NASS Overall Chair: Patrick Hsieh, MD
NASS Chair: Charles Reitman, MD
JSSR Chair: Masaya Nakamura, MD, PhD
JSSR Planning Committee: Yukihiro Matsuyama, MD, PhD (President and Overall Chair, JSSR)
JSSR Organizing Committee: Hirotaka Haro, MD, PhD (Vice President, JSSR); Masashi Neo, MD; Kazuhiro Hasegawa, MD, PhD; Kazuhiro Chiba, MD, PhD; and Masahiko Watanabe, MD, PhD

Note: *All sessions will be live streamed except for evening fireside chats in HST (Hawaii Standard Time)*

**Sunday, July 4**
2:00-6:00 p.m.  
Registration/Speaker Information Center
6:00-7:30 p.m.  
Opening Reception

**Monday, July 5**
6:30-8:00 a.m.  
Hot Breakfast
6:30-11:30 a.m.  
Technical Exhibition
6:30 a.m.-1:00 p.m.  
Registration/Speaker Information Center
7:25-7:30 a.m.  
Opening Remarks
7:30-9:00 a.m.  
Abstract Session: Outcomes Following Cervical Spine Surgery
9:00-9:30 a.m.  
Food and Beverage Break/Technical Exhibition
9:30-11:00 a.m.  
Symposium: Cervical stenosis and Ossification of Posterior Longitudinal Ligament (OPLL) with Myelopathy
Cervical stenosis with myelopathy is a leading cause of disability worldwide. Cervical stenosis with Ossification of Longitudinal Ligament (OPLL) is a particular challenging problem as there are increased perioperative surgical risks, including dural injury with CSF leak and neurological injury. In this symposium, faculty will address various approaches to treat cervical stenosis with myelopathy and OPLL, as well as present technical advances and surgical nuances to improve perioperative outcomes of cervical spondylitic myelopathy and OPLL.

Upon completion of this symposium, participants should gain strategies to:
• Recognize the advantages and limitations of different approaches to treat cervical stenosis and OPLL;
Evaluate and choose the optimal approach to improve perioperative and long-term outcomes for patients with cervical stenosis and OPLL with myelopathy;
Obtain technical and treatment pearls to treat patients with cervical stenosis and OPLL with cervical myelopathy.

**Agenda**

9:30-9:35 a.m. Welcome and Introduction

9:35-9:45 a.m. Technical Modifications and Clinical Outcomes of Expansive Open-door Laminoplasty

9:45-9:55 a.m. More Than 20-Year Follow-up after Cervical Laminoplasty

9:55-10:05 a.m. Residual Neuropathic Pain in Postoperative Patients for Cervical Ossification of Posterior Longitudinal Ligament

10:05-10:15 a.m. The Hyper-angulated Screw/Plate Fixation Facilitates Optimal Bone Purchase for Multilevel Cervical Anterior Fusion

10:15-10:25 am Debate for OPLL Treatments with Case Presentation

10:25-10:35 a.m. Laminoplasty for OPLL

10:35-10:45 a.m. Laminectomy and Fusion for Cervical Myelopathy and OPLL

10:45-10:55 a.m. Anterior Approach for Cervical Stenosis with and without OPLL

10:55-11:00 a.m. Questions and Discussion

11:00-11:30 a.m. Food and Beverage Break/Technical Exhibition

11:30 a.m.-1:00 p.m. Abstract Session: Outcomes Following Cervical Spine Surgery

1:00 p.m. General Meeting Adjourns

5:00-7:00 p.m. Fireside Chat at the Beach

**Tuesday, July 6**

6:30-8:00 a.m. Hot Breakfast

6:30 a.m.-12:30 p.m. Technical Exhibition

6:30 a.m.-1:30 p.m. Registration/Speaker Information Center

7:25-7:30 a.m. Opening Remarks

7:30-9:00 a.m. Symposium: Minimally Invasive Spine Surgery

Minimally invasive spine surgery (MIS) is very popular among many surgeons and patients today. While MIS has been around for more than 20 years, it remains a very controversial and hotly debated topic in spine surgery. Questions remain whether MIS is
truly better for patients and their clinical outcomes. In this symposium, faculty will present recent advancements of MIS treatments for degenerative spine disease.

Upon completion of this symposium, participants should gain strategies to:

- Understand indications for MIS in spine surgery and recognize the benefits and limitation of MIS surgery;
- Consider and incorporate the advantages of endoscopy in spine surgery;
- Learn and adopt technological advancement to improve outcomes and reduce complications in MIS.

### Agenda

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<td>7:35-7:45 a.m.</td>
<td>Posterior Tubular Approaches for Treatment of Lumbar Degenerative Spine Disease</td>
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<td>7:45-7:55 a.m.</td>
<td>Transforaminal Full Endoscopic Lumbar Spine Surgery under Local Anesthesia: Future Perspective</td>
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<td>7:55-8:05 a.m.</td>
<td>Decompression and Fusion Technique with the Use of Spinal Endoscope</td>
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<td>8:05-8:15 a.m.</td>
<td>Lateral Access Minimally Invasive Spine Surgery: Current and Future Prospects</td>
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<td>8:15-8:25 a.m.</td>
<td>New Anterior Approach to L5/S1</td>
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<td>8:25-8:35 a.m.</td>
<td>How to Incorporate Virtual Reality and Augmented Reality in Improving MIS Learning Curve?</td>
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<td>8:35-8:45 a.m.</td>
<td>Navigation and Robotics for Minimally Invasive Spine Surgery</td>
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<td>8:45-8:55 a.m.</td>
<td>Complication Avoidance and Management in MIS</td>
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9:00-9:30 a.m.  
**Food and Beverage Break/Technical Exhibition**

9:30-10:30 a.m.  
**Abstract Session: Cervical Spine**

10:30 a.m.-12:00 p.m.  
**Symposium: Adult Spinal Deformity**

With an increasingly aging as well as more active population, adult spinal deformity is one of the fastest growing and challenging areas of spine surgery. Faculty will discuss the evaluation principles, predictive modeling and surgical techniques to optimize clinical outcomes and reduce complications.

Upon completion of this symposium, participants should gain strategies to:

- Understand contemporary principles and technological advances in deformity evaluation;
- Appreciate the advantages and disadvantages for the various deformity correction options;
- Recognize complication mitigation strategies.
**Agenda**

10:30-10:35 a.m. Welcome and Introduction

10:35-10:45 a.m. Preoperative Planning for Adult Spinal Deformity Surgery: How to Optimize Preparation to Improve Surgical and Clinical Results?

10:45-10:55 a.m. Need of Universal Patient Profiling System for Decision Making of Adult Spine Deformity Treatment

10:55-11:05 a.m. Selection of Osteotomies and Spinal Releases in Treatment of Adult Spinal Deformity

11:05-11:15 a.m. Surgery for Adult Spinal Deformity: Osteotomy and Complication, How to Prevent Complications

11:15-11:25 a.m. MIS for Treatment of Adult Spinal Deformity: Indications and Limitations

11:25-11:35 a.m. Extensive Corrective Fusion Surgery for Severe Spinal Deformity in Patients with Parkinson’s Disease

11:35-11:45 a.m. Indication for Pelvic Fixation and Selection of Techniques

11:45-11:55 a.m. How to Reduce Implant-related Complication Rates, Pseudo, and Revision Surgery in Adult Spinal Deformity Surgery

11:55-12:00 a.m. Questions and Discussion

12:00-12:30 p.m. **Food and Beverage Break/Technical Exhibition**

12:30-1:30 p.m. **Abstract Session: New Concepts in Imaging**

1:30 p.m. **General Meeting Adjourns**

5:00-7:00 p.m. **Fireside Chat at the Beach**

**Wednesday, July 7**

6:30-8:00 a.m. **Hot Breakfast**

6:30-9:30 a.m. **Technical Exhibition**

6:30 a.m.-1:15 p.m. **Registration/Speaker Information Center**

7:25-7:30 a.m. **Opening Remarks**

7:30-9:00 a.m. **Symposium: Management of Spine Trauma and Spinal Cord Injury**

Faculty will discuss options for management of spinal trauma, including understanding the stability and biomechanics of injury and advances in technology, both for assessment as well as treatment.
Upon completion of this symposium, participants should gain strategies to:

- Understand contemporary principles of stability and surgical indications;
- Compare and contrast advantages of anterior vs. posterior approach for unstable thoracolumbar fractures;
- Recognize the role of biologics in spinal cord injury.

**Agenda**

7:30-7:35 a.m.  Welcome and Introduction

7:35-7:5 a.m. Upper Cervical Spine Injury: Clinical Feature and Treatment Strategy

7:45-7:55 a.m. Updates on Classification and Indication for Treatments of Thoracolumbar Fractures

7:55-8:05 a.m. What’s the Role and Indication for Posterior Indirect Decompression for Thoracolumbar Fractures?

8:05-8:15 a.m. Indication and Considerations for Anterior Approach in Treatment of Thoracolumbar Fractures

8:15-8:25 a.m. Percutaneous Fixation without Fusion in Treatment of Thoracolumbar Fractures

8:25-8:35 a.m. Minimally Invasive/Mini-open Vertebrectomy and Anterior Decompression/Fusion for Thoracolumbar Fractures

8:35-8:45 a.m. Surgical Treatment for Neurological Deficits and Severe Back Pain Following Osteoporotic Vertebral Fracture

8:45-8:55 a.m. Regenerative Medicine for Spinal Cord Injury using iPSC

8:55-9:00 a.m. Questions and Discussion

9:00-9:30 a.m. Food and Beverage Break/Technical Exhibition

9:30-10:30 a.m. Abstract Session: Use of New Technology in Spine Care

10:30 a.m.-12:00 p.m. Symposium: Novel Technology and Biologics

Advances in biology, molecular and clinic research are critical for advancement of spine surgery in the future. In this symposium, faculty will address novel biological research with translational implications along with clinical studies involving novel spine diagnostics and treatments.

Upon completion of this symposium, participants should gain strategies to:

- Evaluate various biologics and options to optimize bone union in spine fusion surgery;
- Understand and incorporate novel medical interventions and cell-based treatments for lumbar degenerative disc diseases that are in development.
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<td>The Role of Weekly Teriparatide for Bone Union during Six Months after Single or Multi-Level Lumbar Interbody Fusion for Osteoporotic Patients</td>
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<td>10:45-10:55 a.m.</td>
<td>Clinical Development of Tie2 Positive Nucleus Pulposus Progenitor Cell Product for Low Back Pain</td>
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<td>10:55-11:05 a.m.</td>
<td>Clinical Outcomes of One and Two Level Cervical Arthroplasty for Cervical Degenerative Disease</td>
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<td>11:05-11:15 a.m.</td>
<td>Novel Magnetic Resonance Imaging Techniques for Assessing Intervertebral Disc Degeneration and Regeneration</td>
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<td>11:15-11:25 a.m.</td>
<td>Basivertebral Nerve Ablation for Treatment of Low Back Pain: Indication and Early Clinical Results</td>
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<td>11:25-11:40 a.m.</td>
<td>Spinal Osteobiologics for Fusions from A-Z: What’s Available and Effective? How to Make the Best Choice to Optimize Fusion?</td>
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<td>1:15 p.m.</td>
<td>General Meeting Adjourns</td>
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**Thursday, July 8**

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<td>7:30-9:00 a.m.</td>
<td>Abstract Session: Thoracolumbar Surgery</td>
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<td>9:00-9:15 a.m.</td>
<td>Food and Beverage Break</td>
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<td>9:15-10:15 a.m.</td>
<td>Abstract Session: Bone Health Considerations in Management of Spinal Disorders</td>
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<td>10:15-11:45 a.m.</td>
<td>Symposium: Controversies and Debates in Management of Lumbar Degenerative Spondylolisthesis</td>
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Lumbar degenerative spondylolisthesis is one of most common diagnosis leading to chronic back pain, radiculopathy or neurogenic claudication in elderly patients worldwide. Treatment of lumbar degenerative spondylolisthesis is a hotly controversial and debated topic despite many clinical studies that examined the issue. Is it better to fuse or not to fuse? What is the ideal approach for fusion? Can MIS and endoscopy minimize the need for fusion? International faculty will discuss and debate the critical
questions surrounding the treatment of lumbar degenerative spondylolisthesis that are unanswered.

Upon completion of this symposium, participants should gain strategies to:

- Recognize and evaluate the different clinical and radiographical presentations of lumbar degenerative spondylolisthesis that can impart treatment decision and outcome;
- Evaluate and adopt various surgical approaches for treatment of lumbar degenerative spondylolisthesis;
- Compare and consider open vs. MIS approaches for treatment of lumbar degenerative spondylolisthesis;
- Consider and recognize the impact of sagittal alignment alterations in various surgical approaches for of lumbar degenerative spondylolisthesis.

**Agenda**

10:15-10:20 a.m. Introduction and Case Presentation

10:20-10:35 a.m. Diagnosis and Imaging of Degenerative Lumbar Spondylolisthesis: Tailoring Treatment Based on Subtypes and Characteristics of Lumbar Degenerative Spondylolisthesis

10:35-10:50 a.m. Endoscopic Decompression without and with Fusion

10:50-11:05 a.m. Tubular Decompression without or with Fusion

11:05-11:20 a.m. Anterior and Lateral Approaches for Treatment of Lumbar Spondylolisthesis

11:20-11:35 a.m. Posterior Decompression and Fusion for Lumbar Spondylolisthesis

11:35-11:45 a.m. Rebuttals and Discussion

11:45 a.m. **General Meeting Adjourns**