

July 21-26, 2025 – Taipei, Taiwan

You're invited to join the global spine community at the NASS International Meeting in Taipei, Taiwan, held in collaboration with the Taiwan Neurosurgical Society (TNS), Taiwan Neurosurgical Spine Society (TNSS) and Taiwan Society of Minimally Invasive Spine Surgery (TSMISS).

You'll experience a broad perspective on the latest in spine education, research and new technologies, all presented by leading global spine societies, expert international faculty and industry partners.

Overall Chairs:

Patrick C. Hsieh, MD, MBA, MS (USA)
Chiung-Chyi Shen, MD, PhD (Taiwan)

Program Committee:

Jean-Jacques Abitbol, MD, Co-chair (USA)
Norman C. Chutkan, MD, FACS, Co-chair (USA)
Alan S. Hillibrand, MD, MBA Co-chair (USA)
Scott Kreiner, MD, Co-chair (USA)
John C. Liu, MD, Co-chair (USA)
Hani H. Mhaidli, MD, PhD Co-chair (Spain)
David R. O'Brien, Jr., MD, Co-chair (USA)
Charles A. Reitman, MD, Co-chair (USA)
Jeffrey C. Wang, MD, Co-chair (USA)

Taiwan Co-Chairs and Committee Members:

Wen-Cheng Huang, MD PHD
Jau-Ching Wu, MD, PhD
Meng-Yin Yang, MD, PhD
Ken Hsuan-Kan Chang, MD, PhD
Chao-Hung Kuo, MD, PhD

International Associate Co-Chairs:

Jong-Beom Park, MD, PhD (Korea)
Saumyajit Basu, MD, FRCS (India)
Rully Hanafi Dahlan, MD, PhD (Indonesia)
Koji Tamai, MD, PhD (Japan)
Jong-Tae Kim, MD (Korea)
Chang-Il Ju, MD, PhD (Korea)
Seung Hwan Yoon, MD, PhD (Korea)
Ronald P. Tangente, MD, FPOA, FPSS (Philippines)
Shree Dinesh Kumar, FRCS, MBBS (Singapore)
Yoshihisa Kotani, MD (Japan)
Richard Parkinson, MD (Australia)
Muhammad Tariq Sohail, MD, PhD, FRCS (Pakistan)
 Wicharn Yingsakmongkol, MD (Thailand)
Gad J. Velan, MD (Israel)

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Massimo Balsano, MD (Italy)
Hsi-Kai Tsou, MD, PhD (Taiwan)
Chih-Lung Lin, PhD, DO (Taiwan)
Suthipas Pongmanee, MD (Thailand)

Participating International Societies:

You'll experience a broad perspective on spine care at the NASS International Meeting thanks to participation of the following spine societies who will contribute to the robust educational program.

AO Spine Asia-Pacific
Association of Spine Surgeons of India (ASSI)
ASEAN MISST
Indonesian Spine Society (ISS)
Israel Spine Society (ISS)
Italian Society of Spinal Surgery & Italian Scoliosis Study Group (SICV&GIS)
Japanese Society for Spine Surgery and Related Research (JSSR)
Korean Minimally Invasive Spine Surgery Society (KOMISS)
Korean Research Society of Endoscopic Spine Surgery (KOSESS)
Korean Society of Spine Surgery (KSSS)
Korean Spinal Neurosurgery Society (KSNS)
Mexican Spine Society (Asociacion Mexicana de Cirujanos de Columna, A.C.) (AMCICO)
Philippine Spine Society (PSS)
Singapore Spine Society (SSS)
Society for Minimally Invasive Spine Surgery - Asia Pacific Chapter (SMISS AP)
Society of Spine Surgeons of Pakistan (S3P)
Spine Society of Thailand (SST)
Taiwan Neurosurgical Society (TNS)
Taiwan Neurosurgical Spine Society (TNSS)
Taiwan Society of Minimally Invasive Spine Surgery (TSMISS)
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MEETING INFORMATION

Continuing Medical Education Credit

The North American Spine Society is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The North American Spine Society designates this live activity for a maximum of 23.5 *AMA PRA Category 1 Credits™*.

Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The American Medical Association has determined that physicians not licensed in the US to participate in this CME activity are eligible for AMA PRA Category 1 Credits™

NASS will **not** be providing CME credit for the pre-meeting hands-on courses on Monday, July 21, Tuesday, July 22 and Wednesday, July 23. These are being offered as non-CME activities.

CME Certificates

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After the meeting, evaluations will be submitted electronically and CME certificates will be printed directly from our website. Visit www.spine.org/CME to claim education credit and to print CME certificates. Contact education@spine.org with questions.

Learning Objectives

Upon completion of this meeting, participants will gain strategies to:

- Facilitate discussions on emerging scientific advancements and best practices within spine care organizations;
- Apply current techniques, procedures, and research in clinical practice;
- Implement evidence-based and value-driven approaches to spine care;
- Engage in idea exchange with global experts and peers in spine care; and
- Build and strengthen professional relationships on an international scale.

2025 Annual International Meeting Scientific Abstract Reviewers

NASS thanks these volunteers who spent numerous hours reviewing abstracts:

Jean-Jacques Abitbol, MD (USA)
Massimo Balsano, MD (Italy)
Allen S. Chen, MD, MBA, MPH (USA)
Norman C. Chutkan, MD, FACS (USA)
Alan S. Hillbrand, MD, MBA (USA)
Patrick C. Hsieh, MD, MBA, MS (USA)
Jin-Sung Kim, MD, PHD (Korea)
Scott Kreiner, MD (USA)
John C. Liu, MD (USA)
Hani H. Mhaidli, MD, PhD (Spain)
David R. O'Brien, Jr., MD (USA)
Sanjog Pangarkar, MD (USA)
Jong-Beom Park, MD, PhD (Korea)
Charles A. Reitman, MD (USA)
John H. Shin, MD, MBA (USA)
Gad J. Velan, MD (Israel)
Jeffrey C. Wang, MD (USA)
Jau-Ching Wu, MD, PHD (Taiwan)

Technical Exhibition

Experience innovative technology, products and services from vendors who can help you manage your professional goals and strategic objectives. Coffee breaks will be offered in the Technical Exhibition.

Technical Exhibition Hours:

Thursday, July 24: 7:00 a.m.-3:00 p.m.
Friday, July 25: 7:00 a.m.-3:00 p.m.
Saturday, July 26: 7:00 a.m.-3:00 p.m.

Welcome Reception

Cocktails and appetizers will be available after the general session concludes on Thursday, July 24, from 5:45 to 7:45 p.m. in the 5th Floor Foyer at the Taipei Marriott Hotel. This is an opportunity to see familiar faces and meet new colleagues.

Speaker Information Center

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Presenters can upload or amend their presentations by visiting the **Speaker Information Center** located at the Registration Area. Speakers are **not** permitted to use their own laptops for their presentations. **If you are a Mac user, you must convert your presentation to PowerPoint. No exceptions will be made.**

ePoster authors are **not** permitted to upload or amend their presentations on-site once the content review process has concluded.

Abstract Proceedings

Abstract Proceedings are available on the website and mobile app.

ePosters

EPosters are available on the website and mobile app.

Speaker Information Center Hours:

Thursday, July 24: 6:30 a.m. – 5:30 p.m.
Friday, July 25: 6:30 a.m. – 6:30 p.m.
Saturday, July 26: 6:30 a.m. – 4:30 p.m.

Meeting-at-a-Glance

Monday, July 21

6:45 – 7:10 a.m.

Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

8:00 a.m. – 12:00 p.m.

Course: Next-Gen Tech in Spine Surgery and Education: AI, Surgical Simulation, Virtual and Augmented Reality
National Yang Ming Chiao Tung University

10:45 – 11:10 a.m.

Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

12:00 – 6:00 p.m.

Hands-on Cadaver Lab Course: Interventional Spine Care from A to Z
National Yang Ming Chiao Tung University

Tuesday, July 22

6:45 – 7:10 a.m.

Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

8:15 a.m. – 1:00 p.m.

Hands-on Cadaver Lab Course: Tackling the Endoscopic Spine Surgery Learning Curve: Principles, Indications, and Techniques
National Yang Ming Chiao Tung University

10:45 – 11:10 a.m.

Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

1:00 – 5:30 p.m.

Hands-on Cadaver Lab Course: Mastering Endoscopic Spine Surgery from Uniportal to Biportal Endoscopy
National Yang Ming Chiao Tung University

Wednesday, July 23

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6:45 – 7:10 a.m.	Badge Pickup for Ticketed Course Only Hotel Lobby (near shuttle pickup)
8:00 a.m. – 5:00 p.m.	Hands-on Cadaver Lab Course: State-of-the-Art Technology & Techniques in MIS and Complex Cervical & Thoracolumbar Spine Surgery National Yang Ming Chiao Tung University
2:00 – 6:00 p.m.	Attendee Registration 5 th Floor Foyer
Thursday, July 24 6:30 a.m. – 5:30 p.m.	Registration/Speaker Information Center 5 th Floor Foyer
7:00 a.m. – 3:00 p.m.	Technical Exhibition Junior Ballroom & Foyer
7:15 – 7:30 a.m.	Opening and Welcome Remarks: International Chairs Grand Ballroom I
7:30 – 8:30 a.m.	NASSi Symposium: Controversies in Treatments of Cervical Myelopathy Grand Ballroom I Moderators: Alan S. Hilibrand, MD, MBA; Chiung-Chyi Shen, MD, PhD
8:30 – 9:30 a.m.	Abstract Presentations: Innovations in Spine Science, Surgery & Imaging Grand Ballroom I Moderators: John C. Liu, MD; Jin-Sung L. Kim, MD, PhD
8:30 – 9:30 a.m.	NASSi Symposium: Evidence-Based Medicine and Clinical Guidelines Grand Ballroom II Moderators: Charles A. Reitman, MD; Scott Kreiner, MD
9:30 – 10:00 a.m.	Break/Technical Exhibition 5 th Floor Foyer
10:00 – 11:00 a.m.	Live Surgery with TNS and International Faculty Grand Ballroom I Moderators: Patrick C. Hsieh, MD, MBA, MSc; John C. Liu, MD (OR Moderator)
10:00 – 11:00 a.m.	NASSi and Philippine Spine Society (PSS) Symposium Grand Ballroom II Moderators: David E. Fish, MD, MPH; Richard Condor, MD
11:00 a.m. – 12:00 p.m.	KSNS Symposium: Advancing Robotic and Endoscopic Spine Surgery with AI Technology: Pioneering the Future of Spine Surgery Grand Ballroom I Moderators: Seung Hwan Yoon, MD, PhD; Jung Kil Lee, MD, PhD
11:00 a.m. – 12:00 p.m.	NASSi Symposium: Evidence-Based Approach in the Management of Osteoporotic Spine Fractures
	Grand Ballroom II Moderators: Allen S. Chen, MD, MBA, MPH; Hani H. Mhaidli, MD, PhD
12:00 – 1:00 p.m.	Lunch Workshop Sponsored by Bioventus Grand Ballroom I
12:00 – 1:00 p.m.	Lunch Workshop Sponsored by Centinel Spine Taiwan Grand Ballroom II
1:00 – 1:30 p.m.	Break/Technical Exhibition 5 th Floor Foyer
1:30 – 2:30 p.m.	AO Spine Asia-Pacific Symposium: Latest Update of Cervical Endoscopic Surgery Grand Ballroom I Moderators: Jong-Beom Park, MD, PhD; Jwo-Luen Pao, MD
1:30 – 2:30 p.m.	RapidFire ePoster Presentations I Grand Ballroom II Moderators: Jean-Jacques Abitbol, MD; Hiroshi Taniwaki, MD
2:30 – 3:00 p.m.	Break/Technical Exhibition 5 th Floor Foyer
3:00 – 4:00 p.m.	NASSi Symposium: Controversies in Spine Surgery: Case-Based Discussion with International Experts Grand Ballroom I Moderators: Patrick C. Hsieh, MD, MBA, MS; Hani H. Mhaidli, MD, PhD
3:00 – 4:00 p.m.	Abstract Presentations: Strategies in Nonoperative Spine Care, Pain Management & Deformity Outcomes Grand Ballroom II Moderators: John Shin, MD; Sanjog Pangarkar, MD
4:00 – 5:00 p.m.	Adult Spinal Deformity Symposium Grand Ballroom II Moderators: TBD
4:00 – 5:30 p.m.	NASSi Symposium: Controversies on Thoracolumbar Fractures Grand Ballroom I Moderators: Charles A. Reitman, MD; Jong-Beom Park, MD, PhD
5:00 - 6:00 p.m.	ASEAN MISST Symposium: New Minimally Invasive Techniques and Innovations Grand Ballroom II Moderators: Woraphot Wichan, MD; Suthipas Pongmanee, MD
6:00 p.m.	Sessions Adjourn for the Day
5:30 – 6:30 p.m.	TNS/TNSS Scientific Presentations (Mandarin Session) Grand Ballroom I Moderators: Da-Ming Lai, MD; Da-Tong Ju, MD

5:45 – 7:45 p.m.	Welcome Reception 5 th Floor Foyer
Friday, July 25 6:30 a.m. – 6:00 p.m.	Registration/Speaker Information Center 5 th Floor Foyer
7:00 a.m. – 3:00 p.m.	Technical Exhibition Junior Ballroom & Foyer
7:15 – 7:30 a.m.	Opening and Welcome Remarks Grand Ballroom I
7:30 – 8:30 a.m.	NASSi Symposium: Diagnosis and Management of Low Back Pain Grand Ballroom I Moderators: David R. O'Brien, Jr., MD; Yoon Ha, MD, PhD
7:30 – 8:30 a.m.	NASSi Symposium: Anterior vs. Lateral vs. Posterior Approach for Lumbar Fusions: Case-Based Debate Grand Ballroom II Moderators: Jean-Jacques Abitbol, MD; Richard Parkinson, MD
8:30 – 9:30 a.m.	Abstract Presentations: Optimizing Cervical Spine Surgery: Techniques, Outcomes & Challenges Grand Ballroom I Moderators: Alan S. Hillibrand, MD, MBA; Inbo Han, MD, PhD
8:30 – 9:30 a.m.	Association of Spine Surgeons of India (ASSI) Symposium: Restoring Lumbar Lordosis in Single-Level Fusion: Strategies for Optimizing Sagittal Balance Grand Ballroom II Moderators: Ankur Nanda, MBBS, MS, MBA, Norman B. Chutkan, MD, FACS
9:30 – 10:00 a.m.	Break/Technical Exhibition 5 th Floor Foyer
10:00 – 11:00 a.m.	Live Surgery with TNS and International Faculty Grand Ballroom I Moderators: Jeffrey C. Wang, MD; John C. Liu, MD (OR Moderator)
10:00 – 11:00 a.m.	Korean Society of Spine Surgery (KSSS) Symposium: Present and Future of Endoscopic Spinal Surgery Grand Ballroom II Moderators: Jaewan Soh, MD; Joonghyun Ahn, MD
11:00 a.m. – 12:00 p.m.	NASSi Symposium: International Award and International Keynote Presentations Grand Ballroom I Moderators: Patrick C. Hsieh, MD, MBA, MS; Scott Kreiner, MD
11:00 a.m. – 12:00 p.m.	Abstract Presentations: Approaches in Biomechanics, Deformity & Cervical Spine Surgery Grand Ballroom II Moderators: Alan S. Hillibrand, MD, Jau-Ching Wu, MD, PhD
12:00 – 1:00 p.m.	Lunch Workshop Sponsored by Barry Tec Grand Ballroom II
1:00 – 1:30 p.m.	Break/Technical Exhibition 5 th Floor Foyer
1:30 – 2:30 p.m.	NASSi, Italian Society of Spinal Surgery & Italian Scoliosis Study Group (SICV&GIS) and Singapore Spine Society (SSS) Symposium: Achieving Optimal Outcomes and Complications Avoidance in Adult Spinal Deformity Grand Ballroom I Moderators: Norman B. Chutkan, MD, FACS; John Chen, FRCS
1:30 – 2:30 p.m.	NASSi Symposium: Lateral Lumbar Interbody Fusion for Lumbar Spondylosis and Spondylolisthesis Grand Ballroom II Moderators: John C. Liu, MD, Meng-Yin Yang, MD, PhD
2:30 – 3:00 p.m.	Break/Technical Exhibition 5 th Floor Foyer
3:00 – 4:00 p.m.	NASSi and Japanese Society for Spine Surgery and Related Research (JSSR) Symposium: Spine surgery for Super-Elderly Population Grand Ballroom I Moderators: Koji Tamai, MD, PhD; Patrick C. Hsieh, MD, MBA, MS
3:00 – 4:00 p.m.	Society for Minimally Invasive Spine Surgery - Asia Pacific Chapter (SMISS AP) Symposium: The Best MIS Lineup for Complex Spinal Pathologies Grand Ballroom II Moderators: Yoshihisa Kotani, MD; Philip Cheung, MBBS
4:00 – 5:30 p.m.	Taiwan Neurosurgical Spine Society Symposium: Multimodality Treatment for Lumbar Degenerative Disease Grand Ballroom I Moderators: Wen-Cheng Huang, MD PHD; Dongwuk Son, MD, PhD
4:00 – 5:30 p.m.	RapidFire ePoster Presentations II Grand Ballroom II Moderators: Jin Sung Kim, MD, PhD; Zoher Ghogawala, MD, FACS
5:30 – 6:30 p.m.	NASSi Symposium: To Decompress or Fuse: Controversies in Lumbar Degenerative Spondylolisthesis Grand Ballroom I Moderators: Zoher Ghogawala, MD, FACS; Jin-Sung L. Kim, MD, PhD
5:30 – 6:30 p.m.	TNS/TNSS Scientific Presentations (Mandarin Session)

	Grand Ballroom II Moderators: Ming-Cheng Tsai, MD; Yung-Hsiao Chiang, MD, PhD
6:30 p.m.	Sessions Adjourn for the Day
Saturday, July 26 6:30 a.m. – 5:00 p.m.	Registration/Speaker Information Center 5 th Floor Foyer
7:15 – 7:30 a.m.	Opening and Welcome Remarks Grand Ballroom I
7:00a.m. – 3:00 p.m.	Technical Exhibition Junior Ballroom & Foyer
7:30 – 8:30 a.m.	NASSI Symposium: Spinal Oncology in 2025: How Are We Doing in Improving Surgical Outcomes of Spine Tumors? Grand Ballroom I Moderators: John C. Liu, MD; Soobin Im, MD, PhD
7:30 – 8:30 a.m.	NASSI Symposium: Challenging Spine Cases: Expert Panel Discussions Grand Ballroom II Moderators: Hani H. Mhaidli, MD, PhD; Norman B. Chutkan, MD, FACS
8:30 – 9:30 a.m.	Neurospine Symposium: Advancing Spine Care with East Asian Experiences Grand Ballroom I Moderators: Inbo Han, MD, PhD and Toshiyuki Takahashi, MD, PhD
8:30 – 9:30 a.m.	Abstract Presentations: Advancing Thoracolumbar Spine Surgery: Techniques and Trauma Care Grand Ballroom II Moderators: Jean-Jacques Abitbol, MD; Massimo Balsano MD, PhD
9:30 – 10:00 a.m.	Break/Technical Exhibition 5 th Floor Foyer
10:00 – 11:00 a.m.	NASSI Symposium: Improving Surgical Outcomes with Intraoperative Navigations and Robotics Grand Ballroom I Moderators: Jeffrey C. Wang, MD; Seung Hwan Yoon, MD, PhD
10:00 – 11:00 a.m.	Taiwan Society of Minimally Invasive Spine Surgery (TSMISS) Symposium: Updates in Treatment of Cervical Disease Grand Ballroom II Moderators: Chao-Jan Wang, MD, MS; Hsien-Te Chen, MD, PhD; Po-Liang Lai, MD, PhD
11:00 a.m. – 12:00 p.m.	NASSI Symposium: AI, Next Generation Technology, and the Future of Spine Surgery and Interventional Spine Grand Ballroom I

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	Moderators: Jean-Jacques Abitbol, MD; Koji Tamai, MD, PhD
11:00 a.m. – 12:00 p.m.	Korean Minimally Invasive Spine Surgery Society (KOMISS) and Korean Research Society of Endoscopic Spine Surgery (KOSESS) Joint Symposium: Pioneering the Next Era of Spine Surgery Grand Ballroom II Moderators: Jong-Tae Kim, MD; Chang-Il Ju, MD, PhD
12:00 – 1:00 p.m.	Lunch Workshop Sponsored by Baxter International Grand Ballroom II
1:00 – 1:30 p.m.	Break/Technical Exhibition 5 th Floor Foyer
1:30 – 2:30 p.m.	Taiwan Neurosurgical Society Symposium: Advanced Technology for Spine Surgery Grand Ballroom I Moderators: Chiung-Chyi Shen, MD, PHD; Dongwuk Son, MD, PhD
1:30 – 2:30 p.m.	Spine Society of Thailand (SST) Symposium: Pearls and Pitfalls in Spine Surgery Grand Ballroom II Moderators: Worawat Limthongkul, MD; Jin-Sung L. Kim, MD, PhD
2:30 – 3:00 p.m.	Break/Technical Exhibition 5 th Floor Foyer
3:00 – 4:30 p.m.	NASSI and TNS Closing Symposium: Spine Care Delivery Around the World Grand Ballroom I Moderators: Jau-Ching Wu, MD, PHD, Norman Chutkan, MD
3:00 – 4:30 p.m.	Taiwan Neurosurgical Society (TNS) Symposium: Surgical Strategies for Cervical Spine Grand Ballroom II Moderators: Peng-Yuan Chang, MD; Rully Hanafi Dahlan, MD, PhD
4:30 p.m.	Meeting Adjourns
6:30 p.m.	Gala Dinner for All Attendees Hosted by Taiwan Neurosurgical Society (TNS) Grand Ballroom I

FULL PROGRAM SCHEDULE

[Monday, July 21](#)

6:45 – 7:10 a.m.
Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

8:00 a.m.-12:00 p.m.

NON-CME

Course: Next-Gen Tech in Spine Surgery and Education: AI, Surgical Simulation, Virtual and Augmented Reality
National Yang Ming Chiao Tung University

Course Chairs: Chiung-Chyi Shen, MD PhD; Chien-Min Lin, MD PhD; Meng-Yin Yang, MD PhD

Faculty:

Juan Vadillo Menéndez, Director Surglasses
Chien-Lun Tang, MD
Che-Chuan Wang, MD PhD
Wen-Teng Wang, PhD

Led by experienced clinical and technical teams, this specialized course is designed for neurosurgeons, spine surgeons, residents, and fellows seeking to advance their expertise in the latest technologies for spine surgery. The program offers a comprehensive overview of virtual and augmented reality (AR) navigation systems and robotic technologies applied to complex and minimally invasive procedures. Participants will explore clinical indications, AR-guided localization techniques, complication management strategies, and key anatomical landmarks. The course includes interactive group discussions, live system demonstrations, and introductions to intelligent robotic arms, automated screw delivery systems, and endoscopic-assisted navigation technologies.

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

- Understand the clinical applications and future trends of AR navigation systems in neurosurgery and spine surgery;
- Familiarize themselves with key anatomical landmarks and AR-guided decompression and fixation techniques;
- Recognize the role of robotic systems in spinal deformity correction, osteotomy, and reconstruction;
- Evaluate the impact of AR image fusion and precision localization on surgical safety and MIS efficiency;
- Plan phased clinical adoption of AR and robotic navigation systems; and
- Explore global trends in surgical robotics and Taiwan's innovative developments.

Part I: Clinical Applications of AR Navigation in Spine Surgery

8:00-8:10 a.m.	Welcome and Introduction <i>Chiung-Chyi Shen, MD PhD; Chien-Min Lin, MD PhD; Meng-Yin Yang, MD, PhD</i>
8:10-8:20 a.m.	From Traditional Screen-Based Navigation to AR and MR: Clinical Evolution <i>Chung-Chyi Shen, MD, PhD</i>
8:20-8:30 a.m.	Clinical Precision, Ultra-Low Radiation, and Workflow Optimization with AR Navigation in Spinal Fusion Surgery <i>Che-Chuan Wang, MD, PhD</i>
8:30-8:40 a.m.	AR-Assisted Correction of Scoliosis and Multilevel Spinal Deformities <i>Meng-Yin Yang, MD, PhD</i>
8:40-8:50 a.m.	Clinical and Economic Comparison Between AR Navigation and Traditional Navigation <i>Juan Vadillo Menéndez (Director, Surglasses)</i>

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Part II: Applications and Demonstrations of Robotic Technology in Minimally Invasive Spine Surgery

8:50-9:00 a.m.	Introduction to Robotic Technologies for Spine Surgery <i>Chien-Min Lin, MD, PhD</i>
9:00-9:10 a.m.	Current Status and Future Development of Surgical Robotics in Spine Surgery <i>Chien-Lun Tang, MD</i>
9:10-9:20 a.m.	Development and Vision of Robotic Navigation Systems in Taiwan (Case Study: Point Robotics) <i>Wen-Teng Wang, PhD (Point Robotics)</i>
9:20-9:30 a.m.	Q&A Panel Discussion <i>All Speakers</i>
9:30-9:40 a.m.	Coffee Break & Transition to Lab

9:40-11:45 a.m.	Hands-On Demonstrations <ul style="list-style-type: none">- Live demonstration of the Caduceus S AR Navigation System- Cervical and thoracolumbar localization under AR guidance- Multilevel spinal fusion workflow demonstration- Preoperative image integration and real-time navigation protocol walkthrough- HMD (head-mounted display) interface and synchronized visualization demo- Robotic navigation and sawbone model demonstrations (Point Robotics)
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11:45 a.m.-12:00 p.m. **Closing Remarks and Discussion**

12:00 p.m. **Adjourn**

10:45 – 11:10 a.m.

Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

12:00 – 6:00 p.m.

NON-CME

Hands-on Cadaver Lab Course: Interventional Spine Care from A to Z
National Yang Ming Chiao Tung University

Course Chairs: Allen S. Chen, MD, MBA, MPH; Chien-Hua Chen, MD, PhD; David R. O'Brien Jr., MD

Faculty:

David E. Fish, MD, MPH
Scott Kreiner, MD
Sanjog Pangarkar, MD

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Participants will learn and practice various procedures including vertebral augmentation, disc access, sacroiliac injections, facet blocks, radiofrequency facet denervation, spinal cord stimulation, lumbar diagnostic spinal nerve blocks and epidural injections. Close interaction with faculty will allow ample time to share tips and for case discussions.

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

- Describe the use of spinal injections in the diagnostic evaluation and treatment of low back and radicular pain;
- Perform safe disc access;
- Utilize facet joint injections, medial branch blocks, and radiofrequency facet denervation for the treatment of low back pain; and
- Implement neuromodulation into their practices.

Agenda

12:00-12:05 p.m.	Welcome and Introduction David R. O'Brien Jr., MD
12:05-12:25 p.m.	Fluoroscopic Anatomy David R. O'Brien Jr., MD
12:25-12:40 p.m.	Epidural Injections and Epidural Steroid Injections Scott Kreiner, MD
12:40-12:55 p.m.	Facet Joint Injections and Medial Branch Blocks Sanjog Pangarkar, MD
12:55-1:10 p.m.	Coffee Break
1:10-1:25 p.m.	Facet Radiofrequency Denervation Allen S. Chen, MD, MBA, MPH
1:25-1:40 p.m.	Disc Access David R. O'Brien Jr., MD

1:40-3:30 p.m.	Hands-on Cadaver Lab Station 1: Epidural Steroid Injections – Transforaminal Station 2: Epidural Steroid Injections – Interlaminar Station 3: Disc Access Station 4: Facet Blocks and Medial Branch Blocks
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3:30-3:55 p.m.	Spinal Cord Stimulation David E. Fish, MD, MPH
3:55-4:20 p.m.	Vertebral Augmentation Scott Kreiner, MD
4:20-4:30 p.m.	Discussion All Faculty

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4:30-6:00 p.m.	Hands-on Cadaver Lab Station 1: Spinal Cord Stimulation Station 2: Vertebral Augmentation Station 3: Radiofrequency Ablation Station 4: Epidural Steroid Injections – Alternative Approaches Open Lab
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6:00 p.m. **Adjourn**

[Tuesday, July 22](#)

6:45 – 7:10 a.m.

Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

8:15 a.m.-1:00 p.m.

NON-CME

Hands-on Cadaver Lab Course: Tackling the Endoscopic Spine Surgery Learning Curve: Principles, Indications, and Techniques

National Yang Ming Chiao Tung University

Course Chairs: Ken Hsuan-Kan Chang, MD; Vit Kotheraanurak, MD

Faculty:

Dae-Won Cho, MD
Chiu-Hao Hsu, MD
Ming-Hsiao Hu, MD, PhD
Khanathip Jitpakdee, MD
Jin-Sung L. Kim, MD, PhD
Young-San Ko, MD
Hyun-Jin Park, MD
Si-Young Park, MD, PhD
Chun-Chieh Wang, MD, PhD

Faculty will examine the growing field of endoscopic spine surgery (ESS) in the treatment of spinal disorders. ESS techniques treat diverse spinal pathologies, including lumbar disc herniation, spinal stenosis, spondylolisthesis, and cervical disc herniation. Participants will hear the most recent technological developments and surgical techniques in ESS. Moreover, the faculty will discuss the technical challenges and surgical learning curve associated with endoscopic spine surgery and surgical tips and pearls to help manage the learning curve. Through this course, surgeons who are interested in adopting or expanding their use of ESS will become equipped with knowledge and training to apply in clinical practice.

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

- Describe the basic anatomy of the endoscopic corridor and related strategies;
- Learn and practice the steps of endoscopic procedures through the interlaminar and transforaminal access;
- Identify the proper indications and contraindication of the endoscopic spinal procedures;
- Recognize possible complications and discuss complication avoidance strategies of endoscopic spinal procedures; and

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- Determine the optimal treatment for lumbar disc herniation based on current evidence.

Agenda

8:15-8:20 a.m.	Welcome and Introduction <i>Ken Hsuan-Kan Chang, MD; Vit Kotheeranurak, MD</i>
8:20-8:30 a.m.	Step by Step of Transforaminal Approach <i>Khanathip Jitpakdee, MD</i>
8:30-8:40 a.m.	Step by Step of Interlaminar Approach <i>Ming-Hsiao Hu, MD, PhD</i>
8:40-8:50 a.m.	Questions and Answers
8:50-9:00 a.m.	Complication Avoidance and Management of Transforaminal and Interlaminar Endoscopic Surgery <i>Vit Kotheeranurak, MD</i>
9:00-9:10 a.m.	Equipment and Learning Curve and Setup for Biportal Endoscopic Surgery <i>Young-San Ko, MD</i>
9:10-9:20 a.m.	Step by Step for Biportal Endoscopic Approach for Disc Herniation and Lateral Recess Stenosis <i>Hyun-Jin Park, MD</i>
9:20-9:30 a.m.	Questions and Answers
9:30-9:40 a.m.	Coffee Break and Transition to Lab

9:40 a.m. -12:00 p.m.	Hands-on Cadaver Lab
Station 1: CGBIO Station 2: CGBIO Station 3: Elliquance Station 4: GS Medical Station 5: Smartech Medical Co. Station 6: Medyssey Co. Station 7: MaxMore	

12:00-1:00 p.m. **Case Discussion and Lunch**

1:00 p.m. **Adjourn**

10:45 – 11:10 a.m.

Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

1:00-5:30 p.m.

NON-CME

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Hands-on Cadaver Lab Course: Mastering Endoscopic Spine Surgery from Uniportal to Biportal Endoscopy
National Yang Ming Chiao Tung University

Course Chairs: Jin-Sung L. Kim, MD, PhD; Chien-Min Chen, MD; Hsi-Kai Tsou, MD, PhD

Faculty:

Kuo-Tai Chen, MD
Dae-Won Cho, MD
Yung-Hsueh Hu, MD
Takeshi Kaneko, MD, PhD
Young-San Ko, MD
Vit Kotheeranurak, MD
Yun-Da Li, MD, PhD
Si-Young Park, MD, PhD

This advanced hands-on cadaver lab course offers spine surgeons an opportunity to explore the evolutionary transition from uniportal to biportal endoscopic spine surgery. Under the guidance of experienced endoscopic spine specialists, participants will learn both theoretical foundations and practical applications of these minimally invasive techniques. The course focuses specifically on expanding surgical indications across various spinal pathologies, comparing the advantages and limitations of each approach while providing comprehensive training on anatomical landmarks, surgical techniques, and safety considerations.

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

- Master the technical skills required for both uniportal and biportal endoscopic spine surgery through hands-on cadaver training;
- Identify appropriate patient selection criteria and expanded indications for endoscopic spine procedures across different spinal regions;
- Compare the advantages, limitations, and technical nuances between uniportal and biportal endoscopic approaches; and
- Develop strategies to manage potential complications and optimize outcomes in endoscopic spine surgery cases.

Agenda

1:00-1:05 p.m. **Welcome and Introduction**
Jin-Sung L. Kim, MD, PhD

The Adoption of Endoscopy in Lumbar Spinal Stenosis

1:05-1:15 p.m.	Uniportal Endoscopic Lumbar Decompression (ULBD) <i>Kuo-Tai Chen, MD</i>
1:15-1:25 p.m.	Uniportal Endoscopic Cervical Foraminotomy <i>Chien-Min Chen, MD, PhD</i>
1:25-1:35 p.m.	Multiportal Endoscopic Lumbar Decompression <i>Takeshi Kaneko, MD, PhD</i>
1:35-1:45 p.m.	Biportal Endoscopic Lumbar Foraminotomy

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Dae-Won Cho, MD

1:45-2:00 p.m. **Questions and Answers**

The Adoption of Advanced Endoscopic Cases

2:00-2:10 p.m. **Biportal Posterior Endoscopic Cervical Foraminotomy**
Si-Young Park, MD, PhD

2:10-2:20 p.m. **Uniportal Endoscopic Lumbar Fusion**
Vit Kotheeranurak, MD

2:20-2:30 p.m. **Biportal Endoscopic Lumbar Fusion**
Young-San Ko, MD

2:30-2:45 p.m. **Questions and Answers**

2:45-3:00 p.m. **Coffee Break and Transition to Lab**

3:00-5:30 p.m.	Hands-on Cadaver Lab
Station 1: CG Bio	
Station 2: CG Bio	
Station 3: Elliqueunce	
Station 4: GS Medical	
Station 5: Smartech Medical Co.	
Station 6: Medyssey Co.	
Station 7: MaxMore	

5:30 p.m. **Adjourn**

[Wednesday, July 23](#)

6:45 – 7:10 a.m.

Badge Pickup for Ticketed Course Only
Hotel Lobby (near shuttle pickup)

NON-CME

8:00 a.m.-5:00 p.m.

Hands-on Cadaver Lab Course: State-of-the-Art Technology & Techniques in MIS and Complex Cervical & Thoracolumbar Spine Surgery
National Yang Ming Chiao Tung University

Course Chairs: Jean-Jacques Abitbol, MD; Li-Yu Fay, MD; John C. Liu, MD

Faculty:

Jean-Jacques Abitbol, MD
Hsuan-kan Chang, MD, PhD
Norman B. Chutkan, MD, FACS
Li-Yu Fay, MD

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Chao-Hung Kuo MD, PhD
Worawat Limthongkul, MD
John C. Liu, MD
Jeffrey C. Wang, MD

Faculty will provide didactic and hands-on educational advancement for surgeons, residents, and fellows interested in learning the latest surgical indications, considerations, and techniques in complex and minimally invasive spine surgery. Faculty will discuss surgical indication, surgical anatomy, technique pearls, complication avoidance, and complication management in a small group environment.

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

- Recognize surgical indications and considerations for complex spine surgery;
- Identify relevant surgical anatomy to facilitate successful decompression and instrumentation;
- Understand indications for spinal deformity, spinal osteotomy, and thoracolumbar reconstructive surgery;
- Understand the importance of precision and localization in MIS and how evolving technology can improve the safety and efficiency of MIS; and
- Identify the learning curve associated with minimally invasive spine surgery and implement stepwise training toward adopting MIS in current clinical practice.

Agenda

8:00-8:05 a.m. **Welcome and Introduction**
Jean-Jacques Abitbol, MD; Li-Yu Fay, MD; John C. Liu, MD

8:05-8:15 a.m. **MIS Today and In the Future**
John C. Liu, MD

8:15-8:25 a.m. **Lumbar Interbody Fusion Techniques and Implant Selection**
Chao-Hung Kuo MD, PhD

8:25-8:35 a.m. **Cervical Arthroplasty vs. ACDF: Surgical Indication, Techniques, and Evidence**
Jean-Jacques Abitbol, MD

8:35-8:45 a.m. **Posterior Cervical Approaches for Cervical Myelopathy, Cervical Instability, and Cervical Deformity**
Jeffrey C. Wang, MD

8:45-8:55 a.m. **Maximizing MIS for Complex Spine Disorders**
Patrick C. Hsieh, MD, MBA, MS

8:55-9:05 a.m. **Minimally Invasive Surgery for Treatment of Adult Spinal Deformity: What's Possible Today and on the Horizon?**
Worawat Limthongkul, MD

9:05-9:15 a.m. **Surgical Strategies for Severe Adult Spinal Deformity: Osteotomies and Correction Techniques**
Norman B. Chutkan, MD, FACS

9:15-9:25 a.m. **Surgical Tips and Techniques Using OLIF & PLIF Procedure with PEEK and Expandable Cage**
Hsuan-kan Chang, MD, PhD

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9:25-9:35 a.m. **Improving Safety and Outcomes of Spine Surgery with Navigation and Robotics**
Chien-Lun Tang, MD

9:35 a.m. **Coffee Break and Transition to Lab**

9:50 a.m.-12:30 p.m. **Hands-on Cadaver Lab**

Station 1: Bioventus
Station 2: Medtronic
Station 3: Medtronic
Station 4: Globus
Station 5: Point Robotics
Station 6: DePuy J&J
Station 7: Remex Medical

12:30-1:30 p.m. **Lunch Break**

1:30-4:30 p.m. **Hands-on Cadaver Lab**

Station 1: Bioventus
Station 2: Medtronic
Station 3: Medtronic
Station 4: Globus
Station 5: Point Robotics
Station 6: DePuy J&J
Station 7: Remex Medical

4:30-5:00 p.m. **Case Discussion and Questions**

5:00 p.m. **Adjourn**

2:00 – 6:00 p.m.
Registration
5th Floor Foyer, Taipei Marriott Hotel

[FULL PROGRAM SCHEDULE](#)

[Thursday, July 24](#)

6:30 a.m.-5:30 p.m.
Registration/Speaker Information Center
5th Floor Foyer

7:00 a.m.-3:00 p.m.
Technical Exhibition
Junior Ballroom & Foyer

7:15-7:30 a.m.
Opening and Welcome Remarks: International Chairs

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Grand Ballroom I

7:30-8:30 a.m.
NASSI Symposium: Controversies in Treatments of Cervical Myelopathy
Grand Ballroom I
Moderators: Alan S. Hilibrand, MD, MBA; Chiung-Chyi Shen, MD, PhD

This session explores controversies in cervical myelopathy treatment, comparing anterior, motion-sparing, and posterior fusion approaches. Experts will examine the benefits and limitations of each technique in managing multilevel compression. An interactive unknown case presentation will challenge faculty to apply their expertise in real time.

Agenda

7:30-7:40 a.m.	Introduction of Case: Controversies in Treatment of Cervical Myelopathy <i>Alan S. Hilibrand, MD, MBA</i>
7:40-7:50 a.m.	Anterior Approach for Cervical Myelopathy <i>Jeffrey C. Wang, MD</i>
7:50-8:00 a.m.	Laminoplasty / Motion Sparing Approach <i>Zoher Ghogawala, MD, FACS</i>
8:00-8:15 a.m.	Posterior Decompression and Fusion <i>Jean-Jacques Abitbol, MD</i>
8:15-8:30 a.m.	Indications for Anterior and Posterior (Circumferential) Approach for Cervical Myelopathy <i>Rully Hanafi Dahlan, MD, PhD</i>
8:30-8:40 a.m.	Clinical Decision-Making for Treatment Strategy in Cervical Myelopathy <i>Jong-Beom Park, MD, PhD</i>
8:40-8:50 a.m.	Additional Case Presentation (Unknown to Faculty) <i>Alan S. Hilibrand, MD, MBA</i>
8:50-9:00 a.m.	Discussion of Unknown Case and Questions <i>All Faculty</i>

8:30-9:30 a.m.
Abstract Presentations: Innovations in Spine Science, Surgery & Imaging
Grand Ballroom I
Moderators: John C. Liu, MD; Jin-Sung L. Kim, MD, PhD

8:30-8:35 a.m.
1. Impact of Compression Duration on Dorsal Root Ganglia Hypoxia and Pain Chronicity in Lumbar Radiculopathy: Evidence from a Mouse Model
Dinh Thao Trinh, MD

8:35-8:40 a.m.
2. Development of a Fresh Porcine Cadaver ex vivo Model Using the L6/S1 Spine Segment for Simulating Intraoperative Iatrogenic Lumbar Durotomy with Nerve Rootlet Herniation During Full-Endoscopic Spine Surgery

Jui-Jung Yang, MD, PhD

8:40-8:45 a.m.

3. Automated Lenke classification for preoperative spine surgery by extracting anatomical landmarks from X-ray images using a deep learning approach

Ali Asghar Mohammadi Nasrabadi, PhD

8:45-8:50 a.m.

4. A Comparison of Two Implant Materials in an in Vivo Rabbit Model.

Boyle Cheng, PhD

8:50-8:55 a.m.

5. Rate And Fate of Incidental Durotomies in Spine Surgery - Complication or just an Intraoperative Event?

Manish Kasliwal, MD, M.Ch

8:55-9:00 a.m.

Discussion

9:00-9:05 a.m.

6. Comparative Study for Complications of Unilateral Biportal Endoscopic Spine Surgery Between Using and Not Using Kerrison Punches (No-Punch Technique)

Jwo-Luen Pao, MD

9:05-9:10 a.m.

7. A Clinical Study on the Treatment of Cervical OPLL with Spinal Endoscopic Minimally Invasive Surgery

Xifeng Zhang, MD, PhD

9:10-9:15 a.m.

8. Pedicle Bone Quality Score Offers Superior Predictive Value Over Vertebral Bone Quality Score for Pedicle Screw Loosening Following Instrumented Transforaminal Lumbar Interbody Fusion: An MRI-Based Study

An-Jhih Luo, MD

9:15-9:20 a.m.

9. Detection of Cervical Ossification of the Posterior Longitudinal Ligament with a Dual-Stage Attention and Multi-Scale Feature Fusion Network

Chun Tseng, PhD

9:20-9:25 a.m.

10. Preoperative Coronal MRI: A Critical Evaluation of the Kambin Triangle for TLIF procedure

Bunyaporn Wuttiworawanit, MD

9:25-9:30 a.m.

Discussion

8:30-9:30 a.m.

NASSI Symposium: Evidence-Based Medicine and Clinical Guidelines

Grand Ballroom II

Moderators: Charles A. Reitman, MD; Scott Kreiner, MD

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This session provides updates on the latest NASS guidelines and recommendations for managing osteoporotic and neoplastic compression fractures. Experts will discuss the guidelines for both conditions and the appropriate use criteria (AUC) to guide treatment decisions. Attendees will gain insights into evidence-based approaches for managing these complex fractures in clinical practice.

Agenda

8:30-8:35 a.m.	Introduction Charles A. Reitman, MD
8:35-8:45 a.m.	Update on NASS Guideline and Recommendations for Osteoporotic Compression Fractures Scott Kreiner, MD
8:45-8:55 a.m.	Update on NASS AUC and Recommendations for Osteoporotic Compression Fractures Charles A. Reitman, MD
8:55-9:05 A.M.	Update on NASS Guideline and Recommendations for Neoplastic Compression Fractures Scott Kreiner, MD
9:05-9:15 a.m.	Update on NASS AUC and Recommendations for Neoplastic Compression Fractures Charles A. Reitman, MD
9:15-9:30 a.m.	Discussion and Questions All Faculty

9:30-10:00 a.m.

Break/Technical Exhibition

5th Floor Foyer

10:00-11:00 a.m.

Live Surgery with TNS and International Faculty

[Leveraging Technologies to Improve MIS-TLIF featuring Intraoperative Navigation and Expandable Cages](#)

Grand Ballroom I

Moderators: Patrick C. Hsieh, MD, MBA, MS; John C. Liu, MD (OR Moderator)

10:00-11:00 a.m.

NASSI and Philippine Spine Society (PSS) Symposium

Grand Ballroom II

Moderators: David E. Fish, MD, MPH; Richard Condor, MD

This session explores advanced techniques for improving diagnosis and outcomes in spine care. Topics include the use of EMG and NCV for diagnosing radiculopathy, the role of injections and nerve blocks in enhancing patient selection and surgical results, and the interpretation of signal loss in intraoperative neuromonitoring. Additionally, a comparison of clinical outcomes between two minimally invasive spinal procedures and the use of advanced spinal cord stimulation for failed back syndrome will be discussed.

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Agenda

10:00-10:10 a.m.	Using EMG and NCV to Improve Diagnosis of Symptomatic Radiculopathy and Improve Outcomes <i>Allen S. Chen, MD, MBA, MPH</i>
10:10-10:20 a.m.	Injections and Nerve Blocks to Improve Patient Selection and Surgical Outcomes <i>Scott Kreiner, MD</i>
10:20-10:30 a.m.	Interpretation of Signal Loss in Intra Operative Neuromonitoring TBD
10:30-10:40 a.m.	Comparison of Clinical Outcomes Between Unilateral Biportal Endoscopic Decompression and Minimally Invasive TLIF for One-Level Spinal Stenosis with Low-Grade Spondylolisthesis <i>Richard Condor, MD</i>
10:40-10:50 a.m.	Endoscopic Outpatient Spine Surgery <i>Richard J. Parkinson, MD</i>
10:50-11:00 a.m.	Discussion and Questions <i>All Faculty</i>

11:00 a.m-12:00 p.m.

KSNS Symposium: Advancing Robotic and Endoscopic Spine Surgery with AI Technology: Pioneering the Future of Spine Surgery

Grand Ballroom I

Moderator: Seung Hwan Yoon, MD, PhD; Jung Kil Lee, MD, PhD

This session covers the latest advancements in navigation-guided unilateral biportal endoscopy (UBE) and robotic automation in spinal surgery. Experts will explore the current state of robotic technologies in UBE, as well as future breakthroughs that could revolutionize spine surgery. The session will also include a discussion on the development of an intelligent soft wearable lumbar support robot aimed at treating flat back syndrome.

Agenda

11:00-11:12 a.m.	Toward Fully Automated Spine Surgery: Integrating X-Ray Parameter Detection with Robotic Screw Path Planning <i>Sung Hyeon Noh, MD, PhD</i>
11:12-11:24 a.m.	Current State of Robotic Automation in Unilateral Biportal Endoscopic (UBE) Spine Surgery <i>Seongjun Ryu, MD, PhD</i>
11:24-11:36 a.m.	Revolutionizing Robotic Spine Surgery: Today's Technology vs. Tomorrow's Breakthrough <i>Seong Yi, MD, PhD</i>

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11:36-11:48 a.m.	Development of Intelligent Soft Wearable Lumbar Support Robot for Flat Back Syndrome <i>Seonghyun Wui, MD</i>
11:48 a.m.-12:00 p.m.	Discussion and Questions <i>All Faculty</i>

11:00 a.m-12:00 p.m.

NASSI Symposium: Evidence-Based Approach in the Management of Osteoporotic Spine Fractures

Grand Ballroom II

Moderators: Allen S. Chen, MD, MBA, MPH; Hani H. Mhaidli, MD, PhD

This session provides a comprehensive overview of osteoporotic compression fractures, including their epidemiology and the impact of obesity and nutrition on fracture risk. Experts will discuss the role of bone density, steroid injections, and vertebral augmentation in managing these fractures, along with the latest surgical interventions.

Agenda

11:00-11:10 a.m.	Osteoporotic Compression Fractures: Overview and Epidemiology <i>Gad J. Velan, MD</i>
11:10-11:20 a.m.	Obesity and Nutrition Implications for Osteoporotic Compression Fractures <i>Sanjog Pangarkar, MD</i>
11:20-11:30 a.m.	Bone Density, Fractures, and Implications for Steroid Injections <i>Allen S. Chen, MD, MBA, MPH</i>
11:30-11:40 a.m.	The Role of Vertebral Augmentation: An Update of the Evidence <i>Scott Kreiner, MD</i>
11:40-11:50 a.m.	Surgical Intervention for Osteoporotic Compression Fractures <i>Hani H. Mhaidli, MD, PhD</i>
11:50 a.m.-12:00 p.m.	Discussion and Questions <i>All Faculty</i>

12:00-1:00 p.m.

Lunch Workshop Sponsored by Bioventus

Grand Ballroom I

1:00 – 1:30 p.m.

Break/Technical Exhibition

5th Floor Foyer

1:30-2:30 p.m.

AO Spine Asia-Pacific Symposium: Latest Update of Cervical Endoscopic Surgery

Grand Ballroom I

Moderators: Jong-Beom Park, MD, PhD; Jwo-Luen Pao, MD

This session covers advanced techniques in cervical spine surgery, focusing on Biportal Endoscopic Surgery for the treatment of degenerative cervical spine disease. It will explore key indications for posterior endoscopic cervical decompression in cervical radiculopathy and evaluate the safety and effectiveness of full endoscopic decompression for cervical spondylotic myelopathy. The session will conclude with a review of complications and management strategies in cervical Biportal Endoscopic Surgery.

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Agenda

1:30-1:42 p.m.	Biportal Endoscopic Surgery in Treatment of Degenerative Cervical Spine Disease <i>Jwo-Luen Pao, MD</i>
1:42-1:54 p.m.	Cervical Radiculopathy: When to Operate - Indications for Posterior Endoscopic Cervical Decompression <i>Wongthawat Liawrungruenag, MD</i>
1:54-2:06 p.m.	Is Full Endoscopic Decompression Safe and Effective for Cervical Spondylotic Myelopathy? <i>Cheng-Li Lin, MD</i>
2:06-2:18 p.m.	Complications and Management Strategies in Cervical Biportal Endoscopic Surgery <i>Seok-Bong Jung, MD</i>
2:18-2:30 p.m.	Discussion and Questions <i>All Faculty</i>

1:30-2:30 p.m.

RapidFire ePoster Presentations I

Grand Ballroom II

Moderators: Jean-Jacques Abitbol, MD; Hiroshi Taniwaki, MD

4:00-4:03 p.m.	A Multicenter Retrospective Study on Single-Level Thoracolumbar Corpectomy and Vertebral Body Replacement done by Neurosurgeons <i>Mohammad Khalil Al-Barbarawi, MD, MBBS</i>
4:03-4:06 p.m.	Withdrawn from Program
4:06-4:09 p.m.	Shrinkage of the expandable lumbar interbody fusion cage <i>Tsuyoshi Okudaira, MD</i>
4:09-4:12 p.m.	Lower preoperative Hounsfield unit values as a risk factor for poor 5-year clinical outcomes after lumbar spine surgery <i>Hiroshi Taniwaki, MD</i>
4:12-4:15 p.m.	Selection Criteria for Vertebral Augmentation <i>Sho Fujiwara, MD</i>
4:15-4:18 p.m.	A Novel Surgical Approach Using the "Lateral Corridor" for Minimally Invasive Oblique Lumbar Interbody Fusion at L5-S1: A Clinical Series and Technical Note <i>Hae-Dong Jang, PhD, MD</i>
4:18-4:21 p.m.	Key Factors in Fluid Irrigation Control: A Comparative Study of Arthroscope and Monoportal Scope in Biportal Spine Surgery <i>Takeshi Kaneko, MD, PhD</i>
4:21-4:24 p.m.	Full-endoscopic Circumferential Ligamentum Flavum Resection: Ensuring Safety and Effectiveness with Clinical and Radiological Comparisons to Conventional Techniques <i>Yaonha Hwang, MD</i>
4:24-4:27 p.m.	A review on the management strategies for cerebrospinal fluid leak after spinal surgery <i>Thiririsha Murugan, MBBS</i>
4:27-4:30 p.m.	Anterior versus Non-Anterior Approach in Adult Spinal Deformity Surgery: A Propensity-Score Matched Analysis Using NSQIP Data

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	<i>Ankit Mehta, MD</i>
4:30-4:33 p.m.	Infection Following Cervical Artificial Disc Replacement <i>Adeesya Gausper, BA</i>
4:33-4:36 p.m.	Minimally invasive robotic-guided facetectomy and laminectomy for transforaminal lumbar interbody fusions: feasibility, workflow, and early results <i>Richard Chua, MD</i>
4:36-4:39 p.m.	The Crane Technique in Cortical Bone Trajectory Screw Lumbar Fusion: Efficacy and Predictors of Spondylolisthesis Reduction <i>Hsiang-Ming Huang, MD</i>
4:39-4:42 p.m.	Clinical and Radiologic Outcomes of the Use of Interlaminar Device (Coflex®) among Patients with Low-grade Lumbar Spondylolisthesis: A Single Center Study <i>Katrina Ysabel Naraval, MD</i>
4:42-4:45 p.m.	Comprehensive analysis of novel uniportal trans-Kambin endoscopic lumbar interbody fusion with over one year of CT-based fusion evaluation and clinical follow-up <i>Kai Ting Chien, MD</i>
4:45-4:48 p.m.	Effect of Intraoperative Image-Guided Spinal Navigation Technologies on Endoscopic Lumbar Spine Surgery: A Systematic Review and Meta-Analysis <i>Yu Che Wang, MD</i>
4:48-4:51 p.m.	Effect of Intraoperative Image-Guided Spinal Navigation Technologies on Endoscopic Lumbar Spine Surgery: A Systematic Review and Meta-Analysis <i>Logan Karlen, BS</i>
4:51-4:54 p.m.	Postoperative outcomes in lumbar fusion for Ehlers-Danlos syndrome: lower nonunion but higher dysphagia and CSF leak rates <i>Kushagra Verma, MD, MS</i>
4:54-4:57 p.m.	Surgical technique and early outcome of biportal endoscopic decompression for the treatment of cervical spinal stenosis <i>Nan Fu Chen, PhD, MD</i>
4:57-5:00 p.m.	Combining Laminoplasty With Artificial Disc Replacement for the Treatment of Cervical Spondylotic Myelopathy <i>Zhao-Quan Liu, MD</i>
5:00-5:03 p.m.	Discussion

2:30-3:00 p.m.

Break/Technical Exhibition

5th Floor Foyer

3:00-4:00 p.m.

NASSI Symposium: Controversies in Spine Surgery: Case-Based Discussion with International Experts

Grand Ballroom I

Moderators: Patrick C. Hsieh, MD, MBA, MS; Hani H. Mhaidli, MD, PhD

Panel: Jeffrey C. Wang, MD; Norman B. Chutkan, MD, FACS, Charles A. Reitman, MD; Richard Parkinson, MD; Massimo Balsano, MD; Wen-Cheng Huang, DO, PhD; Yoon Ha, MD, PhD

This dynamic, case-based symposium brings together leading international spine surgeons to explore and debate controversial topics in spine surgery. Moderated by Drs. Patrick C. Hsieh and Hani H. Mhaidli, the session will feature expert insights from a distinguished panel, offering diverse global perspectives and fostering in-depth discussion on challenging clinical scenarios.

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3:00-4:00 p.m.

Abstract Presentations: Strategies in Nonoperative Spine Care, Pain Management & Deformity Outcomes

Grand Ballroom II

Moderators: John H. Shin, MD, MBA; Sanjog Pangarkar, MD

3:00-3:05 p.m.

11. Association Between Dynamic Instability and Muscle Health Change in Patients With L4-5 Degenerative Grade I Spondylolisthesis and Operative Spinal Stenosis

Taha Khalilullah, BS

3:05-3:10 p.m.

12. Radiographic progression of lumbar degenerative spondylolisthesis: natural history and associated risk factors

Hae-Dong Jang, PhD, MD

3:10-3:15 p.m.

13. 10-Year Outcomes Following Intradiscal Interventions: No Accelerated Degeneration in Punctured Discs with Sustained Long-Term Benefits

Andreas Veilhelmann, MD, PhD

3:15-3:20 p.m.

14. Comparative Study: Platelet Rich Fibrin (PRF) vs. Steroid Injection for Sacroiliac (SI) Joint Pain

Yung Chen, MD

3:20-3:25 p.m.

15. Prevalence and Independent predictors of mortality in patients initially diagnosed with spinal infection

Jiunhuan Liaw, MD

3:25-3:30 p.m.

Discussion

3:30-3:35 p.m.

16. Long-term Impact of Erector Spinae Plane Block on Chronic Postsurgical Pain after MIS-TLIF: A Retrospective Study

Ling-Ya Chen, MD

3:35-3:40 p.m.

17. Single-stage debridement and reconstruction with trabecular metal cage for active infectious spondylodiscitis: A Retrospective Cohort Study.

Mingchi Kuo, MD

3:40-3:45 p.m.

18. A multidisciplinary approach to social functioning might improve the surgical outcomes of patients with cervical myelopathy -Comparisons of two prospective cohorts-

Koji Tamai, MD, PhD

3:45-3:50 p.m.

19. Efficacy and safety of preoperative halo-gravity traction in cervical kyphotic deformity correction

Howard Hao-Wen Chen, MD, PhD

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3:50-3:55 p.m.

20. Over 10 years mean follow up results of Hemivertebra Resection and Spine Arthrodesis by Single-Stage Anterior Approach in Congenital Scoliosis and Kyphoscoliosis

Osvaldo Mazza

3:55-4:00 p.m.

Discussion

4:00-5:00 p.m.

Adult Spinal Deformity Symposium

Grand Ballroom II

Moderators: Norman B. Chutkan, MD, FACS; Hani H. Mhaidli, MD, PhD

Agenda

1:30-1:35 p.m.	Welcome Remark and Case Presentations <i>Hani H. Mhaidli MD, PhD</i>
1:35-1:45 p.m.	What is Optimal Outcome in Adult Spinal Deformity Surgery? <i>TBD</i>
1:45-1:55 p.m.	When Is Short-Segment Treatment Appropriate for Adult Spinal Deformity? <i>TBD</i>
1:55-2:05 p.m.	Kick Stand and Multi-Rod Constructs: What Are the Benefits of More Implants? <i>TBD</i>
2:05-2:15 p.m.	Treatment Considerations for Deformity Related to Parkinson's Disease and Movement Disorders <i>Yoon Ha, MD, PhD</i>
2:15-2:25 p.m.	Risk Factors for Proximal Junctional Kyphosis and Failures: How to Avoid the Catastrophes of PJF in Adult Spinal Deformity? <i>TBD</i>
2:25-2:30 p.m.	Discussion and Questions <i>All Faculty</i>

4:00-5:30 p.m.

NASSI Symposium: Controversies on Thoracolumbar Fractures

Grand Ballroom I

Moderators: Charles A. Reitman, MD; Jong-Beom Park, MD, PhD

This session provides an in-depth look at advanced techniques in spinal trauma management, beginning with an introduction to percutaneous stabilization without fusion, followed by outcomes and indications for its use. Experts will debate operative management approaches for burst fractures with neurologic deficit, comparing anterior and posterior surgical strategies, and discuss thoracolumbar fractures with neurologic deficit, focusing on direct decompression versus reduction without decompression. The session will conclude with a comprehensive discussion and summary of key takeaways from all presentations.

Agenda

4:00-4:05 p.m. **Introduction**

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	<i>Charles A. Reitman, MD; Jong-Beom Park, MD, PhD</i>
4:05-4:15 p.m.	Indications and Outcomes for Percutaneous Stabilization Without Fusion <i>Norman B. Chutkan, MD, FACS</i>
4:15-4:20 p.m.	Principles of Reconstruction of Flexion Distraction Injury with Severe Anterior Column Comminution <i>Charles A. Reitman, MD</i>
4:25-4:35 p.m.	Debate: Operative Management of Burst Fracture with Neurologic Deficit Anterior Approach <i>Worawat Limthongkul, MD</i>
4:35-4:45 p.m.	Posterior Approach <i>Hani H. Mhaidli, MD, PhD</i>
4:45-4:55 p.m.	Discussion and Questions <i>All Faculty</i>
	Debate: Thoracolumbar Fracture with Neurological Deficit Direct Decompression Is Necessary <i>Masayoshi Iwamae, MD</i>
4:55-5:05 p.m.	Reduction Without Direct Decompression Is Adequate <i>Alan S. Hillibrand, MD, MBA</i>
5:05-5:15 p.m.	Discussion and Questions <i>All Faculty</i>
5:15-5:25 p.m.	Final Questions and Summary <i>Charles A. Reitman, MD; Jong-Beom Park, MD, PhD</i>
5:25-5:30 p.m.	

5:00-6:00 p.m.

ASEAN MISST Symposium: New Minimally Invasive Techniques and Innovations

Grand Ballroom II

Moderators: Woraphot Wichan, MD; Suthipas Pongmanee, MD

Agenda

5:00-5:08 p.m.	Uniportal Endoscopic Lumbar Interbody Fusion (Endo LIF): Now and Future <i>Gun Keorachana, MD</i>
5:08-5:16 p.m.	Outcome of Cervical Endoscopic Spine Surgery <i>Naral Azwa Mohamad Noor, MD</i>
5:16-5:24 p.m.	Uniportal Endoscopic Lumbar Interbody Fusion: Trans-POL Approach in Grade I-II Spondylolisthesis <i>Pornpavit Sripirom, MD</i>
5:24-5:32 p.m.	Robotic vs. Augmented Reality Assisted Pedicle Screw Insertion <i>Harmantya Mahadhipta, MD</i>
5:32-5:40p.m.	The Birth of 360 Motion Preservation <i>Hey Hwee Weng Dennis, MD</i>
5:40-5:48p.m.	The Surgical Techniques (Tips and Tricks) of Fully Endoscopic Odontoid Fracture Fixation with Double Screws <i>Suthipas Pongmanee, MD</i>
5:48-6:00p.m.	Discussion and Questions <i>All Faculty</i>

6:00 p.m.

International Sessions Adjourn for the Day

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5:30-6:30 p.m.

TNS/TNSS Scientific Presentations (Mandarin Session)

Grand Ballroom I

Moderators: Da-Ming Lai, MD; Da-Tong Ju, MD

Agenda

5:30-5:37 p.m.	Laminoplasty For Cervical Myelopathy In OPLL <i>Kang Lu, MD, PhD</i>
5:37-5:44 p.m.	The Reconstruction of Nerve Circuit For C-spine Injury <i>Jui-Ming Sun, MD</i>
5:44-5:51 p.m.	Post-traumatic Thoracolumbar Kyphosis: The Role of Spinal Osteotomy <i>Ming-Hsiao Hu, MD</i>
5: 51-5:58 p.m.	Spine Outcome Measures -Computerized Adaptive Testing and Proms <i>Yen-Mau Lu, MD</i>
5:58-6:05 p.m.	ERAS In Adult Spinal Deformity Surgery <i>Yu-Cheng Yao, MD</i>
6:05-6:12 p.m.	Prone OLIF And Its Extended Applications <i>Yu-Cheng Yeh, MD</i>
6:12-6:19 p.m.	Automated Planning of Spine Screw Trajectory <i>Fu-Ren Xiao, MD, PhD</i>
6:19-6:26 p.m.	The Application of Spinal Cord Stimulation (SCS) In Patients with Failed Back Surgery Syndrome (FBSS) <i>Yu-Wen Cheng, MD, PhD</i>
6:26-6:30 p.m.	Discussion And Questions <i>All Faculty</i>

5:45-7:45 p.m.

Welcome Reception

5th Floor Foyer

[Friday, July 25](#)

6:30 a.m.-6:30 p.m.

Registration/Speaker Information Center

5th Floor Foyer

7:00 a.m.-3:00 p.m.

Technical Exhibition

Junior Ballroom & Foyer

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7:15-7:30 a.m.

Opening and Welcome Remarks

Grand Ballroom I

7:30-8:30 a.m.

NASSI Symposium: Diagnosis and Management of Low Back Pain

Grand Ballroom I

Moderators: David R. O'Brien, Jr., MD; Yoon Ha, MD, PhD

This session explores innovative ablation interventions for managing low back pain (LBP), including discussions on discogenic pain and emerging injectable treatments. The session will also cover sacroiliac joint (SIJ) pain and percutaneous fusion options, as well as the latest advancements in neuromodulation therapies for LBP. Additionally, the role of stem cells and platelet-rich plasma (PRP) in treating LBP will be examined, highlighting their potential applications in pain management.

Agenda

7:30-7:35 a.m.	Introduction <i>David R. O'Brien, Jr., MD</i>
7:35-7:45 a.m.	Ablation Interventions For LBP <i>Sanjog Pangarkar, MD</i>
7:45-7:55 a.m.	Discogenic Pain and Future Injectable Interventions <i>Scott Kreiner, MD</i>
7:55-8:05 a.m.	SIJ Pain and Percutaneous Fusion Options <i>David R. O'Brien, Jr., MD</i>
8:05-8:15 a.m.	Neuromodulation Options for LBP <i>Cheng-Chia Lee, MD</i>
8:15-8:25 a.m.	Stem Cells and PRP: Is There a Role in Treating LBP? <i>Allen S. Chen, MD, MBA, MPH</i>
8:25-8:30 a.m.	Discussion and Questions <i>All Faculty</i>

7:30-8:30 a.m.

NASSI Symposium: Anterior vs. Lateral vs. Posterior Approach for Lumbar Fusions: Case-Based Debate

Grand Ballroom II

Moderators: Jean-Jacques Abitbol, MD; Richard Parkinson, MD

This session features a case-based debate on the best surgical approach for lumbar fusions, comparing anterior, lateral, and posterior techniques. Experts will discuss the advantages of the anterior approach, the innovations of the lateral approach, and the established efficacy of the posterior approach for both decompression and fusion. The session will provide an in-depth analysis of each approach's benefits and challenges in lumbar fusion procedures.

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Agenda

7:30-7:35 a.m.	Case Presentation <i>Jean-Jacques Abitbol, MD</i>
7:35-7:45 a.m.	Anterior Is Best <i>Patrick C. Hsieh, MD, MBA, MS</i>
7:45-7:55 a.m.	Lateral Is Newer and Better <i>Richard Parkinson, MD</i>
7:55-8:05 a.m.	Posterior Is the Gold Standard for Decompression and Fusion <i>Mark Spoonamore, MD</i>
8:05-8:15 a.m.	Multilevel 360 degree Lumbosacral Fusion utilizing A Novel Minimally Invasive Multi-Incision Technique: Surgical Technique and Outcomes <i>Gregory Cunningham, FRACS, MBBS</i>
8:15-8:30 a.m.	Discussion and Questions <i>All Faculty</i>

8:30-9:30 a.m.

Abstract Presentations: Optimizing Cervical Spine Surgery: Techniques, Outcomes & Challenges

Grand Ballroom I

Moderators: Alan S. Hillibrand, MD, MBA; Inbo Han, MD, PhD

8:30-8:35 a.m.

21. Vacuum Discs are Associated with Greater Sagittal Imbalance and Disability in Adult Spine Deformity Patients
Serena Hu, MD

8:35-8:40 a.m.

22. Comparison of Spinopelvic Parameters of Multi-Level TLIF and 360 Lumbar Fusion Adult Spinal Deformity Procedures via UNID Technology
Taha Khalilullah, BS

8:40-8:45 a.m.

23. Differences in outcomes following circumferential cervical fusion at three levels compared to ACDF alone: an interim analysis of 12- and 24-month results from a prospective randomized IDE trial
Bruce McCormack, MD

8:45-8:50 a.m.

24. Perioperative and safety outcomes following tissue-sparing posterior cervical fusion to revise a pseudarthrosis: a multi-center retrospective review of 150 cases
Bruce McCormack, MD

8:50-8:55 a.m.

25. Evaluating the efficacy of laminoplasty combined with anterior cervical discectomy and fusion (LP-A) versus ACDF alone in optimizing neurological recovery in severe multilevel cervical spondylotic myelopathy

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with a narrow cervical canal
LeiPo Chen, PhD, MD

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

9:00-9:05 a.m.
26. Paradoxical outcomes after cervical OPLL surgery: Analyzing the causes of neurological recovery with persistent pain
Sunjaon Yoo, MD

9:05-9:10 a.m.
27. Impact of Obesity on Non-Fusion Risk Following Anterior Cervical Discectomy and Fusion
Yu Chang, MD

9:10-9:15 a.m.
28. Open door versus double door laminoplasty in the treatment of cervical OPLL: A 10-Year retrospective analysis
Sunjaon Yoo, MD

9:15-9:20 a.m.
29. Evaluation of 3D-printed Porous titanium alloy versus Polyetheretherketone (PEEK) cages in the surgical treatment of multilevel cervical degenerative disease
Taha Khalilullah, BS

9:20-9:25 a.m.
30. Effects of preemptive intravenous dexamethasone on patients undergoing MIS-TLIF
Koopong Siribumrungwong, MD

9:25-9:30 a.m.
Discussion

8:30-9:30 a.m.
Association of Spine Surgeons of India (ASSI) Symposium: Restoring Lumbar Lordosis in Single-Level Fusion: Strategies for Optimizing Sagittal Balance
Grand Ballroom II
Moderators: Ankur Nanda, MBBS, MS, MBA; Norman B. Chutkan, MD, FACS

This session addresses key topics in modern spine surgery, beginning with the importance and rationale of restoring segmental lordosis, exploring whether it's truly essential or a myth. Experts will discuss traditional open TLIF procedures, evaluate the future potential of 3D navigation-based UBE TLIF, and explore endoscopy-assisted KLIF (Transkambin) as a potential future standard. The session will also cover the advantages and challenges of anterior surgery in comparison to other approaches in spinal fusion.

Agenda

8:30-8:40 a.m. **Importance and Rationale of Restoring Segmental Lordosis – Fact or Fiction?**
Neeraj Gupta, MD, MBBS

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8:40-8:50 a.m. **Open TLIF – Is Old Still Gold?**
Ankur Nanda, MBBS, MS, MBA

8:50-9:00 a.m. **3D Navigation Based UBE TLIF (EndoNav TLIF) – Is it the Real Future/Standard?**
Shailesh Hadgaonkar, MBBS, MD, DO

9:00-9:10 a.m. **Endoscopy Assisted KLIF (Transkambin) – Is It the Future?**
Sudhir Ganesan, MBBS, DNB, FNP

9:10-9:20 a.m. **Anterior Surgery Is the Way to Go**
Muralidharan Venkatesan, MBBS, M.Ch, FRCS (Tr & Orth)

9:20-9:30 a.m. **Discussion and Questions**
All Faculty

9:30-10:00 a.m.
Break/Technical Exhibition
5th Floor Foyer

10:00-11:00 a.m.
Live Surgery with TNS and International Faculty
Grand Ballroom I
Moderators: Jeffrey C. Wang, MD; John C. Liu, MD (OR Moderator)

10:00-11:00 a.m.
Korean Society of Spine Surgery (KSSS) Symposium: Present and Future of Endoscopic Spinal Surgery
Grand Ballroom II
Moderators: Jaewan Soh, MD; Joonghyun Ahn, MD

This session explores the latest advancements in endoscopic spinal surgery, beginning with endoscopic cervical and thoracic decompression techniques. Experts will discuss the innovative use of Biportal Endoscopic Lumbar Interbody Fusion and the integration of navigation systems with endoscopy for enhanced precision. The session will also cover the application of robotics in conjunction with endoscopic procedures, highlighting its potential to improve surgical outcomes.

Agenda

10:00-10:12 a.m. **Endoscopic Cervical and Thoracic Decompression**
Ju-Eun Kim, MD

10:12-10:24 a.m. **Biportal Endoscopic Lumbar Interbody Fusion**
Hyun-Jin Park, MD

10:24-10:36 a.m. **Application of Navigation with Endoscopy**
Min-Seok Kang, MD

10:36-10:48 a.m. **Application of Robot with Endoscopy**
Sang-Min Park, MD

10:48-11:00 a.m. **Discussion and Questions**
All Faculty

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11:00 a.m-12:00 p.m.

NASSI Symposium: International Award and International Keynote Presentations

Grand Ballroom I

Moderators: Patrick C. Hsieh, MD, MBA, MS; Scott Kreiner, MD

This session features an award presentation followed by keynote speeches from distinguished international recipients. The TNS President, Dr. Chiung-Chyi Shen, will deliver a keynote address, providing insights into the latest advancements in the field. Additionally, a NASS keynote presentation will be given by a leading expert, offering valuable perspectives on current trends and future directions in spine care.

Agenda

11:00-11:05 a.m.	International Award Presentation <i>Scott Kreiner, MD</i>
11:05-11:20 a.m.	Keynote Speech from International Award Recipient
11:20-11:25 a.m.	Best Paper Award Presentation <i>Patrick C. Hsieh, MD, MBA</i>
11:25-11:40 a.m.	TNS President Keynote Presentation <i>Chiung-Chyi Shen, MD, PhD</i>
11:40-11:55 a.m.	NASS Keynote Presentation <i>Jeffrey C. Wang, MD</i>
11:55 a.m.-12:00 p.m.	Discussion and Questions <i>All Faculty</i>

11:00 a.m-12:00 p.m.

Abstract Presentations: Approaches in Biomechanics, Deformity & Cervical Spine Surgery

Grand Ballroom II

Moderators: Alan S. Hilibrand, MD, Jau-Ching Wu, MD, PhD

11:00-11:05 a.m.

31. Postoperative Changes in Pelvic Indices After MIS-TLIF for Lumbar Spondylolisthesis: A Retrospective Analysis
Shrey Binyala, MS, DNB

11:05-11:10 a.m.

32. Low Molecular Weight Heparin (LMWH) Prophylaxis is Safe in Patients Undergoing Staged Thoracolumbar Fusion
Serena Hu, MD

11:10-11:15 a.m.

33. Carbon Fiber Implants for Spinal Tumors: Outcomes and Complications
Lancelot Benn, MD

11:15-11:20 a.m.

34. Applications of Anterior Column Realignment (ACR) Technique in Prone Lateral Antepsoas or Retropleural Surgery: A Complementary Classification to the ACR Classification
Yu-Cheng Yeh, MD

11:20-11:25 a.m.

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35. A Prospective Study on Modulation of the Apical Vertebrae by Active Apex Correction (APC) Technique for Early Onset Scoliosis
Ahmad Hammad, MD

11:25-11:30 a.m.

Discussion

11:30-11:35 a.m.

36. The Restoration of Cervical Lordosis in Preoperative Kyphotic Spines after Uniportal Posterior Percutaneous Endoscopic Cervical Foraminotomy: A Single Center Retrospective Study
Kuan-Hung Chen, MD

11:35-11:40 a.m.

37. Comparative outcomes of skip-level cervical arthroplasty and fusion in non-contiguous cervical degenerative disc disease
Chao-Hung Kuo, MD, PhD

11:40-11:45 a.m.

38. What is the Best Strategy for C3 in Open-Door Laminoplasty: Laminectomy versus Laminoplasty: A Systematic Review and Meta-analysis
Ping-Yeh Chiu, MD

11:45-11:50 a.m.

39. Does Cervical Paraspinal Muscle Degeneration Influence Quality of Life After Cervical Spine Surgery?
Hiroshi Taniwaki, MD

11:50-11:55 a.m.

40. Postoperative outcomes in cervical fusion for Ehlers-Danlos syndrome: lower nonunion but higher dysphagia and CSF leak rates
Logan Karlen, BS

11:55 a.m-12:00 p.m.

Discussion

12:00-1:00 p.m.

Lunch Workshop Sponsored by Barry Tec

Grand Ballroom I

Lunch Workshop Sponsored by Centinel Spine Taiwan

Grand Ballroom II

1:00 – 1:30 p.m.

Break/Technical Exhibition

5th Floor Foyer

1:30-2:30 p.m.

NASSI, Italian Society of Spinal Surgery & Italian Scoliosis Study Group (SICV&GIS) and Singapore Spine Society (SSS)

Symposium: Achieving Optimal Outcomes and Complications Avoidance in Adult Spinal Deformity

Grand Ballroom I

Moderators: Norman B. Chutkan, MD, FACS; John Chen, FRCS

This session focuses on key considerations in adult spinal deformity surgery, beginning with a discussion on achieving optimal alignment in adult degenerative scoliosis and the techniques for ideal correction. Experts will compare the effectiveness of 3-column osteotomy versus vertebral column reconstruction (VCR) in adult spinal deformity surgery and explore strategies to prevent proximal junctional kyphosis (PJK).

Agenda

1:30-1:40 p.m.	Advance Surgical Techniques in Pediatric and Adolescent Scoliosis <i>Massimo Balsano, MD</i>
1:40-1:50 p.m.	3-Column Osteotomy or Vertebral Column Reconstruction (VCR): Which Works Best for ASD Surgery? <i>John Chen, FRCS</i>
1:50-2:00 p.m.	Posterior Osteotomy vs Multiple Anterior Cages for Correction of Severe Sagittal Imbalance in Adult Deformity <i>Roberto Bassani, MD</i>
2:00-2:10 p.m.	Strategies to Prevent Proximal Junctional Kyphosis in Adult Spinal Deformity <i>Yu Heng Ouyang, MBBS, FRCS</i>
2:10-2:20 p.m.	Mitigating Surgical Risks in Adult Spinal Deformity Surgery <i>John Chen, FRCS</i>
2:20-2:30 p.m.	Discussion and Questions <i>All Faculty</i>

1:30-2:30 p.m.

NASSI Symposium: Lateral Lumbar Interbody Fusion for Lumbar Spondylosis and Spondylolisthesis

Grand Ballroom II

Moderators: John C. Liu, MD; Meng-Yin Yang, MD, PhD

This session covers key techniques and considerations in lateral access spinal surgery, beginning with strategies for performing lateral access safely and avoiding complications. Experts will discuss the advantages of transpsoas lateral lumbar interbody fusion for direct and safe access, as well as the rationale for using a pre-psoas approach in lateral interbody fusion. The session will also focus on methods for planning and predicting indirect decompression in lateral interbody fusion.

Agenda

1:30-1:40 p.m.	Performing Lateral Access Safely and Complication Avoidance <i>Hsuan-Kan Chang, MD, PhD</i>
1:40-1:50 p.m.	Transpsoas Lateral Lumbar Interbody Fusion Is Most Direct and Safe <i>Jeffrey C. Wang, MD</i>
1:50-2:00 p.m.	Why Fuss with Pre-Psoas Approach with Lateral Interbody Fusion <i>John C. Liu, MD</i>

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2:00-2:10 p.m.	OLIF at L5/S1 – Is It Worth the Risk? <i>Dongwuk Son, MD, PhD</i>
2:10-2:20 p.m.	How to Plan and Predict Indirect Decompression with Lateral Interbody Fusion <i>Jean-Jacques Abitbol, MD</i>
2:20-2:30 p.m.	Discussion and Questions <i>All Faculty</i>

2:30-3:00 p.m.

Break/Technical Exhibition

5th Floor Foyer

3:00-4:00 p.m.

NASSI and Japanese Society for Spine Surgery and Related Research (JSSR) Symposium: Spine Surgery for Super-Elderly Population

Grand Ballroom I

Moderators: Koji Tamai, MD, PhD; Patrick C. Hsieh, MD, MBA, MS

This session addresses the unique challenges of adult spinal deformity surgery in the super-elderly population, discussing both the indications and limitations of surgery in this age group. Experts will explore preoperative optimization and rehabilitation strategies tailored for elderly patients, the clinical impact of Hounsfield unit values in spinal assessments, and the effects of frailty and sarcopenia on surgical outcomes. The session will also cover the characteristics and treatment outcomes of spinal cord injuries in super-elderly patients, offering insights into how to best manage these complex cases.

Agenda

3:00-3:10 p.m.	Indication and Limitation of Adult Spinal Deformity Surgery for Super-Elderly Population <i>Masayoshi Iwamae, MD</i>
3:10-3:20 p.m.	Preoperative Optimization and Preoperative Rehabilitation in Adult Spine Deformity Surgery for The Elderly <i>Charles A. Reitman, MD</i>
3:20-3:30 p.m.	Does the Hounsfield Unit Values Have Acknowledgeable Clinical Impact? <i>Hiroshi Taniwaki, MD</i>
3:30-3:40 p.m.	Impacts of Frailty and Sarcopenia in The Elderly: How to Identify and Optimize? <i>Norman B. Chutkan, MD, FACS</i>
3:40-3:50 p.m.	Characteristics and Treatment Outcomes of Spinal Cord Injury of Super-Elderly Patients <i>Koji Tamai, MD, PhD</i>
3:50-4:00 p.m.	Discussion and Questions

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3:00-4:00 p.m.

Society for Minimally Invasive Spine Surgery - Asia Pacific Chapter (SMISS AP) Symposium: The Best MIS Lineup for Complex Spinal Pathologies

Grand Ballroom II

Moderator: Yoshihisa Kotani, MD; Philip Cheung, MBBS

This session focuses on innovative approaches and treatments for spinal disorders, beginning with modified endoscopic laminoplasty and laminectomy for multi-level cervical myelopathy. Experts will discuss the surgical outcomes of micro versus endoscopic techniques for stable degenerative spondylolisthesis, along with insights into whether total disc replacement can reverse the natural progression of degenerative disc disease. The session will also explore the limitations of OLIF and recent advancements in minimally invasive solutions for adult spine deformity, including the use of OLIF51.

Agenda

3:00-3:10 p.m.	Modified Endoscopic Laminoplasty and Laminectomy for Multi-Level Cervical Myelopathy <i>Hyun-Jin Ma, MD</i>
3:10-3:20 p.m.	The Surgical Outcomes Between Micro Versus Endo for Stable Degenerative Spondylolisthesis: Subgroup Analysis From RCT <i>Jin-Sung L. Kim, MD, PhD</i>
3:20-3:30 p.m.	Can Total Disc Replacement Reverse the Natural History of Degenerative Disc Disease? <i>Raymond C. Yip, FRCSed, MBBS</i>
3:30-3:40 p.m.	Beyond the Limitation of OLIF: Evidence Based <i>Warawat Limthongkul, MD</i>
3:40-3:50 p.m.	Recent MIS Solution for Adult Spine Deformity with OLIF51 <i>Yoshihisa Kotani, MD</i>
3:50-4:00 p.m.	Discussion and Questions <i>All Faculty</i>

4:00-5:30 p.m.

Taiwan Neurosurgical Spine Society Symposium: Multimodality Treatment for Lumbar Degenerative Disease

Grand Ballroom I

Moderators: Wen-Cheng Huang, MD, PhD; Dongwuk Son, MD, PhD

This symposium highlights the latest multimodality approaches to treating lumbar degenerative disease, featuring a series of focused presentations by leading spine surgeons from Taiwan and Korea. Topics include advancements in instrumentation, minimally invasive techniques, navigation-assisted surgery, and management of complications such as cage subsidence and osteoporosis. The session also explores comparative surgical outcomes and evolving endoscopic methods. A panel discussion will conclude the session, encouraging interactive dialogue among attendees and faculty.

Agenda

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4:00-4:08 p.m.	Techniques of Lumbar Instrumentation <i>Hao-Yu Chuang, MD, PhD</i>
4:08-4:16 p.m.	Overview of Advanced Surgical Techniques to the Lumbar Spine <i>Dong-Yuan Hung, MD, PhD</i>
4:16-4:24 p.m.	Evolution of mISTLIF: Comparison of Pre-, Partial-, and Full-Navigation <i>Yi-Hsuan Kuo</i>
4:24-4:32 p.m.	Cages Subsidence in OLIF Patients: Incidence, Risk Factors, Treatments and Prevention <i>Hung-Chen Wang</i>
4:32-4:40 p.m.	From Open Surgery to MIS and Biportal Endoscopic Techniques <i>Chih-Lung Lin</i>
4:40-4:45 p.m.	Discussion and Questions <i>All Faculty</i>
4:45-4:53 p.m.	Endoscopic Approaches to Spondylosis <i>Se-Yi Chen</i>
4:53-5:01 p.m.	Comparative Analysis of 3 Surgeries for Lumbar Stenosis: Open Laminectomy & Uniportal, Biportal Endoscope <i>Jeong-Yoon Park, MD</i>
5:01-5:09 p.m.	Management of Osteoporosis in Spine Surgery <i>Shih-Huang Tai</i>
5:09-5:17 p.m.	Vertebroplasty For Vertebral Compression Fractures in the Very Elderly: Risks and Benefits <i>Yu-feng Su</i>
5:17-5:25 p.m.	Clinical Considerations and Indications for Interspinous Process Devices <i>Kai-Yuan Chen, MD</i>
5:25-5:30 p.m.	Discussion and Questions <i>All Faculty</i>

4:00-5:30 p.m.

RapidFire ePoster Presentations II

Grand Ballroom II

Moderators: Jin Sung Kim, MD, PhD; Zoher Ghogawala, MD, FACS

4:00-4:03 p.m.	Measuring Surgical Outcomes of delayed presented Cauda Equina Syndrome Patients using a new scoring system: Analysis of 109 patients <i>Sarvdeep Dhatt, MBBS, MS</i>
4:03-4:06 p.m.	Efficacy of modified full endoscopic spine surgery with standard instruments <i>Jinhwa Eum, MD</i>
4:06-4:09 p.m.	Controllable vertebral body sliding osteotomy (CVBSO) - a novel modified method for precise measurement and control of anterior sliding of the vertebral body during VBSO in cervical spine surgery <i>LeiPo Chen, PhD, MD</i>

4:09-4:12 p.m.	A novel approach to MIS TLIF with patient specific guides for midline cortical bone trajectory (CBT) MYSPIKE MC technique. <i>Tapon Daftari, MD</i>
4:12-4:15 p.m.	Evaluation of the Usefulness about Intermediate Screws in Percutaneous Vertebral Body Reduction and Fixation Using Monoaxial Screws for Thoracolumbar Spine Injuries <i>Akinori Okuda, MD</i>
4:15-4:18 p.m.	Preoperative preparation for double endplate penetrating screws for DISH-related spinal injuries <i>Akinori Okuda, MD</i>
4:18-4:21 p.m.	Prevention for Cage Retropulsion Following Posterior Lumbar Interbody Fusion <i>Hirayuki Aono, MD</i>
4:21-4:24 p.m.	Hybrid endoscopic transforaminal lumbar interbody fusion; (using 6.3 mm. Foraminoscope and Biportal style): Surgical technique and early clinical results report <i>Thippatali Chaichompoo, MD</i>
4:24-4:27 p.m.	Efficacy Of Minimal Invasive Posterior Fixation And Biportal Endoscopic Decompression In Patients With Thoracolumbar Fractures With Incomplete Neurological Deficit: A Prospective Observational Study (Early Clinical Results Report) <i>Manish Kumar Shah, MBBS</i>
4:27-4:30 p.m.	Transforaminal Endoscopic Resection of an Intradural Disc Herniation: Is Conversion to Open Really Necessary – A Technical Guide <i>Yoonha Hwang, MD</i>
4:30-4:33 p.m.	Mini-tubular microdiscectomy via Spinous Process Approach for Patients with Spinous Process Deviation and Lumbar Disc Herniation: Abstract <i>YiPeng Zhou, MD</i>
4:33-4:36 p.m.	Evaluating the Efficacy of Vertebroplasty and Percutaneous Screw Fixation in High-Risk Patients with Vertebral Fracture Non-Union and Neurological Deficit. <i>Shrey Binyala, MS, DNB</i>
4:36-4:39 p.m.	Unilateral biportal endoscopic decompression surgery for spondylolisthesis with spinal stenosis <i>Tsung-Cheng Yin, MD</i>
4:39-4:42 p.m.	Fusion Lengths in Adult Scoliosis surgery as a predictor of outcome <i>Morteza Sadeh, MD, PhD</i>
4:42-4:45 p.m.	Full-Endoscopic Midline Foraminoplasty: An Alternative Method for treating Lumbar Foraminal Stenosis <i>Sarun Pairuchvej, MD</i>
4:45-4:48 p.m.	Factors Influencing the Lowest Visible Level on Lateral Cervical Fluoroscopy During Anterior Cervical Discectomy and Fusion

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	<i>Siddharth Badve, MD</i>
4:48-4:51 p.m.	Prone Lateral Spine Tumor Surgery: Case Series and Technical Notes <i>Yu-Cheng Yeh, MD</i>
4:51-4:54 p.m.	An Innovative 3D-360° Scanning Camera Radiation-Free Device for Assessing the trend of Adolescent Idiopathic Scoliosis curve <i>Hsiao Pang Hsuan, MD</i>
4:54-4:57 p.m.	Revision Cervical Disc Arthroplasty Without Fusion: A Novel “Leverage” Technique for Artificial Disc Removal <i>Sheng Jia Huang, MD</i>
4:57-5:00 p.m.	Full-Endoscopic Rhizotomy and Ablation (FERA) for Coccydynia: A Retrospective Study on Clinical Efficacy and Feasibility <i>Dar-Yuan Fang, MD</i>
5:00-5:03 p.m.	Cortical Bone Trajectory Screws for L5-S1 Fusion in Patients with Pars Defects: Challenging Conventional Wisdom with Clinical Evidence <i>KuanJung Chen, MD</i>
5:03-5:06 p.m.	Surgical outcomes in cervical ossification of posterior longitudinal ligament: a case series and literature review <i>Ling Yi Li, MD</i>
5:06-5:09 p.m.	Full-Endoscopic Extraforaminal Outside-Out Approach for Extraforaminal Lumbar Disc Herniations <i>Jui-Chi Chang, MD</i>
5:09-5:12 p.m.	A Single-Position Surgery with Transopliatal Intraoperative Angiography for Complex Spinal Arteriovenous Lesions: A Case Series <i>Guan-Tze Liu, MD</i>
5:12-5:15 p.m.	Risk Factors for Reoperation after Minimally Invasive Tubular Decompressions: A Cohort Study of 1233 Patients <i>Aaron Lerch, BS</i>
5:15-5:18 p.m.	Lateral Stenosis as a Predictor of MCID Achievement and Chronic Pain Following Lumbar Spine Surgery: A Retrospective Cohort Study <i>GiannHer Lin, MD</i>
5:18-5:21 p.m.	"Comparative Outcomes of Posterior Decompression With Conventional Transforaminal Lumbar Interbody Fusion (TLIF) Versus Full Endoscopic Foraminoplasty in Stable Lumbar Foraminal Stenosis : Retrospective Cohort Study" <i>Sarun Pairuchvej, MD</i>
5:21-5:24 p.m.	Clinical and Radiographical Efficacy of Single Prone Position Oblique Lateral Interbody Fusion in Lumbar Degenerative Disease <i>Yung Hsueh Hu, MD</i>
5:24-5:27 p.m.	Comparison of Vertebroplasty and Kyphoplasty With Percutaneous Pediculoplasty Versus Kyphoplasty Alone for Osteoporotic Thoracolumbar Bursting Fractures Without Neurologic Deficits <i>Kai Chieh Chang, MD</i>

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5:27-5:30 p.m. **Discussion**

5:30-6:30 p.m.

NASSI Symposium: To Decompress or Fuse: Controversies in Lumbar Degenerative Spondylolisthesis

Grand Ballroom I

Moderator: Zohar Ghogawala, MD, FACS; Jin-Sung L. Kim, MD, PhD

This symposium will explore key controversies in the surgical management of lumbar degenerative spondylolisthesis, with a focus on when to decompress alone versus when to fuse. Expert speakers will present perspectives on clinical trial data, interventional care, surgical decision-making, and biomechanical considerations, followed by an interactive discussion.

Agenda

5:30-5:35 p.m.	Introduction: Clinical Trials & Spondylolisthesis <i>Zohar Ghogawala MD, FACS</i>
5:35-5:45 p.m.	Interventional Spine Care <i>Scott Kreiner, MD</i>
5:45-5:55 p.m.	Factors In Selecting Surgical Approaches <i>Khanathip Jitpakdee, MD</i>
5:55-6:05 p.m.	Pelvic Parameters & Indications for Fusion <i>Jeffrey C. Wang, MD</i>
6:05-6:15 p.m.	Choice of Interbody Approach <i>Jean-Jacques Abitbol, MD</i>
6:15-6:30 p.m.	Discussion and Questions <i>All Faculty</i>

5:30-6:30 p.m.

TNS/TNSS Scientific Presentations (Mandarin Session)

Grand Ballroom II

Moderators: Ming-Cheng Tsai, MD; Yung-Hsiao Chiang, MD, PhD

Agenda

5:30-5:37 p.m.	Why Should Spine Surgeons Learn Interventional Pain Management? And How Should We Begin? <i>Chu-Yi Lee, MD</i>
5:37-5:44 p.m.	Surgical Strategy in the Treatment of Complex Pediatric Spine Deformities <i>Shiau-Tzu Tzeng, MD</i>
5:44-5:51 p.m.	Comparative Different Surgical Strategy in the Treatment of Dysrophic NF1 Kyphoscoliosis <i>Yuan-Shun Lo, MD, PhD</i>
5:51-5:58 p.m.	Short-term Results of Lamina-inferior Facet Screw, A Novel C2 Screw Technique for Atlantoaxial Fixation <i>Heng-Wei Liu, MD</i>
5:58-6:05 p.m.	Timing And Surgical Strategies for OPLL Related Cervical Spondylotic Myelopathy

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6:05-6:12 p.m.	<i>Cheng-Ta Hsieh, MD, PhD</i> Endoscopic Spinal Surgery for Adjacent Segment Disease <i>Chih-Hui Chang, MD</i>
6:12-6:19 p.m.	Single Lateral Position OLIF <i>Chien-Chou Pan, MD</i>
6:19-6:26 p.m.	Multidisciplinary Spine Care <i>Chin-Hong Chang, MD</i>
6:26-6:30 p.m.	Discussion and Questions <i>All Faculty</i>

6:30 p.m.

Sessions Adjourn for the Day

[Saturday, July 26](#)

6:30 a.m.-4:30 p.m.

Registration/Speaker Information Center

5th Floor Foyer

7:00 a.m. – 3:00 p.m.

Technical Exhibition

Junior Ballroom & Foyer

7:15-7:30 a.m.

Opening and Welcome Remarks

Grand Ballroom I

7:30-8:30 a.m.

NASSI Symposium: Spinal Oncology in 2025: How Are We Doing in Improving Surgical Outcomes of Spine Tumors?

Grand Ballroom I

Moderators: John C. Liu, MD; Soobin Im, MD, PhD

This session focuses on advanced surgical approaches for spine tumors, including vertebral augmentation for neoplastic fractures and surgical strategies for metastatic tumors. Experts will discuss blood management in metastatic spine tumor surgeries, patient selection for percutaneous stabilization, and the future role of non-metallic implants in managing spine conditions. The session will also cover the management of primary spine tumors and minimally invasive surgery (MIS) techniques for intradural tumors.

Agenda

7:30-7:38 a.m.	Vertebral Augmentation for Neoplastic Fracture <i>David R. O'Brien, Jr., MD</i>
7:38-7:46 a.m.	Surgical Strategies for Treatment of Metastatic Tumor <i>Chih-Chang Chang, MD, PhD</i>

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7:30-8:30	7:46-7:52 a.m.	Indication and Patient Selection for Percutaneous Stabilization of Neoplastic Fractures <i>John C. Liu, MD</i>
	7:52-8:00 a.m.	MIS for Intradural Tumors <i>Patrick C. Hsieh, MD, MBA, MS</i>
	8:00-8:08 a.m.	Feasibility of Posterolateral Access for the Intradural Tumor on the Ventral High Cervical Cord <i>Soobin Im, MD, PhD</i>
	8:08-8:16 a.m.	Management of Primary Spine Tumors <i>John H. Shin, MD, MBA</i>
	8:16-8:30 a.m.	Discussion and Questions All Faculty

a.m.

NASSI Symposium: Challenging Spine Cases: Expert Panel Discussions

Grand Ballroom II

Moderators: Hani H. Mhaidli, MD, PhD; Norman B. Chutkan, MD, FACS

This session presents case discussions on trauma cases involving the thoracolumbar and cervical spine, followed by a comprehensive Q&A with the faculty. Experts will then explore lumbar degenerative scoliosis from L2-S1, with a detailed discussion and question session. The session will conclude with a focus on degenerative spondylolisthesis at L4-5, followed by a discussion with faculty.

Agenda

7:30-7:35 a.m.	Trauma Case T-L/Cervical <i>Hani H. Mhaidli, MD, PhD</i>
7:35-7:50 a.m.	Discussion and Questions All Faculty
7:50-7:55 a.m.	Lumbar Degenerative Scoliosis L2-S1 <i>Jean-Jacques Abitbol, MD</i>
7:55-8:05 a.m.	Surgical Considerations for the Treatment of Spine Injuries in Rugby Players <i>Richard Parkinson, MD</i>
8:05-8:15 a.m.	Degenerative Spondylolisthesis L4-5 <i>Jin-Sung L. Kim, MD, PhD</i>
8:15-8:30 a.m.	Discussion and Questions All Faculty

8:30-9:30 a.m.

Neurospine Symposium: Advancing Spine Care with East Asian Experiences

Grand Ballroom I

Moderators: Inbo Han, MD, PhD; Toshiyuki Takahashi, MD, PhD

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This symposium showcases leading-edge spine care strategies shaped by East Asian clinical experiences. Presentations will explore innovations in craniocervical junction assessment and fixation, fusion patterns in multilevel ACDF, and optimization of correction techniques in spinal deformities. The session also highlights approaches to revision surgery, intramedullary tumor management, and evolving practices in treating spinal metastases over the past 15 years.

Agenda

8:30-8:38 a.m.	Measurement of the CVJ and Prognoses <i>Chih-Chang Chang, MD, PhD</i>
8:38-:46 a.m.	Various Fixation Techniques of the Craniocervical Junction <i>Nobuyuki Shimokawa, MD</i>
8:46-8:54 a.m.	Fusion Sequence and Risk Factors for Pseudarthrosis in Multilevel ACDF <i>Jae Keun Oh, MD</i>
8:54-9:02 a.m.	Optimal LIV for AIS Correction Surgery <i>Seung-Jae Hyun, MD</i>
9:02-9:10 a.m.	Revision Surgery Following Primary Adult Spine Deformity Surgery <i>Dae-Jean Jo, MD</i>
9:10-9:18 a.m.	Surgical Treatment of Intramedullary Tumors <i>Toshiki Endo, MD, PhD</i>
9:18-9:26 a.m.	Management Trends for Spinal Metastasis in Korea: A 15-Year Single-Institution Experience <i>Sun Ho Lee, MD, PhD</i>
9:26-9:30 a.m.	Discussion and Questions All Faculty

8:30-9:30 a.m.

Abstract Presentations: Advancing Thoracolumbar Spine Surgery: Techniques and Trauma Care

Grand Ballroom II

Moderators: Jean-Jacques Abitbol, MD; Massimo Balsano, MD

8:30-8:35 a.m.

41. Necessity of Direct Decompression for Thoracolumbar Junction Burst Fractures with Neurological Compromise
Sarvdeep Dhatt, MBBS, MS

8:35-8:40 a.m.

42. Development of a Novel Machine Learning model for prediction of adjacent fracture after cementoplasty in treating osteoporotic vertebral compression fracture
Yu-Cheng Yao, MD

8:40-8:45 a.m.

43. Comparative study between open mini-incision TLIF (4.0 cm) vs hybrid endoscopic TLIF; Surgical and early clinical results report
Thippatai Chaichompoo, MD

8:45-8:50 a.m.

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44. Long-Term Benefits of Percutaneous Endoscopic Discectomy versus Open Discectomy: Reduced Risk of Spinal Fusion and Insights Across Patient Subgroups from the Real World Global Collaborative Network
Sung Huang Laurent Tsai, MD

8:50-8:55 a.m.

45. Risk Factors for Reoperation after Minimally Invasive Tubular Transforaminal Lumbar Interbody Fusion: A Cohort Study of 756 Patients

Aaron Lerch, BS

8:55-9:00 a.m.

Discussion

9:00-9:05 a.m.

46. Minimally Invasive Prone Lateral Retropleural Corpectomy vs. Decubitus Lateral Transpleural Corpectomy: A Comparative Analysis of Clinical Outcomes

Hsuan Lun Yang, MD

9:05-9:10 a.m.

47. Diffuse idiopathic skeletal hyperostosis is a risk factor of new adjacent compression fracture after percutaneous vertebroplasty

Po Wei Chen, MD

9:10-9:15 a.m.

48. Comparison of unilateral biportal endoscopic and microscopic tubular paraspinous approach for foraminal and extraforaminal lumbar disc herniation

Min-Seok Kang, MD

9:15-9:20 a.m.

49. Application of Modest Hypothermia in Patients with Acute Traumatic Cervical Spine Injury: A Pilot Study

Sarvdeep Dhadd, MBBS, MS

9:20-9:25 a.m.

50. Risk Factors for Insufficient Reduction of Intracanal Fragment After Short-Segment Posterior Fixation for Thoracolumbar Burst Fractures

Hiroaki Aono, MD

9:25-9:30 a.m.

Discussion

9:30-10:00 a.m.

Break/Technical Exhibition

5th Floor Foyer

10:00-11:00 a.m.

NASSI Symposium: Improving Surgical Outcomes with Intraoperative Navigation and Robotics

Grand Ballroom I

Moderators: Jeffrey C. Wang, MD; Seung Hwan Yoon, MD, PhD

This session focuses on enhancing surgical outcomes through advanced technologies, beginning with the use of navigation in cervical spine surgery. Experts will explore the role of robotics in non-endoscopic spinal surgeries, as well

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as the benefits of navigation for thoracic and lumbar spine procedures. The session will also cover the integration of robotics and navigation in endoscopic surgery and address strategies for managing the costs associated with these advanced technologies.

Agenda

10:00-10:10 a.m.	Improving Outcomes with Navigation in Cervical Spine Surgery <i>Jeffrey C. Wang, MD</i>
10:10-10:20 a.m.	Improving Outcomes with The Use of Robotics for Spinal Surgery (Non-Endoscopic) <i>Worawat Limthongkul, MD</i>
10:20-10:30 a.m.	Improving Outcomes with Navigation for the Thoracic and Lumbar Spine <i>Charles A. Reitman, MD</i>
10:30-10:40 a.m.	Next Generation in Endoscopic Spine Surgery: Is there a Role in Robotics and Navigation? <i>Muhammad Tariq Sohail, MD, PhD, FRCS</i>
10:40-10:47 a.m.	How to Deal with The Costs of Navigation and Robotics <i>Zoher Ghogawala, MD, FACS</i>
10:47-11:00 a.m.	Discussion and Questions <i>All Faculty</i>

10:00-11:00 a.m.

Taiwan Society of Minimally Invasive Spine Surgery (TSMISS) Symposium: Updates in Treatment of Cervical Disease

Grand Ballroom II

Moderators: Chao-Jan Wang, MD, MS; Hsien-Te Chen, MD, PhD; Po-Liang Lai, MD, PhD

This symposium presents the latest advancements in the minimally invasive treatment of cervical spine disorders, featuring innovations in surgical techniques, navigation, and emerging technologies. Topics include cervical arthroplasty updates, 3D printing applications, biodesign innovation, and the use of augmented and virtual reality for high cervical procedures. Experts will also address complex conditions such as C1-2 subluxation and atlantoaxial tuberculosis. A faculty panel will conclude the session with an engaging discussion on current challenges and future directions.

Agenda

10:00-10:03 a.m.	Welcome Remarks <i>Hsi-Kai Tsou, MD, PhD</i>
10:03-10:09 a.m.	Cervical Arthroplasty – Update <i>Jau-Ching Wu, MD, PhD</i>
10:09-10:15 a.m.	Clinical Application of 3D Printing Guiding Template in C1-2 Subluxation <i>Chih-Ju Chang, MD, PhD</i>
10:15-10:21 a.m.	Biodesign for Cervical Spine Medicine: From Unmet Needs to Breakthrough Innovations <i>Max Meng-Huang Wu, MD, PhD</i>
10:21-10:27 a.m.	The Application of Condyle Screw in High Cervical Surgery

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	Cheng-Di Chiu, MD, PhD
10:27-10:33 a.m.	MRI-based Lesion Quality Score Assessing Ossification of the Posterior Longitudinal Ligament of the Cervical Spine <i>Po-Hsin Chou, MD, PhD</i>
10:33-10:39 a.m.	Challenges in Diagnosis and Management of Atlantoaxial Tuberculosis <i>Ting-Hsien Kao, MD, PhD</i>
10:39-10:45 a.m.	Full Endoscopic Spine Surgery with Image-guided Navigation System <i>Chien-Ming Chen, MD, PhD</i>
10:45-10:51 a.m.	Augmented Reality in Atlantoaxial Instability Surgery: Accuracy and Safety Assessment in C1-C2 Screw Instrumentation <i>Hsi-Kai Tsou, MD, PhD</i>
10:51-11:00 a.m.	Discussion and Questions <i>Faculty Panel</i>

11:00 a.m.-12:00 p.m.

NASSI Symposium: AI, Next Generation Technology, and the Future of Spine Surgery and Interventional Spine

Grand Ballroom I

Moderators: Jean-Jacques Abitbol, MD; Koji Tamai, MD, PhD

This session explores the role of augmented reality in educating and training healthcare professionals, along with the ethical considerations and learning curves associated with adopting novel technologies. Experts will discuss the cost and value of these emerging technologies in clinical practice. The session will also examine whether advancements like MIS, endoscopic techniques, navigation, robotics, and smart implants are revolutionary innovations or merely gimmicks in modern spine surgery.

Agenda

11:00-11:10 a.m.	Augmented Reality and Education/Training Health Care Professionals <i>Norman B. Chutkan, MD, FACS</i>
11:10-11:25 a.m.	Ethics and the Learning Curve in Adopting Novel Technologies <i>Jean-Jacques Abitbol, MD</i>
11:25-11:40 a.m.	Cost and Value of Novel Technologies <i>Jeffrey C. Wang, MD</i>
11:40-11:55 a.m.	MIS, Endoscopic, Navigation, Robotics, and Smart Implants: Gimmick or Revolutionary <i>John C. Liu, MD</i>
11:55 a.m.-12:00 p.m.	Discussion and Questions <i>All Faculty</i>

11:00 a.m.-12:00 p.m.

Korean Minimally Invasive Spine Surgery Society (KOMISS) and Korean Research Society of Endoscopic Spine Surgery (KOESS) Joint Symposium: Pioneering the Next Era of Spine Surgery

Grand Ballroom II

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Moderators: Jong-Tae Kim, MD; Chang-Il Ju, MD, PhD

This session examines the impact of endoscopic lumbar decompression on postoperative back pain and changes in spine alignment. Experts will discuss strategies for overcoming the learning curve in UBE surgery and compare the pros and cons of full-endoscopic versus UBE spine surgery. The session will also explore whether endoscopic spine surgery can reduce the need for fusion procedures.

Agenda

11:00-11:10 a.m.	Impact of Endoscopic Lumbar Decompression on Postoperative Back Pain and Change of Spine Alignment <i>Jin-Sung L. Kim, MD, PhD</i>
11:10-11:20 a.m.	How to Overcome the Learning Curve of UBE Surgery <i>Young-San Ko, MD</i>
11:20-11:30 a.m.	Full-Endoscopic vs. UBE Spine Surgery: Pros and Cons <i>Dong-Chan Lee, MD</i>
11:30-11:40 a.m.	Can Endoscopic Spine Surgery Reduce the Need for Fusion? <i>Jun-Seok Hur, MD, MS, PhD</i>
11:50 a.m.-12:00 p.m.	Discussion and Questions <i>All Faculty</i>

12:00-1:00 p.m.

Lunch Workshop Sponsored by Baxter International

Grand Ballroom I

Lunch Workshop Sponsored by Amgen Inc.

Grand Ballroom II

1:00 – 1:30 p.m.

Break/Technical Exhibition

5th Floor Foyer

1:30-2:30 p.m.

Taiwan Neurosurgical Society (TNS) Symposium: Advanced Technology for Spine Surgery

Grand Ballroom I

Moderators: Chiung-Chyi Shen, MD, PhD; Dongwuk Son, MD, PhD

This symposium highlights cutting-edge technologies transforming spine surgery, including robotics, virtual reality, AI-driven imaging, and regenerative therapies. Presentations will explore both surgical innovations and emerging biological treatments, such as stem cell and gene therapies for spinal cord injury.

Agenda

1:30-1:38 p.m.	Application of Technologies in Spinal Surgery <i>Haokuang Wang, PhD</i>
1:38-1:46 p.m.	Robotics in Minimally Invasive TLIF: Techniques and Outcomes <i>Chien-Ming Lin, MD</i>

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1:46-1:54 p.m.	Automated Segmentation of Lumbar MRI and Its Applications <i>Chao-Hung Kuo, MD, PhD</i>
1:54-2:02 p.m.	Virtual Reality in Thoraco-lumbar Deformity Surgery <i>Meng-Yin Yang, MD, PhD</i>
2:02-2:10 p.m.	Stem Cell Therapy in Spinal Cord Injury <i>Yin-Cheng Huang, MD, PhD</i>
2:10-2:18 p.m.	Direct Reprogramming Gene Therapy for Spinal Cord Injury <i>Yoon Ha, MD, PhD</i>
2:18-2:26 p.m.	Advanced Biomaterial Platforms for Enhanced Intervertebral Disc Regeneration <i>Inbo Han, MD, PhD</i>
2:26-3:00 p.m.	Discussion and Questions <i>All Faculty</i>

1:30-2:30 p.m.

Spine Society of Thailand (SST) Symposium: Pearls and Pitfalls in Spine Surgery

Grand Ballroom II

Moderators: Worawat Limthongkul, MD; Jin-Sung L. Kim, MD, PhD

This session explores key advancements in spinal surgery, beginning with a comparison of single-position LLIF lateral versus prone techniques, focusing on the rationale and technical aspects. Experts will discuss the role of full endoscopic surgery in addressing revision degenerative lumbar spine issues and compare biportal endoscopic versus microtubular transforaminal lumbar interbody fusion based on clinical experiences and studies. The session will also introduce a new paradigm shift in the treatment of spinal metastases.

Agenda

1:30-1:40 p.m.	Single Position LLIF Lateral vs Prone: Rationale and Technical Aspect <i>Wicharn Yingsakmongkol, MD</i>
1:40-1:50 p.m.	Role of Full Endoscopic Surgery in Revision Degenerative Lumbar Spine Problems <i>Gun Keorachana, MD</i>
1:50-2:00 p.m.	Biportal Endoscopic vs Microtubular Transforaminal Lumbar Interbody Fusion: From the Experiences to the Study <i>Rattalerk Arunakul, MD</i>
2:00-2:10 p.m.	Spinal Metastases: A New Paradigm Shift <i>Panya Luksanaprukso, MD</i>
2:10-2:20 p.m.	Embracing The Power of Push-prone Traction Radiographs to Determine the Optimal Lowest Instrumented Vertebra in AIS Surgery <i>Tinnakorn Pluemvitayaporn, MD</i>
2:20-2:30 p.m.	Discussion and Questions <i>All Faculty</i>

2:30-3:00 p.m.

Break/Technical Exhibition

5th Floor Foyer

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3:00-4:00 p.m.

Taiwan Neurosurgical Society (TNS) Symposium: Surgical Strategies for Cervical Spine

Grand Ballroom II

Moderators: Peng-Yuan Chang, MD; Rully Hanafi Dahlan, MD, PhD

This symposium explores a range of surgical strategies for cervical spine disorders, from complex fusion techniques and tumor management at the craniovertebral junction to cervical disc arthroplasty and hybrid procedures. Leading experts will share their insights on challenging cases such as OPLL with a negative K-line and cervical spondylotic myelopathy.

Agenda

3:00-3:08p.m.	Techniques for Atlanto-axial Fusion: Peds and Adults <i>Shih-Hung Yang, MD, PhD</i>
3:08-3:16 p.m.	Surgical Strategies for Tumors at the Craniovertebral Junction (CVJ) <i>Wen-Yu Cheng, MD, PhD</i>
3:16-3:24 p.m.	Cervical Disc Arthroplasty: Where Are We Now? <i>Tsung-Hsi Tu, MD, PhD</i>
3:24-3:32 p.m.	Is Laminoplasty Appropriate for OPLL Patients with a Negative K-line? <i>Jung-Kil Lee, MD</i>
3:32-3:40 p.m.	Surgical Strategies for Patients with OPLL <i>Mei-Yin Yeh, MD</i>
3:40-3:48 p.m.	Cervical Hybrid Operation: Personal Experiences <i>Der-Cherng Chen, MD</i>
3:48-3:56 p.m.	Complication Avoidance in Cervical Spine Surgery <i>Jiann-her Lin, MD</i>
3:56-4:00 p.m.	Discussion and Questions <i>All Faculty</i>

3:00-4:30 p.m.

NASSI and TNS Closing Symposium: Spine Care Delivery Around the World

Grand Ballroom I

Moderators: Jau-Ching Wu, MD, PHD; Norman B. Chutkan, MD, FACS

This closing symposium explores global perspectives on spine care delivery, starting with an overview of Taiwan's national healthcare system and its impact on providing optimal spine care. Experts will discuss strategies for improving spine care for the aging population in Japan, provide insights into spine care in Latin America and Italy, and address the challenges of neglected spine care and opportunities in developing countries. The session will conclude with a discussion on the current state of spine care in the US and its future direction.

Agenda

3:00-3:10 p.m.	Welcome Remarks <i>Patrick C. Hsieh, MD, MBA, MS; Chiung-Chyi Shen, MD, PHD; Jau-Ching Wu, MD, PHD</i>
3:10-3:20 p.m.	National Healthcare in Taiwan and Its Impact to Delivering Best Spine Care to Patients <i>Taiwan Official TBD</i>
3:20-3:30 p.m.	How We Provide Better Spine Care for An Aging Population in Japan

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	<i>Koji Tamai, MD, PhD</i>
3:30-3:40 p.m.	Providing Primo Italian Spine Care in Italy
	<i>Giuseppe Costanzo, PhD</i>
3:40-3:50 p.m.	Neglected Spine Care and Opportunities in Developing Countries
	<i>Hani H. Mhaidli, MD, PhD</i>
3:50-4:00 p.m.	State of US Spine Care and Delivery Today and the Future
	<i>Zohar Ghogawala, MD, FACS</i>
4:00-4:10 p.m.	Discussion and Questions
	<i>All Faculty</i>
4:10-4:30 p.m.	Closing Remarks
	<i>Patrick C. Hsieh, MD, MBA, MS; Chiung-Chyi Shen, MD, PHD;</i> <i>Jau-Ching Wu, MD, PHD</i>
4:30 p.m.	
Meeting Adjourns	
6:30 - 9:30 p.m.	
Gala Dinner for All Attendees	
Hosted by Taiwan Neurosurgical Society (TNS)	
Grand Ballroom I	