

June 8 (Friday)				
	Hall 401	Room 403	Hall 301	Room 102
08:15 - 10:00	Symposium: Idiopathic Scoliosis and Pediatric Spinal Deformity	Free Papers: Cervical Spine	Symposium: Minimally Invasive Surgery	Free Papers: Basic Researches and Spinal Tumors
10:00 - 10:30	Break			
10:30 - 12:00	Opening Ceremony (Hall 401)			
12:00 - 13:00	Luncheon Seminar	Luncheon Seminar	Luncheon Seminar	Luncheon Seminar
13:00 - 14:45	Best Paper Competition: Clinical	Free Papers: Degeneration	Symposium: Spinal Tumors	Free Papers: Radiology
14:45 - 15:15	Break			
15:15 - 16:30	Best Paper Competition: Basic	Free Papers: Osteoporosis	Symposium: Cervical Spine and AS	Free Papers: Trauma, MIS, C Spine
16:30 - 17:10	Free Papers: Infection		General Assembly for APSS Members	
17:10 - 18:00				
19:00 - 21:30	Gala Dinner (Hall 201)			

June 9 (Saturday)			
	Hall 401	Room 403	Hall 301
08:00 - 09:45	Free Papers: Cervical Spine	Free Papers: Minimally Invasive Surgery	Symposium: Adult Spinal Deformity
09:45 - 10:15	Break		
10:15 - 12:00	Symposium and Keynote Speech: Modern Technologies and Future Directions	Free Papers: Scoliosis	Free Papers: Degeneration
12:00 - 13:00	Luncheon Seminar	Luncheon Seminar	Luncheon Seminar
13:00 - 14:45	Free Papers: Scoliosis	APSS Fellowship	Symposium: Spinal Infection
14:45 - 15:15	Break		
15:15 - 17:00	Symposium: Osteoporosis and Related Spinal Disorders	Free Papers: Basic Researches	Free Papers: Degeneration, Adult Spinal Deformity
17:00 - 18:00			

**June 8 (Friday) 08:15 - 10:00**

**Hall 401 Symposium: Idiopathic Scoliosis and Pediatric Spinal Deformity**

Moderators: Hee Kit Wong (Singapore), Arvind Jayaswal (India), Po-Liang Lai (Taiwan)

Time	Topic	Speaker	Country
08:15 - 08:25	SY-S01 Predicting Skeletal Growth Potential in Adolescent Idiopathic Scoliosis	Jason Cheung	Hong Kong
08:25 - 08:35	SY-S02 Advancing Imaging and Their Indications	Po-Hsin Chou	Taiwan
08:35 - 08:45	SY-S03 Surgical Treatment for Early Onset Scoliosis	Arvind Jayaswal	India
08:45 - 08:50	Discussion		
08:50 - 09:00	SY-S04 Selection of UIV and Shoulder Balance	Mun Keong Kwan	Malaysia
09:00 - 09:10	SY-S05 Selection of LIV and Adding On	Mitsuru Yagi Morio Matsumoto	Japan
09:10 - 09:20	SY-S06 Role of Anterior Surgery in Severe AIS	Hee Kit Wong	Singapore
09:20 - 09:25	Discussion		
09:25 - 09:35	SY-S07 PVCR for Severe Spinal Deformities	Arif Khan	Pakistan
09:35 - 09:45	SY-S08 The Surgical Treatment of Early Paediatric Deformity, Syndromic and Neuromuscular Causes	Michael Johnson	Australia
09:45 - 09:55	SY-S09 Surgical Treatment of Congenital Scoliosis Associated with Split Cord Malformation	Huiren Tao	China
09:55 - 10:00	Discussion		

**Hall 301 Symposium: Minimally Invasive Surgery**

Moderators: Muhammad Tariq Sohail (Pakistan), Chong-Suh Lee (Korea), Hsien-Te Chen (Taiwan)

Time	Topic	Speaker	Country
08:15 - 08:25	SY-M01 Endoscopic Surgery: Transforaminal	Ching-Hsiao Yu	Taiwan
08:25 - 08:35	SY-M02 Endoscopic Surgery: Interlaminar	Yi-Hung Huang	Taiwan
08:35 - 08:45	SY-M03 Micro-endoscopic Surgery with Tubular Retractor	Komang Agung	Indonesia
08:45 - 08:50	Discussion		
08:50 - 09:00	SY-M04 Percutaneous Instrumentation and Fusion: Applications and Clinical Outcomes	Ken Ishi	Japan
09:00 - 09:10	SY-M05 Interspinous Process Devices: Current Evidences	Muhammad Tariq Sohail	Pakistan
09:10 - 09:20	SY-M06 Mini-open Lateral Anterior Lumbar Interbody Fusion	Zhao-Min Zheng	China
09:20 - 09:25	Discussion		
09:25 - 09:35	SY-M07 The Role of Minimally Invasive Surgery in Degenerative Spinal Deformity	Takanori Saito	Japan
09:35 - 09:45	SY-M08 Mini-open Transforaminal Lumbar Interbody Fusion	Jwo-Luen Pao	Taiwan
09:45 - 09:55	SY-M09 Minimally Invasive Surgery for Thoracolumbar Fractures	Pankaj Kandwal	India
09:55 - 10:00	Discussion		

**Room 403 Free Paper Session: Cervical Spine**

Time	Topic	Speaker	Country
08:15 - 08:21	FP-001 The natural history of patients with cervical radiculopathy treated conservatively -- clinical and MRI features after a mean follow-up of 3 years	Anil Solanki	India
08:21 - 08:27	FP-002 The cut off value and negative factors of Neck Disability Index among Japanese volunteers	Shin Oe	Japan
08:27 - 08:33	FP-003 Anterior controllable antedisplacement fusion for spinal stenosis due to severe cervical spine ossification of the posterior longitudinal ligament	Haisong Yang	China
08:33 - 08:39	FP-004 A new surgical technique effectively avoiding CSF leakage in the anterior approach treating cervical ossification of the posterior longitudinal ligament with dura ossification: anterior controllable antedisplacement fusion(ACAF)	Haisong Yang	China
08:39 - 08:45	FP-005 Efficacy of posterior decompression with instrumented fusion for K-line (-)-type cervical OPLL : minimum 5-year follow-up	Takeo Furuya	Japan
08:45 - 08:51	FP-006 Surgical treatment of patient with tandem spinal stenosis	Chi-An Luo	Taiwan
08:51 - 08:57	FP-007 Cervical myelopathy with tandem stenosis - mystery unravelled !! Single stage double team - the new gold standard	Mahendra Singh	India
08:57 - 09:03	FP-008 Comparative analysis between ACDF and cervical disc replacement procedure in single level degenerative disc disease with two years followup	Subramaniam M H	India
09:03 - 09:09	Discussion		
09:09 - 09:15	FP-009 Differences of clinical outcome after uncoforaminotomy in anterior cervical discectomy and fusion	Yong Jin Park	Korea
09:15 - 09:21	FP-010 Reoperation rate of microscope-assisted and non-microscope anterior cervical discectomy and fusion (ACDF) for treatment of degenerative cervical myeloradiculopathy	Torphong Bunmaprasert	Thailand
09:21 - 09:27	FP-011 Esophageal perforation following corrective cervical spine surgery complicated with difficult extubation	Hao-Wen Chen	Taiwan
09:27 - 09:33	FP-012 Esophageal perforation following anterior cervical spine surgery: a retrospective single-center case series.	Zhao-Ming Zhong	China
09:33 - 09:39	FP-013 Surgical management of unilateral multi-level cervical spondylotic radiculopathy: a comparative study of clinical and radiological outcomes of posterior foraminotomy vs. anterior cervical discectomy and fusion	Do-Yon Hwang	Korea
09:39 - 09:45	FP-014 Comparison of pre-existing factors causing spinal cord compression between patients suffering from cervical spinal cord injury with and without bone injury	Kyoichi Handa	Japan
09:45 - 09:51	FP-015 Cervical myelopathy and osteoporosis: a cross-sectional study	Truc Tam Vu	Vietnam
09:51 - 09:57	FP-016 Brown-Sequard syndrome caused by cervical disc herniation: case report and review of the literature	Pham Anh Tuan	Vietnam
09:57 - 10:03	Discussion		

### Room 102 Free Paper Session: Basic Researches and Spinal Tumors

Moderators: Jong-Beom Park (Korea), Rabindra L Pradhan (Nepal), Ronald Tangente (Philippines)

Time	Topic	Speaker	Country
08:15 - 08:21	FP-017 Brain transplantation at spinal level; HEAVEN (head anastomosis venture project) vs NERA (nerve root anastomosis hypothesis)	B.C.I.J.Nanayakkara	Sri Lanka
08:21 - 08:27	FP-018 The biomechanical origins of Modic changes as mediated by disc stiffness: a finite-element analysis	Jason Pui Yin Cheung	Hong Kong
08:27 - 08:33	FP-019 Spinal sagittal contour affecting postural balance and falls	Yoshinori Ishikawa	Japan
08:33 - 08:39	FP-020 Postural balance: variants of norms and mechanisms for compensation of functional disorders in patients with lumbar osteochondrosis	Kostyantyn Lytvynenko	Ukraine
08:39 - 08:45	FP-021 The effects of orientation of lumbar facet joints on the facet joint contact forces: an in vitro biomechanical study	Xiang Liu	China
08:45 - 08:51	FP-022 Effects of pedicle screw design and bone quality on screw fixation strength: an experimental study using synthetic bone	Mu-Yi Liu	Taiwan
08:51 - 08:57	FP-023 The effect of removing vertebral dorsal bone on pedicle screw pullout strength	Yi Yang	Australia
08:57 - 09:03	FP-024 Radiation exposure and accuracy of lumbar pedicle screws insertion using 2D computerized navigation	Ma Chun Man	Hong Kong
09:03 - 09:09	Discussion		

09:09 - 09:15	FP-025	Does neuroregulation participate in the abnormal development of cartilage in scoliosis? New evidence for the exist of nerve in cartilage	Chunguang Duan	China
09:15 - 09:21	FP-026	Histopathological findings of ligamentum flavum between superficial layer and deeper layer in patients with spinal stenosis.	Kuo-Yuan Huang	Taiwan
09:21 - 09:27	FP-027	Pattern of pathway of superior cluneal nerve	Warat Tassnawipas	Thailand
09:27 - 09:33	FP-028	Potential pathomechanism of chordoma: overexpressions of nerve growth factor and its tropomyosin-related kinase a receptor on chordoma cells	Hyukjin Jang	Korea
09:33 - 09:39	FP-029	Efficacy of transpedicular percutaneous biopsy of vertebral body lesions in establishing diagnosis	Hrishinilaavenn Muthusamy	Malaysia
09:39 - 09:45	FP-030	Reducing the dependence on allogenic blood in metastatic spine surgery with intra-operative autologous salvaged blood: a prospective clinical trial	Tan Jiong Hao Jonathan	Singapore
09:45 - 09:51	FP-031	The outcome of operative treatment modalities in patients with spinal metastases	Nur Aida Faruk Senan	Malaysia
09:51 - 09:57	FP-032	Clinical significance of preoperative embolization for non-hypervascular metastatic spine tumors	Hyung-Youl Park	Korea
09:57 - 10:03		Discussion		

### 10:00 - 10:30 Break (Lobby Area at 3rd/4th Floor and Hall 402)

### June 8 (Friday) 10:30 - 12:00

#### Hall 401 Opening Ceremony

		Speaker	Country
10:30 - 10:40	Welcome and Opening Address by Congress Chairman	Ing-Ho Chen	Taiwan
	Welcome Address by Congress Co-Chairmen	Shih-Tien Wang Chi-Chien Niu	Taiwan
10:40 - 10:50	Welcome Address from Government Officers of Taiwan		
10:50 - 11:05	Moderator: Ruey-Mo Lin (Taiwan)		
	Congress Oration, Honorary Chairman of 2018 Annual Meeting and Past President of APSS	Po-Quang Chen	Taiwan
11:05 - 11:20	Moderator: Chien-Lin Liu (Taiwan)		
	SL-1 Lecture by President of APSS: The Development of APSS since its Inception	K S Sivananthan	Malaysia
11:20 - 11:35	Moderator: Wen-Jer Chen (Taiwan)		
	SL-2 Lecture by President Elect of APSS: Ortho and Neuro Spine - Competition or Cooperation	Keith DK Luk	Hong Kong
11:35 - 11:50	SL-3 Lecture by Congress Chairman: Surgical Treatment for Ankylosing Spondylitis	Ing-Ho Chen	Taiwan
11:50 - 12:00	Group Photos		

### June 8 (Friday) 12:00 - 13:00

#### Luncheon Seminar

Hall 401	(Zimmer Biomet Taiwan) Mobi-C and the Place of Total Disc Replacement in the Treatment of Cervical Degenerative Pathologies	Michael Hisey	USA
Hall 301	(Eli Lilly and Company Taiwan) Fix & Treat: Treatment strategy for spinal surgery in patients with osteoporosis	Scarone Pietro	Italy

### June 8 (Friday) 13:00 - 14:45

#### Hall 401 Best Paper Competition: Clinical

Moderators: Kuniyoshi Abumi (Japan), Mun Keong Kwan (Malaysia), Shih-Tien Wang (Taiwan)

Time	Topic	Speaker	Country
13:00 - 13:10	BP-C01 The effect of paravertebral muscle on the maintenance of upright posture in patients with adult spinal deformity	Tomohiro Banno	Japan
13:10 - 13:20	BP-C02 Is there a difference between patients' and parents' perception of the physical appearance in adolescent idiopathic scoliosis (AIS)?	Siti Mariam Abd Gani	Malaysia
13:20 - 13:30	BP-C03 Comparative analysis of perioperative blood loss in posterior thoracolumbar spine surgery in patients taking aspirin and clopidogrel – a prospective matched cohort study	Anil Solanki	India
13:30 - 13:40	BP-C04 Postoperative cervical kyphosis in adult spinal deformity with sagittal imbalance - Is it permanent when seen after surgical correction of sagittal malalignment ?	Kyung-Chung Kang	Korea
13:40 - 13:50	BP-C05 3cm MIS cervical laminoplasty is easy and safe !	Kanji Sasaki	Japan
13:50 - 14:00	BP-C06 Is a higher dose range of tranexamic acid more superior in reducing blood loss in scoliosis surgery ?	Chris Chan Yin Wei	Malaysia
14:00 - 14:10	BP-C07 The development of novel ratchet rods system for fusionless scoliosis correction	Po-Liang Lai	Taiwan
14:10 - 14:20	BP-C08 Predictability of coronal curve flexibility in postoperative curve correction in adolescent idiopathic scoliosis: the effect of the sagittal profile	Jason Pui Yin Cheung	Hong Kong
14:20 - 14:30	BP-C09 Comparison of decompression, decompression plus fusion, and decompression plus stabilization for degenerative spondylolisthesis: a prospective, randomized study	Hiroyuki Inose	Japan
14:30 - 14:40	BP-C10 Rigorous lumbar lordosis correction is necessary to achieve optimal surgical outcome even in elderly spinal deformity	Yu Yamato	Japan
14:40 -	Questions and Comments		

### Hall 301 Symposium: Spinal Tumors

Moderators: Jaeyoon Chung (Korea), Masaya Nakamura (Japan), Kun-Hui Chen (Taiwan)

Time	Topic	Speaker	Country
13:00 - 13:10	SY-T01 Management of Primary Spinal Tumors	Yat Wa Wong	Hong Kong
13:10 - 13:20	SY-T02 Biology of Metastatic Spinal Tumors	Jong-Beom Park	Korea
13:20 - 13:30	SY-T03 General Principle for Treatments of Metastatic Spinal Tumors	Chris Yin Wei Chan	Malaysia
13:30 - 13:35	Discussion		
13:35 - 13:45	SY-T04 Role of Palliative Decompression and Stabilization for Metastatic Spinal Tumors	Ronald Tangente	Philippines
13:45 - 13:55	SY-T05 Hemi-En Bloc Spondylectomy for Metastatic Spinal Tumors	Jaeyoon Chung	Korea
13:55 - 14:05	SY-T06 Minimally Invasive Managements for Metastatic Spinal Tumors	Gabriel Liu	Singapore
14:05 - 14:10	Discussion		
14:10 - 14:20	SY-T07 Management of Intradural Extramedullary Tumors	Rabindra L Pradhan	Nepal
14:20 - 14:30	SY-T08 Management of Intramedullary Tumors	Masaya Nakamura	Japan
14:30 - 14:40	SY-T09 Management of Sacral Tumors	Chong-Suh Lee	Korea
14:40 - 14:45	Discussion		

### Room 403 Free Paper Session: Degeneration

Moderators: Bambang Tiksnadi (Indonesia), V Swarnakumaar (Sri Lanka), Wen-Hsiang Chou (Taiwan)

Time	Topic	Speaker	Country
13:00 - 13:06	FP-033 Which material is the desirable factor for lumbar interbody fusion?	Ushio Nosaka	Japan

13:06 - 13:12	FP-034	Weekly teriparatide administration and preoperative anterior spondylolisthesis of the upper adjacent vertebra promote osseous union within six months after PLIF	Hiroki Ushirozako	Japan
13:12 - 13:18	FP-035	Cost-utility analysis of instrumented posterior lumbar interbody fusion at 2 years after surgery	Hiroyasu Fujiwara	Japan
13:18 - 13:24	FP-036	The comparison of clinical and radiological outcomes for lumbar spinal stenosis between patients with RA lumbar lesion and those without RA, a matched case control study	Kentaro Yamada	Japan
13:24 - 13:30	FP-037	Outcome and safety of transforaminal lumbar interbody fusion: a single center experience	Muhammad Zahid Khan	Pakistan
13:30 - 13:36	FP-038	Postoperative outcomes of the patients with degenerative lumbar disease treated by mini open ALIF	Kensuke Shinohara	Japan
13:36 - 13:42	FP-039	Cortical bone trajectory versus traditional pedical screw in transforaminal lumbar interbody fusion	Xiaoping Zhang	China
13:42 - 13:48	FP-040	An analysis and study on the changes of lumbar function curve after single segment TLIF in patients with lumbar degenerative disease	Zhe Wang	China
13:48 - 13:54		Discussion		
13:54 - 14:00	FP-041	Vitamin-D levles and low back pain in patients presenting to a tertiary care hospital	Junaid Khan	Pakistan
14:00 - 14:06	FP-042	Surgical effectiveness of posterior thoracic interbody fusion (PTIF) for giant thoracic disc herniation (TDH)	Ryoji Yamasaki	Japan
14:06 - 14:12	FP-043	Diagnosis and surgical outcome of upper lumbar herniated disc: 47 cases from 7491 patients review	Tung-Yi Lin	Taiwan
14:12 - 14:18	FP-044	A case of lumbar disc hernia in nerve root anomaly	Takeshi Aoyama	Japan
14:18 - 14:24	FP-045	Back pain with degenerative scoliosis treated with triple modalities guided radiofrequency ablation-case series with preliminary results	Ting-Chun Huang	Taiwan
14:24 - 14:30	FP-046	Bertolotti syndrome treated with tripple modalities guidance radiofrequency ablation-case series and technical note	Ting-Chun Huang	Taiwan
14:30 - 14:36	FP-047	The long-term clinical efficacy of single segment lumbar 4-5 fusion and its effect on the lumbar-pelvis sagittal alignment parameters	Zhe Wang	China
14:36 - 14:42	FP-048	Study on the relationship between the facet joint orientation and sagittal parameters of degenerative spondylolisthesis	Zhuojing Luo	China
14:42 - 14:48	FP-169	Retrospective review of short to mid-term outcome in oblique lateral lumbar fusion (OLIF51) surgery	Sumihisa Orita	Japan
14:48 - 14:54		Discussion		

## Room 102 Free Paper Session: Radiology

Moderators: Hui ren Tao (China), Jose Joe fry Arbatin (Philippines), Hwee Weng Dennis Hey (Singapore)

Time	Topic	Speaker	Country
13:00 - 13:06	FP-049 MRI findings in painful cemented vertebrae of failed vertebroplasty	Yen-Jen Chen	Taiwan
13:06 - 13:12	FP-050 Does multilevel lumbar stenosis relate to poorer clinical outcomes? A correlation study of standing MRI findings and multilevel stenosis symptoms	Yvonne Yan On	Hong Kong
13:12 - 13:18	FP-052 Radiologically defining horizontal gaze using EOS® imaging - a prospective study of healthy subjects and a retrospective audit	Kimberly-Anne Tan	Singapore
13:18 - 13:24	FP-053 Comparing EOS® and X-ray for evaluation of adolescent idiopathic scoliosis	Shuxun Lin	Singapore
13:24 - 13:30	FP-054 Fulcrum bending to generate maximum extension of the spine and hip - a new strategy using EOS® imaging for patient-specific adult spinal deformity surgical planning	Eugene Tze Chun Lau	Singapore
13:30 - 13:36	FP-055 Normal variation in sagittal spinal alignment parameters in adult patients - an EOS study using serial imaging	Joel Louis Lim	Singapore
13:36 - 13:42	FP-056 Whole body sagittal alignment during directed versus natural standing postures - an introduction to the concepts of ligamentous-muscular counterbalancing	Hwee Weng Dennis Hey	Singapore
13:42 - 13:48			
13:48 - 13:54	FP-057 Intervertebral cages for lordosis or for optimal anterior support? - recommendations from a radiographic study using dynamic stress X-rays performed in key physiological postures	Eugene Tze Chun Lau	Singapore
13:54 - 14:00	FP-058 Comparison of artefacts in MR scanning of polyetheretherketone (PEEK) and titanium implants in both pig and human	Miao Wang	Denmark
14:00 - 14:06	FP-059 Analysis of fracture patterns in nuclear medicine imaging and risk factors of sacral insufficiency fracture - does the sacral fractures in lumbar fusion be an insufficiency fracture or a stress fracture?	Jun-Yeong Seo	Korea
14:06 - 14:12	FP-060 Spinal cord infarct after transarterial embolization for metastatic spinal tumor	Chiun-Hua Hsieh	Taiwan

14:12 - 14:18	FP-061	Lumbar intervertebral height index, intervertebral angle and lumbar lordosis angle in normal imaging population	Zhuojing Luo	China
14:18 - 14:24	FP-062	The relationship between intervertebral disc height index and Pfirrmann grading of lumbar intervertebral disc	Xueyu Hu	China
14:24 - 14:30	FP-063	Dynamic change of the cervical canal diameter during motion: a case-control study with the help of kinetic MRI	Truc Tam Vu	Vietnam
14:30 - 14:36	FP-064	Facet sagittal orientation: possible role in the pathology of degenerative lumbar spinal stenosis	Xiang Liu	China
14:36 - 14:42	FP-051	Can the conventional MRI substitute for the 3D-MRI to diagnose lumbar foraminal stenosis?	Kentaro Yamada	Japan
14:42 - 14:48		Discussion		

**14:45 - 15:15 Break (Lobby Area at 3rd/4th Floor and Hall 402)**

**June 8 (Friday) 15:15 - 18:00**

**Hall 401 Best Paper Competition: Basic**

Moderators: Yat Wa Wong (Hong Kong), Chi-Chien Niu (Taiwan)

Time	Topic	Speaker	Country
15:15 - 15:25	BP-B01 How oxidative stress causes ligamentum flavum hypertrophy? - the study on the possible mechanisms	Cheng-Li Lin	Taiwan
15:25 - 15:35	BP-B02 High throughput sequencing of differential regulation of miRNAs reveals dynamic miRNAs expression in GIOF patients	Ren Hui	China
15:35 - 15:45	BP-B03 New insight into cervical myelopathic hand sign: a pilot study	Kenny Kwan	Hong Kong
15:45 - 15:55	BP-B04 Increased osteoblastic activity suppressed proliferation of multiple myeloma plasma cells	Young-Hoon Kim	Korea
15:55 - 16:05	BP-B05 Autophagy in the extruded disc compared to the remaining disc of lumbar disc herniation in the same patient	Jun-Yeong Seo	Korea
16:05 - 16:15	BP-B06 Comparison of transforming growth factor- $\beta$ 1 and lovastatin on differentiating mesenchymal stem cells toward nucleus pulposus-like phenotype	Ming-Hsiao Hu	Taiwan
16:15 - 16:30	Questions and Comments		

**Hall 401 Free Paper Session: Infection**

Moderators: Yat Wa Wong (Hong Kong), Abhishek Srivastava (India), Rohit Kumar Pokharel (Nepal)

Time	Topic	Speaker	Country
16:30 - 16:36	FP-065 Clinical analysis of the infectious spondylitis	Kazuhiro Shinohara	Japan
16:36 - 16:42	FP-066 The usefulness of serum albumin and globulin levels in the management of pyogenic spinal infection	Wong Cheuk Yin Matthew	Hong Kong
16:42 - 16:48	FP-067 Posterior instrumentation without anterior debridement for infectious spondylitis	Yong-Jin Park	Korea
16:48 - 16:54	FP-068 Posterior only approach for lumbar pyogenic spondylitis with short instrumentation and prolonged suction drainage	Minyong Ahn	Korea
16:54 - 17:00	FP-069 Anterior instrumented reconstruction for thoracolumbar spondylodiscitis	Ming-Kai Hsieh	Taiwan
17:00 - 17:06	FP-070 A new surgical strategy for infectious spondylodiscitis in thoracic and lumbar spine	Chia-Yu Lin	Taiwan
17:06 - 17:12	Discussion		
17:12 - 17:18	FP-071 Analysis of segmental kyphosis angle after anterior debridement and spinal fusion without instrumentation for cervical pyogenic spondylitis	Yutaro Shibuta	Japan
17:18 - 17:24	FP-072 Surgical strategies for pyogenic vertebral osteomyelitis with unstable cervicothoracic junction	Shao Yuan Hsu	Taiwan
17:24 - 17:30	FP-073 Selection of surgical approach in spinal tuberculosis-experience of 663 case	Md Shah Alam	Bangladesh

17:30 - 17:36	FP-074	Results of the treatment of the spinal infections: experiences with 41 cases	Pham Anh Tuan	Vietnam
17:36 - 17:42	FP-075	The characteristics of axial gout among Korean patients with peripheral gouty arthritis in a tertiary spine center	Eun-Seok Son	Korea
17:42 - 17:48		Discussion		

### Hall 301 Symposium: Cervical Spine and Ankylosing Spondylitis

Moderators: Ki Tack Kim (Korea), Yasutsugu Yukawa (Japan), Tzai-Chiu Yu (Taiwan)

Time	Topic	Speaker	Country
15:15 - 15:25	SY-C01	Differential Diagnosis of Cervical Radiculopathy	Ming-Hsiao Hu Taiwan
15:25 - 15:35	SY-C02	Cervical Myelopathy: Clinical Symptoms and Signs	Srigrishna Paramalingam Sri Lanka
15:35 - 15:45	SY-C03	Ossification of Posterior Longitudinal Ligament: Cervical and Thoracic	Shiro Imagama Japan
15:45 - 15:55	SY-C04	Tandem Stenosis at Cervical Spine and Thoraco-Lumbar Spine	Chi-Chien Niu Taiwan
15:55 - 16:00		Discussion	
16:00 - 16:10	SY-C05	Laminoplasty vs Laminectomy and Fusion	Udai De Silva Sri Lanka
16:10 - 16:20	SY-C06	Anterior or Anteroposterior Combined Surgery for Cervical Compressive Myelopathy	Yasutsugu Yukawa Japan
16:20 - 16:30	SY-C07	Adjacent Segment Degeneration after Cervical Spinal Surgery	Wen-Tien Wu Taiwan
16:30 - 16:35		Discussion	
16:35 - 16:45	SY-C08	Thoraco-Lumbar Alignment Change Following Cervical Reconstruction Surgery	Jun Mizutani Japan
16:45 - 16:55	SY-C09	Surgery for Cervical Alignment and Deformity	Kuniyoshi Abumi Japan
16:55 - 17:05	SY-C10	Spinal Osteotomy for Ankylosing Spondylitis	Ki Tack Kim Korea
17:05 - 17:10		Discussion	

### Room 403 Free Paper Session: Osteoporosis

Moderators: Kh Abdul Awal Rizvi (Bangladesh), Myint Thaung (Myanmar), Yen-Jen Chen (Taiwan)

Time	Topic	Speaker	Country
15:15 - 15:21	FP-076	3D morphological evaluation of percutaneous SpineJack augmentation in elderly bursting fracture	Ruey-Mo Lin Taiwan
15:21 - 15:27	FP-077	Modified dynamic radiographs are valuable for diagnosing painful cemented vertebrae from failed vertebroplasty	Yen-Jen Chen Taiwan
15:27 - 15:33	FP-078	Revision strategies for failed vertebroplasty: a algorithm proposal by modified dynamic radiographs	Yen-Jen Chen Taiwan
15:33 - 15:39	FP-079	Does the dynamic mobility stress radiographs predicts the postoperative vertebral height restoration, kyphosis correction and cement volume injected after vertebroplasty for osteoporotic thoracolumbar vertebral fractures with intravertebral cleft?	Josephine Rebecca Chandren Malaysia
15:39 - 15:45	FP-080	Increased sagittal vertical axis is associated with less effective control of acute pain following vertebroplasty	Ki-Tack Kim Korea
15:45 - 15:51	FP-081	Necessity of physical performance assessment as potential risk factor of osteoporotic vertebral fractures	Ju-Yeong Heo Korea
15:51 - 15:57	FP-082	Which is the exacerbate factor of low back pain after osteoporotic vertebral fracture; bone non-union, vertebral deformity, or spino-pelvic malalignment?	Akira Iwata Japan
15:57 - 16:03		Discussion	
16:03 - 16:09	FP-083	Difference of clinical course between cases with bone union and those with delayed union following osteoporotic vertebral fractures	Hiroyuki Yasuda Japan
16:09 - 16:15	FP-084	Effects of prevalent vertebral fractures on incidental vertebral fractures and low back pain during treatment for osteoporosis	Yuji Kasukawa Japan

16:15 - 16:21	FP-085	Thoracolumbar osteoporotic vertebral fracture with delayed-onset myelopathy: clinical presentation and surgical outcomes	Hyung-Ryul Park	Korea
16:21 - 16:27	FP-086	Osteoporotic burst fracture associated with neurological deficit [OFND]- clinico-radiological outcome of posterior only (decompression + instrumentation + transpedicular bone graft) surgery	Mahendra Singh	India
16:27 - 16:33	FP-087	Comparison of clinical effect between PVP and PKP for treatment of osteoporotic vertebral compression fractures with intravertebral vacuum cleft	Weibo Yu	China
16:33 - 16:39	FP-088	Risk factors for the occurrence of insufficient cement distribution in the fractured area after percutaneous vertebroplasty in osteoporotic vertebral compression fractures	Xiaobing Jiang	China
16:39 - 16:45	FP-089	Cortical bone trajectory: rationales and applications	Muhammad Tariq Sohail	Pakistan
16:45 - 16:51	FP-090	Preventing implant loosening via the CBT technique	Kim Soon Oh	Malaysia
16:51 - 16:57		Discussion		
16:57 - 17:03	FP-091	Different effect of tortoise plastron on lumbar vertebral and tibia of glucocorticoid-induced osteoporosis rats after glucocorticoid cessation	Zhang Zhi-da	China
17:03 - 17:09	FP-092	Regulation of zuogui pill on DKK1 in its prevention and treatment for glucocorticoid-induced osteoporosis	Zhang Zhi-da	China
17:09 - 17:15	FP-093	Regulation of zuogui pill on mTORC1 in its prevention and treatment for glucocorticoid-induced osteoporosis	Huang Jinjing	China
17:15 - 17:21	FP-094	Effects of combined ovariectomy with dexamethasone on rat lumbar vertebrae	Xiaobing Jiang	China
17:21 - 17:27	FP-095	Promotion effect of extracts from plastrum testudinis on alendronate against glucocorticoid-induced osteoporosis in rat spine	Xiaobing Jiang	China
17:27 - 17:33	FP-096	The modulating effect of miR-34a on bone homeostasis: potential implication in osteoporosis	Xiaobing Jiang	China
17:33 - 17:39	FP-097	Variance of spinal osteoporosis induced by dexamethasone and methylprednisolone and its associated mechanism	Xiaobing Jiang	China
17:39 - 17:45		Discussion		

## Room 102 Free Paper Session: Trauma, MIS, Cervical Spine

Moderators: Md Kamrul Ahsan (Bangladesh), Zhao-Min Zheng (China), Pankaj Kandwal (India)

Time	Topic	Speaker	Country
15:15 - 15:21	FP-098 Short-segment versus long-segment stabilization for unstable thoracolumbar junction burst fractures	Md Kamrul Ahsan	Bangladesh
15:21 - 15:27	FP-099 Postoperative outcomes of short segment percutaneous pedicular screw fixation compare with long segment fixation in thoracolumbar fracture	Kongtush Choovongkomol	Thailand
15:27 - 15:33	FP-100 Epidemiology and outcome of operatively treated thoracolumbar spinal fractures	Joel Tan	Singapore
15:33 - 15:39	FP-101 Pediclectomy and reduction of retropulsed bone fragments in thoracolumbar burst fractures	Tan Jiong Hao Jonathan	Singapore
15:39 - 15:45	FP-102 Restoration of spinal motion in thoracolumbar fractures managed by nonfusion technique	Bansuk Ko	Korea
15:45 - 15:51	FP-103 Minimally invasive fracture reduction using percutaneous monoaxial pedicle screws in thoracolumbar burst fracture: a description of surgical technique and preliminary report of radiological outcome	Chiu Chee Kidd	Malaysia
15:51 - 15:57	FP-104 A comparison of MIS and open posterior instrumentation of unstable burst fractures	Tan Yong Hao Joel	Singapore
15:57 - 16:03	FP-105 The validity of the thoracolumbar injury classification system in thoracolumbar spine injuries	Sung Kyu Kim	Korea
16:03 - 16:09		Discussion	
16:09 - 16:15	FP-106 Epiduroscopic laser neural decompression - clinical significance and complications for 8 years	Chang Su Kim	Korea
16:15 - 16:21	FP-107 Unilateral biportal endoscopic decompression by 30° endoscopy in lumbar spinal stenosis : technical note and 2 years results	Kim Ju Eun	Korea
16:21 - 16:27	FP-108 Result comparison between instrumented fusion and percutaneous endoscopic interlaminar decompression for spondylolisthetic stenosis	Yi Hung Huang	Taiwan
16:27 - 16:33	FP-109 Clinical efficacy of biportal endoscopic spine surgery with modified approach in patients with severe lumbar central canal stenosis.	Seok Bong Jung	Korea
16:33 - 16:39	FP-110 High anesthetic risk patient with spinal stenosis with partial decompression with PELD through interlaminar approach under local anesthesia	Ting-Chun Huang	Taiwan

16:39 - 16:45	FP-111	Percutaneous endoscopic transforaminal decompression (PETD) for degenerative lumbar lateral recess stenosis: comparison of clinical outcomes in patients with or without scoliosis	Keng-Chang Liu	Taiwan
16:45 - 16:51	FP-112	Interspinous fusion device combining ipsilateral-unilateral screw system for transforaminal lumbar interbody fusion - a finite element study	Meng-Huang Wu	Taiwan
16:51 - 16:57		Discussion		
16:57 - 17:03	FP-113	Sagittal alignment of the cervical spine in directed and natural standing postures - a comparative radiographic study considering whole body balance	Kimberly-Anne Tan	Singapore
17:03 - 17:09	FP-114	Functional prognosis after late decompression surgery for cervical spinal cord injury with severe cord compression	Tsunehiko Konomi	Japan
17:09 - 17:15	FP-115	The evaluation for the muscle in cervical spinal cord injury patients	Teruaki Ono	Japan
17:15 - 17:21	FP-116	Cervical spine fracture in patient with diffuse idiopathic skeletal hyperostosis: clinical characteristics by fracture level	Eijiro Okada	Japan
17:21 - 17:27	FP-117	Accuracy of navigated cervical pedicle screw insertion: 9 year surgical experience and technical pearls	Gerrard Gan	Singapore
17:27 - 17:33	FP-118	Application of ultrasonic osteotome for anterior approach resection of cervical OPLL: a case report	Jian -Yuan Chua	Taiwan
17:33 - 17:39	FP-119	Surgical outcomes of cervical myelopathy due to ossification of posterior longitudinal ligament: anterior decompression and fusion versus posterior laminoplasty	Zhao-Ming Zhong	China
17:39 - 17:45	FP-120	The surgical management of cervical spondylotic myelopathy by minimal invasive laminoplasty - Tateru Shiraishi method	An Thien Ngoc Vo	Vietnam
17:45 - 17:51	FP-121	Differential diagnosis of paraspinal muscle electromyography on dissociated motor loss in the upper extremities with cervical spondylosis and brachial plexus injury	Liu Shichen	China
17:51 - 17:57		Discussion		

**17:10 - 18:00 General Assembly for APSS Members (Hall 301)**

**19:00 - 21:30 Gala Dinner (Hall 202)**

**June 9 (Saturday) 08:00 - 09:45**

**Hall 301 Symposium: Adult Spinal Deformity**

Moderators: Yukihiro Matsuyama (Japan), Kee-Yong Ha (Korea), Shang-Won Yu (Taiwan)

Time	Topic	Speaker	Country
08:00 - 08:10	SY-A01 Pathogenesis and Natural History of Degenerative Spinal Deformity	V Swarnakumaar	Sri Lanka
08:10 - 08:20	SY-A02 Dynamism of the Spine - What to Do to Respect it	Dennis Hey	Singapore
08:20 - 08:30	SY-A03 Classification and Treatment Principle of Degenerative Spinal Deformity	Charoen Chotigavanich	Thailand
08:30 - 08:35	Discussion		
08:35 - 08:45	SY-A04 Sagittal Parameters and their Clinical Significances	Chung-Chek Wong	Malaysia
08:45 - 08:55	SY-A05 Decompression Alone for Lumbar Spinal Stenosis with Deformity	Paul Julius Medina	Philippines
08:55 - 09:05	SY-A06 Surgical Strategy for Lumbar Kyphoscoliosis	Yukihiro Matsuyama	Japan
09:05 - 09:10	Discussion		
09:10 - 09:20	SY-A07 Indications and Techniques for Fusion to Sacrum and Pelvis	Shih-Tien Wang	Taiwan
09:20 - 09:30	SY-A08 Proximal Junctional Failure: Prevention and Managements	Mitsuru Yagi	Japan
09:30 - 09:40	SY-A09 Postoperative Fixed Sagittal Deformity: Surgical Strategy	Kee-Yong Ha	Korea
09:40 - 09:45	Discussion		

**Hall 401 Free Paper Session: Cervical Spine**

Moderators: Md Shah Alam (Bangladesh), Udai De Silva (Sri Lanka), Wen-Tien Wu (Taiwan)

Time	Topic	Speaker	Country
08:00 - 08:06	FP-122 Natural history of cervical myelopathy: the Wakayama Spine Study	Keiji Nagata	Japan
08:06 - 08:12	FP-123 Cervical hemilaminoplasty for cervical myelopathy	Kazuhito Shinohara	Japan
08:12 - 08:18	FP-124 Risk of spring-back closure in skipped-level plating for open-door laminoplasty: insight into its cost-saving potential	Jason Pui Yin Cheung	Hong Kong
08:18 - 08:24	FP-125 Midline spinous process splitting cervical laminoplasty using trapezoid shaped allogeneic bone spacers: comparison of clinical and radiographic outcomes between cervical spondylotic myelopathy and ossification of posterior longitudinal ligament	Ming-Hsiao Hu	Taiwan
08:24 - 08:30	FP-126 Do laminoplasty conducted by junior surgeons affect clinical outcomes for the treatment of cervical spondylotic myelopathy? - comparison between board- and non board-certified spine surgeons	Narihito Nagoshi	Japan
08:30 - 08:36	FP-127 Relationship between spinal cord morphology and alignment in patients with cervical spondylotic myelopathy status post-spinous process-splitting laminoplasty	Hsuan-Yu Chen	Taiwan
08:36 - 08:42	FP-128 Relationship of T1 slope with loss of lordosis and surgical outcomes after laminoplasty for cervical ossification of the posterior longitudinal ligament	Toshinobu Ishihara	Japan
08:42 - 08:48	FP-129 Adjacent segment pathology after laminoplasty and short level anterior fusion for cervical spine	Kuang-Ting Yeh	Taiwan
08:48 - 08:54	Discussion		
08:54 - 09:00	FP-130 Are rigid cervical collars necessary for patients undergoing open-door laminoplasty and titanium arch plates for cervical myelopathy? - a randomized clinical trial	Jason Pui Yin Cheung	Hong Kong
09:00 - 09:06	FP-131 C1 laminoplasty might have the possibility to prevent the spontaneous anterior arch fracture	Kiyoshi Tarukado	Japan
09:06 - 09:12	FP-132 Results of occipito-cervical fusion in post-traumatic upper cervical spinal instability & odontoid fracture	Md Shah Alam	Bangladesh
09:12 - 09:18	FP-133 Influence of atlantoaxial fusion on sagittal alignment of adjacent occipitocervical and subaxial spines in os odontoideum with atlantoaxial instability	Hyukjin Jang	Korea

09:18 - 09:24	FP-134	Determinants of upper cervical spine sagittal alignment – gaze direction, C2-C7SVA and T1-slope	Kimberly-Anne Tan	Singapore
09:24 - 09:30	FP-135	Multilevel ACDF in the elderly: a retrospective review of outcomes	Austin Samuel L Lim	Philippines
09:30 - 09:36	FP-136	Anterior approach surgical strategies in managing cervical spinal cord compression	Md Shah Alam	Bangladesh
09:36 - 09:42	FP-137	Cervical kyphosis	Wen-Tien Wu	Taiwan
09:42 - 09:48		Discussion		

<b>Room 403</b>	<b>Free Paper Session: MIS</b>
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Moderators: Komang Agung (Indonesia), Kenny Kwan (Hong Kong), Tsai-Sheng Fu (Taiwan)

Time	Topic	Speaker	Country
08:00 - 08:06	FP-138 Can the adjuvant saline neurolysis in preganglionic epidural steroid injection promote the clinical efficacy?	Tae Hoon Kim	Korea
08:06 - 08:12	FP-139 Sacral alar iliac screw insertion using 3D computerized navigation system	Ma Chun Man	Hong Kong
08:12 - 08:18	FP-140 Minimally invasive triangular osteosynthesis for unstable sacral fractures: a case series	Tetsutaro Abe	Japan
08:18 - 08:24	FP-141 Foraminal decompression for adult isthmic spondylolisthesis using biportal endoscopic spine surgery -preliminary report-	Dae-Jung Choi	Korea
08:24 - 08:30	FP-142 Bi-portal endoscopic transforaminal lumbar interbody fusion (BE-TLIF) with arthroscopy - technical note -	Kim Ju Eun	Korea
08:30 - 08:36	FP-143 Adjacent segment degeneration treated with percutaneous endoscopic lumbar decompression under local anesthesia	Ting-Chun Huang	Taiwan
08:36 - 08:42	FP-144 Spinal stenosis treated with combined PELD and radiofrequency ablation-case series and preliminary results	Ting-Chun Huang	Taiwan
08:42 - 08:48	FP-145 Preliminary report of stand-alone transforaminal lumbar interbody fusion with cage	Cheng-Hsin Cheng	Taiwan
08:48 - 08:54	Discussion		
08:54 - 09:00	FP-146 Learning curve of micro-endoscopic discectomy in An-Nan hospital: Results of first 25 cases	Cheng-Hsin Cheng	Taiwan
09:00 - 09:06	FP-147 Cement-augmented pedicle screw insertion assisted by spinal robotic systems for widespread spinal metastasis – a case report	Meng-Huang Wu	Taiwan
09:06 - 09:12	FP-148 The application of ERAS in perioperative period of lumbar fusion surgery	Xueyu Hu	China
09:12 - 09:18	FP-149 Inter-laminar endoscopic lumbar discectomy short term outcome	Ali Shahid	Pakistan
09:18 - 09:24	FP-150 An analysis of outcomes of percutaneous transforaminal endoscopic interlaminar approach for calcified lumbar disc herniation	Hedingwen	China
09:24 - 09:30	FP-151 Percutaneous endoscopic lumbar discectomy via a translaminar approach for the treatment of highly up and down migrated disc herniations	Huang Wenzhou	China
09:30 - 09:36	FP-152 Cervical discectomy using "keyhole" technology through percutaneous posterior transforaminal endoscopic for the treatment of cervical spondylotic radiculopathy	Hedingwen	China
09:36 - 09:42	FP-153 The effect of the preservation of the posterior longitudinal ligament in the percutaneous endoscopic lumbar discectomy	Shen Hu	China
09:42 - 09:48	Discussion		

<b>09:45 - 10:15</b>	<b>Break (Lobby Area at 3rd/4th Floor and Hall 402)</b>
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<b>June 9 (Saturday) 10:15 - 12:00</b>
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<b>Hall 401</b>	<b>Symposium: Modern and Future Technologies for Spinal Care</b>
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Moderators: Tsung-Jen Huang (Taiwan), Gabriel Liu (Singapore), Wen-Jer Shen (Taiwan)

Time	Topic	Speaker	Country
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10:15 - 10:25	SY-F01	3-D Printing	Kenny Kwan	Hong Kong
10:25 - 10:35	SY-F02	Navigation: CT-based	Jose Joefrey Arbatin	Philippines
10:35 - 10:45	SY-F03	Navigation: Fluoroscopic-based O-Arm	Hsien-Te Chen	Taiwan
10:45 - 10:55	SY-F04	Sacroplenia: Current Evidence and Potential Managements	Warat Tassanawipas	Thailand
10:55 - 11:00		Discussion		
11:00 - 11:30	SL-4	Keynote Speech: Future Direction of Spinal Care: Genetics, Disc Regeneration and Artificial Intelligence	Kenneth Cheung	Hong Kong
11:30 - 11:50	SL-5	Special Lecture: Artificial Intelligence for Medical Imaging - Recent Progress in Taiwan and Potential Application in Spine Medicine	Joe Yeh	Taiwan
11:50 - 12:00		Discussion		

### Hall 301 Free Paper Session: Degeneration

Moderators: Charoen Chotigavanich (Thailand), Chris Yin Wei Chan (Malaysia), Cheng-Hung Lee (Taiwan)

Time	Topic	Speaker	Country
10:15 - 10:21	FP-154 Interspinous process devices: current evidences	Muhammad Tariq Sohail	Pakistan
10:21 - 10:27	FP-155 Efficacy of lumbar orthosis after posterior lumbar interbody fusion - a prospective randomized study	Hiroyasu Fujiwara	Japan
10:27 - 10:33	FP-156 Alteration of lumbar sagittal alignment after surgical decompression for lumbar spinal stenosis - comparison between decompression alone and decompression with fusion	Wen-Tung Hsieh	Taiwan
10:33 - 10:39	FP-157 Intraoperative navigation decreases the risk of reoperation for implant-related complication following spinal fusion surgery	Junichi Ohya	Japan
10:39 - 10:45	FP-158 What has occurred in posterior flexible stabilization system more than 10 years after the surgery? A biomechanical and histological study with retrieved implants	Osamu Shirado	Japan
10:45 - 10:51	FP-159 The influence of diffuse idiopathic skeletal hyperostosis on physical function in elderly populations	Tomohiro Banno	Japan
10:51 - 10:57	FP-160 12-month follow-up surgical outcomes of long segment thoracolumbar spine fusion including S2-alar-iliac screws instrumentation	Chia-Ming Chang	Taiwan
10:57 - 11:03	FP-161 The influence of developmental spinal stenosis on reoperation risk at adjacent levels after lumbar spinal stenosis surgery	Jason Pui Yin Cheung	Hong Kong
11:03 - 11:09	Discussion		
11:09 - 11:15	FP-162 Risk factors of cage posterior migration after transforaminal lumbar interbody fusion—a radiographic analysis	Yung-Hsueh Hu	Taiwan
11:15 - 11:21	FP-163 The value of post-operative wedge angle in predicting the posterior cage migration in open transforaminal lumbar interbody fusion	Cho Yau Lo	Hong Kong
11:21 - 11:27	FP-164 A prospective study of clinical outcomes for microscopic/endoscopic posterior lumbar decompression surgery evaluated with JOABPEQ and patient satisfaction	Eri Narita	Japan
11:27 - 11:33	FP-165 A prospective study of clinical outcomes evaluated with JOABPEQ and patient satisfaction after PLIF/TLIF	Shoichi Murakami	Japan
11:33 - 11:39	FP-166 A prospective study of clinical outcomes evaluated with JOABPEQ and patient satisfaction after microscopic/endoscopic herniotomy/discectomy for lumbar disc herniation	Yoohak Kim	Japan
11:39 - 11:45	FP-167 Clinical outcomes of anterior/posterior spine fusion (APF) and transforaminal lumbar interbody fusion (TLIF) for L4 to S1 spinal stenosis	Ming-Chin Chen	Taiwan
11:45 - 11:51	FP-168 Strategy for obtaining solid fusion at L5-S1 in adult spinal deformity - risk factor analysis for nonunion at L5-S1	Jung-Hee Lee	Korea
11:51 - 11:57	Discussion		

### Room 403 Free Paper Session: Scoliosis

Moderators: Arif Khan (Pakistan), Tiong Sam Lim (Philippines), Shiau-Tzu Tzeng (Taiwan)

Time	Topic	Speaker	Country
10:15 - 10:21	FP-170 Does surgical approach affect outcomes in AIS patients with 70° or larger curves with less than 30% curve flexibility?	Gerald Fung	Singapore

10:21 - 10:27	FP-171	Comparison between harvesting and preserving the spinous process for adolescent idiopathic scoliosis	Yu-Cheng Yeh	Taiwan
10:27 - 10:33	FP-172	2 year radiological outcome study of adolescent idiopathic lumbar scoliosis treated with short segment anterior fusion	Nur Aida Faruk Senan	Malaysia
10:33 - 10:39	FP-173	Posterior instrumentation, scoliosis correction, spinal fusion in Lenke type 5 curves -analysis and outcome	Subramaniam M H	India
10:39 - 10:45	FP-174	A 10-year radiographic outcome study of anterior and posterior instrumented spinal fusion in patients with Lenke type 5 adolescent idiopathic scoliosis - are we preparing our patients for adult deformity targets?	Joel Louis Lim	Singapore
10:45 - 10:51		Discussion		
10:51 - 10:57	FP-175	Reliability of spino-pelvic, thoracic and magnetically controlled growing rod distractions using biplanar stereoradiography	Jason Pui Yin Cheung	Hong Kong
10:57 - 11:03	FP-176	A study of the use of tranexamic acid in spinal fusion for spinal muscular atrophy scoliosis	Shih-Hsiang Chou	Taiwan
11:03 - 11:09	FP-177	Is it scar management necessary in the surgical correction for the spinal deformity due to scar contracture?	Thanh Van Vo	Vietnam
11:09 - 11:15	FP-178	Surgical results of scoliosis in patients with Marfan syndrome	Zhao-Ming Zhong	China
11:15 - 11:21	FP-179	Scoliosis after thoracotomy in patients of esophageal atresia	Ting-Kuo Chang	Taiwan
11:21 - 11:27		Discussion		

### June 9 (Saturday) 12:00 - 13:00

#### Luncheon Seminar

Hall 401	(DePuy Synthes) Expanding Indications for MIS Spinal surgery	Yi-Yuen Wang	Australia
Hall 301	(Amgen) An Effective, Safe, and Easy Way To Treat Osteoporosis	Wen-Chien Chen	Taiwan
Room 403	(Baxter Health Co., Ltd.) Efficacy and safety of flowable hemostat with thrombin in spine surgery	Ting-Kuo Chang	Taiwan

### June 9 (Saturday) 13:00 - 14:45

#### Hall 301 Symposium: Spinal Infection

Moderators: Ram Chaddha (India), Vo Van Thanh (Vietnam), Kuo-Hua Chao (Taiwan)

Time	Topic	Speaker	Country
13:00 - 13:10	SY-I01 Pathophysiology and Image Findings	Chien-Chou Pan	Taiwan
13:55 - 14:05	SY-I02 Epidural Abscess: Etiologies and Managements	Meng-Huang Wu	Taiwan
13:20 - 13:30	SY-I03 Prevention and Management of Surgical Site Infection	Abhishek Srivastava	India
13:30 - 13:35	Discussion		
13:10 - 13:20	SY-I04 Endoscopic Drainage and Debridement	Tsai-Sheng Fu	Taiwan
13:35 - 13:45	SY-I05 Anterior Surgery for Spondylodiskitis	Cheng-Hung Lee	Taiwan
13:45 - 13:55	SY-I06 Posterior Only Surgery for Spondylodiskitis	Ram Chaddha	India
14:05 - 14:10	Discussion		
14:10 - 14:20	SY-I07 Spinal Tuberculosis	Md Shah Alam	Bangladesh
14:20 - 14:30	SY-I08 Pott's Kyphosis	Rohit Kumar Pokharel	Nepal
14:30 - 14:40	SY-I09 Combined Anterior and Posterior Surgery for Spinal Tuberculosis	Vo Van Thanh	Vietnam
14:40 - 14:45	Discussion		

**Hall 401 Free Paper Session: Scoliosis**

Moderators: Morio Matsumoto (Japan), Michael Johnson (Australia), Ting-Kuo Chang (Taiwan)

Time	Topic	Speaker	Country
13:00 - 13:06	FP-180 Fulcrum flexibility of the main curve predicts postoperative shoulder imbalance in selective thoracic fusion of adolescent idiopathic scoliosis	Jason Pui Yin Cheung	Hong Kong
13:06 - 13:12	FP-181 Radiological and clinical outcome of selective thoracic fusion (STF) for Lenke 1C and 2C adolescent idiopathic scoliosis (AIS) patients with minimum follow-up of 2 years	Siti Mariam Mohamad	Malaysia
13:12 - 13:18	FP-182 The correlations between the anchor density and the curve correction of adolescent idiopathic scoliosis surgery	Yu-Cheng Yeh	Taiwan
13:18 - 13:24	FP-183 The reliability of intraoperative crossbar in determining the upper instrumented vertebra tilt angle	Nur Sulwana Mohamad Hanapi	Malaysia
13:24 - 13:30	FP-184 Surgical outcomes based on Cobb angle stratification in AIS patients with minimum curve of 70° & above	Gerald Fung	Singapore
13:30 - 13:36	FP-185 Sublaminar bands in severe AIS curves - its impact on curve correction, spinal balance and functional outcome	Subramaniam M H	India
13:36 - 13:42	FP-186 Relationship of the potential risk of spinal cord injury by pedicle screw and vertebral morphology in adolescent idiopathic scoliosis	Masashi Miyazaki	Japan
13:42 - 13:48	FP-187 Inaccuracy of pedicle screws in 3D printing technology assisted spinal deformity surgery	Po-Chen Chen	Taiwan
13:48 - 13:54	Discussion		
13:54 - 14:00	FP-188 Three column fixation - a dynamic method in scoliosis surgery	Md Shah Alam	Bangladesh
14:00 - 14:06	FP-189 Efficacy of cell salvage as blood conservation technique in scoliosis surgery.	Chris Chan Yin Wei	Malaysia
14:06 - 14:12	FP-190 Application of two-parameter scoliometer values for predicting scoliotic Cobb angle	Hsuan-Hsiao Ma	Taiwan
14:12 - 14:18	FP-191 Effectiveness of nighttime brace in preventing progression of idiopathic scoliosis	Xin-Ya See	Taiwan
14:18 - 14:24	FP-192 Spinal growth tethering leads to asymmetric growth of the apical vertebra in scoliosis	Yi Yang	Australia
14:24 - 14:30	FP-193 Mean 6-year follow-up of magnetically controlled growing rod patients with early onset scoliosis	Jason Pui Yin Cheung	Hong Kong
14:30 - 14:36	FP-194 Unplanned return to operation room (OR) following growing spinal constructs in early onset scoliosis (EOS)- 4 years follow up	Anil Solanki	India
14:36 - 14:42	FP-195 Effect of sitting posture on development of scoliosis in Duchenne muscular dystrophy cases	Rohit Kumar Pokharel	Nepal
14:42 - 14:48	Discussion		

**Room 403 APSS Fellowship**

Moderators: Chee Kidd Chiu (Malaysia), Pankaj Kandwal (India)

Time	Topic	Speaker	Country
13:00 - 13:10	FEL-01 Clinical fellowship presentation 2018 (DePuy Synthes Fellowship)	Chih-Wei Chen	Taiwan
13:10 - 13:20	FEL-02 Clinical fellowship presentation 2018 (DePuy Synthes Fellowship)	Shardul Soman	India
13:20 - 13:30	FEL-03 Clinical fellowship presentation 2018 (DePuy Synthes Fellowship)	Nirmal C Marasinghe	Sri Lanka
13:30 - 13:40	FEL-04 Travelling fellowship presentation 2018 (DePuy Synthes Fellowship)	Amir Fariz Zakaria	Malaysia
13:40 - 13:50	FEL-05 Travelling fellowship presentation 2018 (DePuy Synthes Fellowship)	Md Asraf Ul Matin	Bangladesh
13:50 - 14:00	FEL-06 Mid term clinical fellowship presentation 2015 (Medtronic Fellowship)	Yvonne Yan On Lau	Hong Kong
14:00 - 14:10	FEL-07 Mid term clinical fellowship presentation 2016 (Medtronic Fellowship)	Keiji Nagata	Japan
14:10 - 14:20	FEL-08 Developmental lumbar spinal stenosis: what we know so far (APSS-SICOT Fellowship)	Jason Pui Yin Cheung	Hong Kong

14:20 - 14:30	FEL-09	The comparison of sacroiliac joint anatomy of Taiwanese, Japanese, and Caucasian populations for sacroiliac joint device implantation - a multi-national study (DePuy Synthes Fellowship)	Meng-Huang Wu	Taiwan
14:30 - 14:45		Q & A		

**14:45 - 15:15 Break (Lobby Area at 3rd/4th Floor and Hall 402)**

**June 9 (Saturday) 15:15 - 18:00**

**Hall 401 Symposium: Osteoporosis and Related Spinal Disorders**

Moderators: Jose Manuel Ignacio (Philippines), Tze-Hong Wong (Taiwan), Tsung-Ting Tsai (Taiwan)

Time	Topic	Speaker	Country
15:15 - 15:25	SY-001 Osteoporosis Impact to Bone Surgery	Scarone Pietro	Italy
15:25 - 15:35	SY-002 Current Evidences of Anti-Osteoporotic Agents on Fracture Healing and Spinal Fusion	Tsung-Ting Tsai	Taiwan
15:35 - 15:45	SY-003 Screw Insertion in Osteoporotic Spine	Haruo Konno	Japan
15:45 - 15:50	Discussion		
15:50 - 16:00	SY-004 Osteoporotic Spinal Compression Fracture with Neurological Presentation - Inconclusive Evidence for Patient Reported Outcome	Myint Thauung	Myanmar
16:00 - 16:10	SY-005 Surgical Treatment for Spinal Deformity in Patients with Osteoporosis	Naohisa Miyakoshi	Japan
16:10 - 16:20	SY-006 Vertebroplasty, Kyphoplasty, Spinejack and Others	Daisuke Togawa	Japan
16:20 - 16:25	Discussion		
16:25 - 16:35	SY-007 Stentoplasty for Treatment of Osteoporotic Fractures	K S Sivananthan	Malaysia
16:35 - 16:45	SY-008 Complications of Cement Augmentation and Managements	Cheng-Huan Peng	Taiwan
16:45 - 16:55	SY-009 Pulmonary Bone Cement Embolism: Incidence, Diagnosis, Prevention and Management	Jose Manuel Ignacio	Philippines
16:55 - 17:00	Discussion		

**Hall 301 Free Paper Session: Degeneration and Adult Spinal Deformity**

Moderators: Chung-Chek Wong (Malaysia), Paul Julius Medina (Philippines), Kung-Chia Li (Taiwan)

Time	Topic	Speaker	Country
15:15 - 15:21	FP-196 Spinopelvic alignment and health-related quality of life in lumbar retrolisthesis change according to the level of it	Yuki Mihara	Japan
15:21 - 15:27	FP-197 Progression of spinopelvic parameters in patients with thoracolumbar adult spinal deformity: a 2 year longitudinal follow up	Gerald Fung	Singapore
15:27 - 15:33	FP-198 The cranial sagittal vertical axis (CrSVA) is a better radiographic measure to predict clinical outcomes in adult spinal deformity surgery than the C7SVA	Yong-Chan Kim	Korea
15:33 - 15:39	FP-199 Pedicle subtraction osteotomy for fixed sagittal imbalance : comparison according to the osteotomy level	Sang-Il Kim	Korea
15:39 - 15:45	FP-200 Preoperative simulation of pedicle subtraction osteotomy for treating sagittal deformity of the spine	De-Kai Syu	Taiwan
15:45 - 15:51	FP-201 Do all adult spinal deformity patients with probable pseudarthrosis need revision surgery? Minimum 5 year follow-up study	Gyu-Tack Park	Korea
15:51 - 15:57	FP-202 Risk factors for rod fracture after posterior corrective surgery in adult spinal deformity: multivariable logistic regression analysis	Osamu Shirado	Japan
15:57 - 16:03	Discussion		
16:03 - 16:09	FP-203 Extensive corrective fixation surgeries for adult spinal deformity improves postoperative gait endurance: a 6-minute gait analysis	Hideyuki Arima	Japan

16:09 - 16:15	FP-204	Spinal correction surgery enables long-term relief of gastroesophageal reflux disease symptoms in adult spinal deformity	Tomohiko Hasegawa	Japan
16:15 - 16:21	FP-205	Does corrective fusion surgery improve cardiac dysfunction associated with adult spinal deformity? a prospective study	Yuki Mihara	Japan
16:21 - 16:27	FP-206	Pulmonary dysfunction in cases of severe adult spinal deformity	Yuki Mihara	Japan
16:27 - 16:33	FP-207	Predicting perioperative complications in adult spinal deformity surgery using a simple sliding scale	Go Yoshida	Japan
16:33 - 16:39	FP-208	Prevalence and predictors of pressure injuries from spine surgery in the prone position: do body morphological changes during deformity correction increase the risks?	Shuxun Lin	Singapore
16:39 - 16:45	FP-209	Two different type of stooping posture after sacropelvic fixation for degenerative sagittal imbalance	Hyung-Youl Park	Korea
16:45 - 16:51		Discussion		
16:51 - 16:57	FP-210	Does arthrodesis stopping at L5 cause sagittal decompensation after long lumbar fusion for degenerative sagittal imbalance?	Sang-II Kim	Korea
16:57 - 17:03	FP-211	The impact of the release of anterior longitudinal ligament on the restoration of lumbar lordosis in adult spinal deformity surgery	Kuen-Ho Lee	Korea
17:03 - 17:09	FP-212	Application of posterior vertebral column resection to reconstruction of vertebral body defect in the lumbar spine	Chih-Wei Chen	Taiwan
17:09 - 17:15	FP-213	Minimally invasive lateral lumbar interbody fusion for adult spinal deformity: clinical and radiological efficacy with minimum two years follow-up	Hyung-Youl Park	Korea
17:15 - 17:21	FP-214	Activity of daily living after long level fusion in adult spinal deformity: compared with over 60 years old degenerative spine patients without adult spinal deformity	Whoan Jeang Kim	Korea
17:21 - 17:27	FP-215	Perioperative surgical complications related to oblique lumbar interbody fusion (OLIF) in adult spinal deformity correction	Whoan Jeang Kim	Korea
17:27 - 17:33	FP-237	Extreme lateral interbody fusion (XLIF) in symptomatic grade 1 & 2 degenerative spondylolisthesis at L4/5 vertebrae	Anand Kumar	Malaysia
17:33 - 17:39		Discussion		

## Room 403 Free Paper Session: Basic Researches

Moderators: Jason Cheung (Hong Kong), Warat Tassanawipas (Thailand), Ming-Hsiao Hu (Taiwan)

Time	Topic	Speaker	Country
15:15 - 15:21	FP-216 Post-tetanic transcranial motor evoked potentials augments the amplitude of compound muscle action potentials recorded from innervated and non-innervated muscles	Hideki Shigematsu	Japan
15:21 - 15:27	FP-217 Beta-2 microglobulin amyloid deposits in the intervertebral discs- an unresolved issue despite recent advancements in dialysis modalities	Michael Jian-Wen Chen	Taiwan
15:27 - 15:33	FP-218 The use of simvastatin carrier system in rabbit posterolateral spinal fusion	Chih-Ming Kao	Taiwan
15:33 - 15:39	FP-219 Plastrum testudinis treating glucocorticoid-induce osteoporosis by down-regulating TNFR2	Yu Xiang	China
15:39 - 15:45	FP-220 Extracts from plastrum testudinis reverse glucocorticoid-induced spinal osteoporosis of rats via targeting osteoblastic and osteoclastic markers	Yu Xiang	China
15:45 - 15:51	FP-221 Mechanism of carapax et plastrum testudinis improving bone mass,microarchitecture,biomechanics and bone metabolism	Ren Hui	China
15:57 - 16:03	FP-222 Promotion effect of extracts from plastrum testudinis on alendronate against glucocorticoid-induced osteoporosis in rat spine	Ren Hui	China
15:51 - 15:57			
16:03 - 16:09	FP-223 Comparison of zuogui pills and yougui pills on osteogenic differentiation of BMSCs	Yu Xiang	China
16:09 - 16:15	FP-224 Effects of combined ovariectomy with dexamethasone on rat lumbar vertebrae	Yu Xiang	China
16:15 - 16:21	FP-225 Effect of Jinkui Shenqi pills on bone differentiation of BMSCs by regulating FNDC5 and BMP2 Genes	Yu Xiang	China
16:21 - 16:27	FP-226 Effect of zuogui pills on the differentiation ability of miR34a in BMSCs	Yu Xiang	China
16:27 - 16:33	FP-227 Effect of osteoporosis induced by ovariectomy on vertebral bone defect/fracture in rat	Yu Xiang	China
16:33 - 16:39	FP-228 Explore mediation of autophagy in glucocorticoid-induced osteoporosis based on kidney yin and yang theory	Shang Qi	China
16:39 - 16:45	FP-229 Study on Chinese medicine theory of senile osteoporosis based on kidney determining the condition of the bone and marrow	Shang Qi	China

16:45 - 16:51		Discussion		
16:51 - 16:57	FP-230	Promotion of synapse regeneration by using self-polymerized dendritic polypeptide scaffold for spinal cord tissue engineering	Junming Wan	China
16:57 - 17:03	FP-231	Diffusion-weighted 7.0T magnetic resonance imaging in assessment of intervertebral disc degeneration in rats	Bohua Chen	China
17:03 - 17:09	FP-232	Establishment of a rat osteoporotic model by ovariectomy combined with glucocorticoid exposure	Zhang Zhi-Da	China
17:09 - 17:15	FP-233	Research advancement of calcium phosphate and calcium sulfate scaffolds in bone tissue engineering	Zhang Zhi-Da	China
17:15 - 17:21	FP-234	Zuo-Gui-Wan extracts reverse glucocorticoid-induced osteoporosis of rats via targeting let-7f and autophagy related genes	Gengyang Shen	China
17:21 - 17:27	FP-235	Effect of glucocorticoid withdrawal on glucocorticoid inducing bone impairment	Gengyang Shen	China
17:27 - 17:33	FP-236	Extracts from <i>plastrum testudinis</i> promote BMSCs proliferation and osteogenic differentiation via let-7f-5p targeting TNFR2/PI3k/Akt signaling pathway	Gengyang Shen	China
17:33 - 17:39		Discussion		