cases (SAM)</b> Moderators: Greg Lawler, MD and Alan Williams, MD
8:30 am	Past President 2000-2003 <i>Orlando Ortiz, MD</i>
8:45 am	Past President 2004-2005 <i>Gordon Sze, MD, FACR</i>
9:00 am	Past President 2009-2010 <i>Jeffrey A. Stone, MD, FACR</i>
9:15 am	Past President 2011-2012 <i>Walter Bartynski, MD</i>
9:30 am	Past President 2018-2019 <i>John L. Go, MD, FACR</i>
<b>9:45 am – 10:00 am</b>	<b>The impact of Augmentation on Mortality</b> <i>Josh Hirsch, MD</i>
<b>10:00 am – 10:30 am</b>	<b>Refreshment Break / Visit Exhibits</b>

# AGENDA **23<sup>rd</sup> Annual Symposium | February 12-16, 2020**

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**SEEING SPINE RADIOLOGY MORE CLEARLY AT ASSR 2020**

## Friday, February 14, 2020

**10:30 am – 12:00 pm** **JOINT SESSION 5:**  
**Multidisciplinary Conference**  
 Moderators: Kent B. Remley, MD and Bohdan W. Chopko, PhD, MD  
 Panelists: Jennifer Becker, MD, James Milburn, MD, FACR, Johan Van Goethem, MD, PhD, Maxwell Laurans, MD, MBA, FAANS, Rihan Khan, MD

**12:00 pm** **FREE AFTERNOON**

## Saturday, February 15, 2020

**7:00 am – 5:30 pm** Registration

**7:00 am – 7:50 am** **Continental Breakfast for Registrants / Visit Exhibits**

**7:00 am – 7:50 am** **Clinical Update Session**

**8:00 am – 10:30 am** **American Society of Emergency Radiology and American Society of Spine Radiology**  
**JOINT SESSION 6:**  
**Traumatic Spine Imaging in the Emergency Department (SAM)**  
 Moderators: Brandi Hicks, MD and John Ritter, MD

**8:00 am** The Emergency Radiology Perspective: Protocols and Streamlined Reporting  
*Jamlik-Omari Johnson, MD*

**8:15 am** The Surgical Perspective: What Do We Need to Know and When? *Bohdan W. Chopko, PhD, MD*

**8:30 am** Cranio-Cervical Junction *Roy Riascos, MD*

**8:45 am** Sub-Axial Cervical Spine *Krystal Archer-Arroyo, MD*

**9:00 am** Thoracic and Lumbar Spine Trauma *Luke Ledbetter, MD*

**9:15 am** AO Spine Classification *Thomas Ptak, MD*

**9:30 am** Pediatric Spine Trauma *Nicholas M. Beckmann, MD*

**9:45 am** MRI and Advanced Spine Imaging in Trauma *Jason Talbott, MD, PhD*

**10:00 am** Post-Operative Emergencies *Kathleen R. Fink, MD*

**10:15 am** Traumatic Emergencies: Test the Radiologist *Mariza Clement, MD*

**10:30 am – 11:00 am** **Refreshment Break / Visit Exhibits**

**11:00 am – 11:30 am** **JOINT SESSION 7:**  
**Keynote I: The Role of MRI in Spondyloarthritides** *John Carrino*  
 Moderator: Nandita Guha-Thakurta, MD

**11:30 am – 12:00 pm** **JOINT SESSION 8:**  
**Keynote II: Spine Imaging: Past, Present, Future** *Johan Van Goethem*  
 Moderator: Kalliopi Petropoulou, MD

**12:00 pm – 1:00 pm** **Lunch for Registrants / Visit Exhibits**

**12:00 pm – 1:00 pm** **Clinical Update Lunch Session, Sponsored by Relieva Medsystems, Inc.,**  
**The Incept Procedure-Proven, Durable Relief for Chronic Vetebrogenic Low Back Pain,**  
 Douglas P. Beall, MD

All sessions are located in the Ritz Carlton Ballroom unless otherwise noted.

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# AGENDA

23<sup>rd</sup> Annual Symposium | February 12-16, 2020  
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<b>Saturday, February 15, 2020</b>		
<b>1:00 pm – 3:00 pm</b>	<b>DIAGNOSTIC BREAKOUT SESSION 3: Infection, Tumors, Mimics (SAM)*</b> Moderators: Caren Jahre, MD and Carl Johnson, MD	<i>The Pavilion</i>
1:00 pm	Spine Infection: Epidemiology, Diagnosis and Treatment <i>Amit Mahajan, MBBS, MD</i>	
1:15 pm	Arthritides: Mimics of Infection? <i>Claudia F. E. Kirsch, MD</i>	
1:30 pm	Horses or Zebras: Myelopathies and Demyelination <i>Majda M. Thurnher, MD</i>	
<b>DIAGNOSTIC PAPERS III</b>		
<b>1:45 pm</b>	Combination of Imaging and Clinical Features Predicts Vertebral Osteomyelitis and Discitis in Patients Undergoing Image-Guided Percutaneous Needle Biopsies <i>Shingo Kihira, MD</i>	
<b>1:50 pm</b>	Common Data Elements: How Far Are We from Standard Reporting of Spine Trauma? <i>Sarvenaz Pourjabbar, MD</i>	
<b>1:55 pm</b>	Detection of CSF Venous Fistula with Intrathecal Gadolinium MR Myelography <i>David Edasery, MD</i>	
2:00 pm	Epidural Disease <i>Elliott Friedman, MD</i>	
2:15 pm	Vertebral Tumors: Basics to Advanced <i>Puneet Pawha, MD</i>	
2:30 pm	Spinal Cord Tumors <i>Carlos Torres, MD, FRCPC</i>	
2:45 pm	Post Treatment Imaging; Surgery, Antibiotics and Radiation <i>Anousheh Sayah, MD</i>	
<b>1:00 pm – 3:00 pm</b>	<b>INTERVENTIONAL SESSION 3: Advanced Spine Interventions</b> Moderators: John D. Barr, MD, FACR, FSIR, FAHA, FSNIS and Wade Wong, DO, FACR, FAOCR	
1:00 pm	Greeting from SIS: Ultrasound Guidance for Diagnosing and Treating Entrapment Neuropathies <i>Vinil N. Shah, MD</i>	
1:15 pm	Burst Fractures and Intervention: Tips and Tricks <i>Matteo Bellini, MD</i>	
1:30 pm	Spacers: The European Experience <i>Stefano Marcia, MD</i>	
<b>INTERVENTIONAL SCIENTIFIC PAPERS III</b>		
<b>1:45 pm</b>	Intra-osseous Basivertebral Nerve Radio-frequency Ablation for the Treatment of Vertebrogenic Chronic Low Back Pain <i>Aldo Eros de Vivo, MD</i>	
<b>1:50 pm</b>	Intervertebral Disc Regeneration Techniques: Viable Allograft for Intervertebral Disc Supplementation - Provisional Results of the Viable Allograft Supplemented Disc Regeneration Trial (VAST) <i>Edward Yoon, MD</i>	
<b>1:55 pm</b>	A Prospective, Randomized, Multi-Center Study of Intraosseous Basivertebral Nerve Ablation for the Treatment of Chronic Low Back Pain <i>Edward Yoon</i>	
2:00 pm	Ganglionic Blockade: Sympathetic, Celiac, Impar <i>Igor Latich, MD</i>	
2:15 pm	Basi-Vertebral Nerve Ablation: Current Status <i>Daniel T. D. Nguyen, MD</i>	
2:30 pm	Vertebral Augmentation 2020: The World Perspective <i>Kieren Murphy, MD</i>	
2:45 pm	The Future of Spine Intervention: The European Perspective <i>Luigi Manfré, MD</i>	
<b>3:00 pm – 3:15 pm</b>	<b>Refreshment Break</b>	
<b>3:15 pm – 3:45 pm</b>	<b>Annual Business Meeting – Members Only</b>	
<b>3:45 pm – 5:15 pm</b>	<b>JOINT SESSION 9: Game Show</b> Moderators: Lex A. Mitchell, MD and Richard H. Wiggins, III, MD, CIIP, FSIIM	
<b>6:00 PM – 9:00 PM</b>	<b>CLOSING RECEPTION</b>	

## Sunday, February 16, 2020

7:00 am – 11:30 am	Registration
7:00 am – 7:50 am	<b>Continental Breakfast for Registrants / Visit Exhibits</b>
8:00 am – 10:00 am	<b>JOINT SESSION 10:</b> <i>New Horizons for Diagnostic and Interventional Spine (SAM)</i> Moderators: Alyssa Watanabe, MD and Blake Weis, MD
8:00 am	ACR Decision Support and Spine Imaging <i>Balaji Rao, MD</i>
8:15 am	ACR Guidelines for Blunt Spine Trauma <i>Ajay Malhotra, MBBS, MD</i>
8:30 am	Workflow: Streamlining Imaging Protocols <i>Roland Lee, MD, FACR</i>
8:45 am	Where Are We Going with Spine Imaging? <i>Meng Law, MD</i>
9:00 am	Advanced Spinal Cord Imaging <i>Mahmud Mossa-Basha, MD</i>
9:15 am	High and Ultra-High Field Spine MRI <i>Mai-Lan Ho, MD</i>
9:30 am	ASSR Journal Club – Diagnostic <i>Anthony Abou Karam, MD</i>
9:45 am	ASSR Journal Club – Interventional <i>Reade De Leacy, MD, MBBS, FRANZCR</i>
10:00 am – 10:15 am	<b>Refreshment Break</b>
10:15 am – 11:30 am	<b>JOINT SESSION 11:</b> <i>Teaching, Training, and Testing the Spine Radiologist (SAM)</i> Moderators: William Erly, MD, MBA and Michele H. Johnson MD, FACR, FASER
10:15 am	Digital Teaching Strategies for Spine Radiologists <i>Harprit Bedi, MD</i>
	<b>SUNDAY PAPER SESSION I</b>
10:30 am	Procedural Advanced Practice Clinicians Potentially Boosts Productivity and Efficiency in Diagnostic Neuroradiology <i>Zachary Berg, MD</i>
10:35 am	Utility of 3D-Shaded Surface Display in Penetrating Spine Trauma <i>Roshni Patel, MD</i>
10:40 am	Classification of the Vacuum Phenomenon: A Useful Tool for Neuro-Radiologists and Spine Surgeons <i>Macksood Aftab, MD</i>
10:45 am	Training in Interventional Spine <i>Jay Acharya, MD</i>
	<b>SUNDAY PAPER SESSION II</b>
11:00 am	Decreased Procedural, Fluoroscopic and Wait Times as a Result of Moving Spine Interventional Pain Procedures from a Hospital Based Interventional Suite to an Outpatient Clinic Setting <i>Geoffry de Gennaro, MD</i>
11:05 am	Appropriate Management of Vertebral Fragility Fractures: Development of a Pathway Based upon a Vertebral Compression Fracture Registry <i>Douglas P. Beall, MD</i>
11:10 am	Vertebral Augmentation for Vertebral Compression Fractures: a Retrospective Comparative Study of Clinical Outcomes on Four Different Techniques <i>Giorgio Galassi, MD</i>
11:15 am	Developing a Spine Interventional Practice <i>Daniel T. D. Nguyen, MD</i>
11:30 am – 11:45 am	<b>CLOSING REMARKS</b> Michele H. Johnson MD, FACR, FASER

All sessions are located in the Ritz Carlton Ballroom unless otherwise noted.

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# thank you

## 2020 PARTNERSHIPS

### DIAMOND



### GOLD



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### CONTRIBUTORS

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This activity is funded in part by unrestricted educational grants from Medtronic, Philips and Stryker.