ISSLS VIRTUAL ANNUAL MEETING 2021

MAY 31 – JUNE 1: COMMITTEE MEETINGS
JUNE 2-4: SCIENTIFIC PROGRAM

PROGRAM BOOK
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<th>Scientific program</th>
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<td><strong>Wednesday June 2</strong></td>
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<td>Welcome and Presidential Lecture by Helena Brisby - President</td>
<td>20:00 - 20:45</td>
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<td>Session 1: Best Papers (Basic Science)</td>
<td>20:15 - 20:45</td>
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<td>Session 4: Low back pain</td>
<td>22:00 - 22:30</td>
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<td><strong>Friday, June 4, 2021</strong></td>
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<td>Fellowship awards ceremony</td>
<td>20:00 - 20:20</td>
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<td>Session 11 ISSLS Prize Ceremony</td>
<td>21:00 - 22:10</td>
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<td>Closing remarks - Scott Blumenthal, First Vice President</td>
<td>22:10 - 22:20</td>
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Welcome to Boston
The meeting next year will be held in Boston, USA at the Boston Marriott Copley Place
Date: May 9-13, 2022
The local hosts James Kang and Andrew Schoenfeld wishes you a warm welcome!
MESSAGE FROM THE PRESIDENT

Dear friends and colleagues,

On behalf of the ISSLS Executive Committee, I would like to welcome you all to this year’s annual meeting of ISSLS. For the first, and hopefully last, time this meeting will be held as a solely virtual meeting.

I know that we will all sorely miss the ‘IRL’ experiences, such as personal meetings, outings with new cultural experiences and tasting local food. However, we will have the luxury of enjoying a high-quality scientific programme and be involved in scientific discussions again! Since no ISSLS annual meeting took place last year, I am sure we have all been longing to share results and engage in research discussions, even if the format is a bit changed this year.

I would like to encourage you all to prepare yourselves before the actual meeting sessions by studying the e-posters so you can engage in the discussions, after the one-minute summaries by the presenters.

Discussions will take place via the chat function during the oral presentations and as live discussions during the special poster sessions.

Further, don’t forget to look at the general posters; there are a lot of interesting studies presented there. Of course, the winners of the prestigious ISSLS Prizes will also present their work at a special session, this year on the last day of the meeting. Don’t miss this!

The past one and a half year have been very different in many perspectives and I know some of you have had, and still have, very tough times. I have come to realize how quickly we can adapt to changes, but also how much we miss things we previously have taken for granted. I will very much miss meeting you all in person, but so much look forward to seeing you all at the virtual meeting!

*Helena Brisby*
President of the ISSLS 2020/2021
Give your patients the best chance for fusion the first time. Medtronic offers a wide variety of bone grafting options to support the level of activity required for the challenges of the patient, challenges of the site, and challenges of the procedure. By understanding and selecting the appropriate bone grafting option, you can control your patients’ ability to fuse and influence their outcome.

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COMMITTEE MEETINGS

By invitation only, a Zoom link to the meetings is sent out prior to the meetings, if you have not received it please contact katarina.olinder@issls.org

Monday, May 31, 2021

Program Committee Meeting
Membership Committee Meeting
Strategy Group Meeting

Tuesday, June 1, 2021

Focus Group
Executive Committee Meeting

Wednesday, June 2, 2021

First Business Meeting

Thursday, June 3, 2021

Second Business Meeting

SPONSORS

With sincere appreciation the International Society for the Study of the Lumbar Spine thanks the following companies for their support of the 47th ISSLS Annual Meeting.
We are proud of our partnership and support to the ISSLS

For more information on ESP technology visit our website: spine-innovations.com

The LP-ESP® lumbar disc prosthesis and the CP-ESP® cervical disc prosthesis are class III CE medical devices. Indications: Lumbar degenerative disc disease and cervical degenerative disc disease. Carefully read the IFU before use. Availability of the product may vary upon the market, contact us for further information. CE Mark: 0459 - Not FDA approved - Manufacturer: FH Industrie - Distributor: Spine Innovations
Wednesday June 2, 2021

WELCOME AND PRESIDENTIAL LECTURE BY HELENA BRISBY - PRESIDENT

Chair: Jeffrey Lotz (USA)

SESSION 1: BEST PAPERS (BASIC SCIENCE)

Chairs: James Iatridis (USA) and Keita Ito (The Netherlands)

O01 Human Lumbar Discs are not sterile! - Defining the Normal Intervertebral Disc Microbiome

Shanmuganathan Rajasekaran (India)
S. Dilip Chand Raja, T. Chitraa, N. Sharon Miracle, M. Raveendran, M. Monica Steffi, K. Vijayanand id# 2759

O02 Kyphosis and early disc degeneration induced by paraspinal muscle insufficiency in female TSC1mKO mice

Hwee Weng Dennis Hey (Singapore)
W. Lam, W. Zhuo, W. Chen, E. Combie, K. Tan, S. Cool, C. Chan, S. Tsai id# 2565

O03 Chromatin accessibility maps of human nucleus pulposus cells identify degeneration grade-specific epigenome signatures and gene regulatory networks

AM Steven M. Presciutti (USA)
N.M. Khan, J. Cotney, H. Drissi id# 2593

O04 Rapamycin Ameliorates Age- Associated Intervertebral Disc Degeneration In Male Marmosets

AM Rebecca Kritschil (USA)
D. Wang, C. Zhou, Q. Dong, D. Guo, J. Lee, G. Sowa, N. Vo id# 2675

O05 Expression and distribution of M1 and M2 macrophages in the degeneration process of human lumbar intervertebral disc herniation: A histological and clinical efficacy analysis

Xiao-Chuan Li (China)
W. Fan, C. Huang, S. Luo, M. Wang id# 2543

O06 Paraspinal muscle contractile function is impaired with chronic spine disease: a study using the ENT1 KO mouse

Alex M. Noonan (Canada)
C.A. Séguin, S.H. Brown id# 2597

O07 Evaluating Senolytics as a treatment option for Lower Back Pain in SPARC-null mice

Matthew Mannarino (Canada)
H. Cherif, L. Haglund id# 2792
SESSION 2: BASIC SCIENCE: DISC BIOLOGY, MUSCLE, AND BONE QUALITY

Chairs: Daisuke Sakai (Japan) and Nam Vo (USA)

O08 Disc ‘Dysbiosis’ as a cause of Inflammaging and Lumbar Intervertebral Disc Degeneration – Revelations from Next Generation Sequencing Analysis
S. Dilip Chand Raja (India), S. Rajasekaran, T. Chitraa, M. Raveendran, N. Sharon Miracle, M. Monica Steffi, K. Vijayanand  id# 2764

O09 Effects of exosomes from mesenchymal stem cells on nucleus pulposus cells: a potential cell-free therapy.
Gianluca Vadala (Italy)
V. Tilotta, C. Cicione, G. Di Giacomo, L. Ambrosio, F. Russo, R. Papalia, V. Denaro id# 2780

O10 Single-cell RNA-seq of human disc cells reveals new diagnostic and therapeutic biomarkers for intervertebral disc degeneration and back pain
Hosni HC Cherif (Canada)
A.A. Pacis., L. Haglund  id# 2680

O11 Potential of MSC secretome to modulate degenerative changes in a loaded annulus fibrosus organ culture model
Graciosa Q Teixeira (Germany)
A. Ekkerlein, R.M. Goncalves, J.R. Ferreira, A. Ignatius, H. Wilke, C. Neidlinger-Wilke  id# 2504

O12 The effect of posterior lumbar spinal surgery on biomechanical properties of rat paraspinal muscles 13 weeks post-surgery
Shun Yamamoto (Canada)
M. Malakoutian, T. Marine, J. Street, S.H. Brown, F. Rossi, M. Saito, T.R. Oxland id# 2733

O13 The Impact of Preoperative Cross-sectional Area of Psoas Muscle on Postoperative Outcomes of Adult Spinal Deformity Surgery
Hikari Urakawa (USA)
K. Sato, J. Elysee, R. Lafage, A. Vaishnav, Y. Yao, H. Kim, F. Schwab, V. Lafage, S. Qureshi  id# 2750

O14 Thoracic Bone Mineral Density measured by Quantitative Computed Tomography in Patients undergoing Spine Surgery
Stephan N Salzmann (USA)
I. Okano, C. Jones, E. Basile, A. Iuso, J. Zhu, M. Reisener, E. Chiapparelli, J. Shue, J.A. Carrino, F.P. Girardi, F.P. Cammisa, A.A. Sama, A.P. Hughes id# 2724
SESSION 3: INTERVERTEBRAL DISCS AND MODIC CHANGE

Chairs: Joo Han Kim (South Korea) and S Rajasekaran (India)

O15  Modic changes and endplate defects but not spinal stenosis affect low back pain in patients with lumbar spinal stenosis

**Masakazu Minetama** (Japan)
M. Kawakami, M. Teraguchi, Y. Mera, T. Sumiya, M. Nakagawa, Y. Yamamoto, S. Matsuo, N. Sakon, T. Nakatani, T. Kitano, Y. Nakagawa id# 2599

O16  A Prospective, Three-Year Longitudinal Study of Modic changes of the Lumbar Spine in a Population-Based Cohort: the Wakayama Spine Study

**Hidenobu Tamai** (Japan)

O17  The lack of image-based dynamic components in Modic changes suggest that Modic changes are not actively involved in biomechanically induced pain

**Hanna Hébelka** (Sweden)
H. Brisby, A. Erkmar, K. Lagerstrand id# 2609

O18  Integrative Analysis of Metabolomic, Genomic, and Imaging-based Phenotypes Identify Very Low Density Lipoprotein as a Potential Risk Factor for Lumbar Modic Changes

**Dino Samartzis** (USA)
Y. Li, J. Karppinen, K. Cheah, D. Chan, P.C. Sham id# 2784

O19  Does Preoperative Modic changes influence outcomes of Microdiscectomy: A prospective comparative cohort study

**S. Dilip Chand Raja** (India)
S. Rajasekaran, K. Vijayanand, K. Dinesh, K. Rishi Mugesh, S. Ajoy Prasad id# 2766

O20  Disc space narrowing influences clinical symptoms more in women than men: The Wakayama Spine Study

**Yuyu Ishimoto** (Japan)

O21  Age and disc degeneration in low back pain: comparison of large cohorts of symptomatic and asymptomatic female subjects demonstrates interactions of age, spinal level and degenerative features

**Jeremy Fairbank** (UK)
A. Jamaludin, T. Kadir, A. Zisserman, I. McCall, F. Williams, H. Lang, E. Buchanan, J. Urban id# 2618
SESSION 4: LOW BACK PAIN

Chairs: Michele Battìé (Canada) and Fabio Zaina (Italy)

O22 The longitudinal analysis to determine whether current sexual activities among elderly people affect low back pain in future

Shoichiro Ohyama (Japan)
M. Hoshino, S. Takahashi, Y. Hori, A. Yabu, H. Terai, T. Tsujio, H. Nakamura id# 2600

O23 Healthcare utilization and pain outcomes in individuals with low back pain: an observational study of a large dataset

Anna H Bailes (USA)
S. Koscumb, O.C. Marroquin, A.D. Wasan, H.B. Gutstein, A. Delitto, N. Vo, G.A. Sowa id# 2802

O24 The association between subphenotypes of low back pain and degenerative imaging findings in a cohort of young adults from the Raine Study

Dino Samartzis (USA)
A. Smith, M. Hancock, S. O'Hanlon, M. Krieser, P.B. O'Sullivan, F. Cicuttini, L.M. Straker, B. Adler, Y. Wang, J. Karppinen, D. Beales, P. Coenen, P. Kent id# 2803

O25 Epidemiology of lumbar degenerative phenotypes of children and adolescents: a large-scale imaging study

Zhong-Yuan Wan (China)
J. Zhang, H. Shan, T. Liu, F. Song, D. Samartzis, H. Wang id# 2772

O26 Classification of annular fissures and discography-provoked pain using multiparametric machine-learning analysis of magnetic resonance imaging

Kerstin M Lagerstrand (Sweden)
H. Hebelka, H. Brisby id# 2576

O27 Do both morphometric and mechanical characteristics of lumbar multifidus in people with chronic low back pain differ from those of asymptomatic counterparts?

Sabina Pinto (Hong Kong)
J. Cheung, Y. Zheng, M. Pang, J. Karppinen, D. Samartzis, A. Wong id# 2811

O28 Pelvic Compensation Accompanying Spinal Malalignment and Back Pain-Related Factors in a General Population

Shizumasa Murata (Japan)

FIRST BUSINESS MEETING (for members only Zoom link is provided separately)
Thursday, June 3, 2021

SPECIAL POSTER SESSIONS 5:1-5:4 (see page 15)

5.1: Pain generator and treatment
5.2: Surgery and clinical outcome
5.3: Osteoporosis, deformity, and balance
5.4: Artificial intelligence and novel techniques

SESSION 6: BEST PAPERS (CLINICAL)

*Chairs: Yong Hai (China) and Paul Hodges (Australia)*

O29 Factors contributing to biomechanical changes in the lumbar spine following spaceflight and incidence for post-spaceflight intervertebral disc herniation

**Jeannie F. Bailey (USA)**


O30 The Nocebo Effects of an MRI Report on the Patient and the Benefit of Reassurance - Results from a Randomized Clinical Trial of 44 patients

**Shanmuganathan Rajasekaran (India)**

S. Dilip Chand Raja, B. Pushpa, B. Anand, K. Rishi Mugesh, S. Ajoy Prasad id# 2761

O31 Progression of lumbar disc degeneration on MRI is not associated with occurrence of LBP, and LBP related QOL: an epidemiological study with 10-year follow-up

**Kenji Kobayashi (Japan)**

K. Otani, M. Sekiguchi, R. Tominaga, T. Watanabe, S. Konno id# 2544

O32 Extensive Subphenotyping of Lumbar Modic Changes and their Association with Low Back Pain in a Large Population-Based Cohort: the Wakayama Spine Study

**Masatoshi Teraguchi (Japan)**


O33 Influence of lumbar developmental spinal stenosis on back pain, leg pain and disability – prospective cohort 2206 subjects

**Jason Pui Yin Cheung (Hong Kong)**

M. Lai, P. Cheung, D. Samartzis, J. Karppinen, K. Cheung id# 2534

O34 Predicting the likelihood of complications in patients undergoing surgery for degenerative disorders of the lumbar spine – model development

**Pascal Zehnder (Zürich)**

O35 Evaluation of the association between "appropriate use of surgery" and patient-rated outcome in degenerative spondylolisthesis: a prospective, controlled, multicentre study

Anne F Mannion (Switzerland)
id# 2685

SESSION 7: SURGERY
Chairs: Ashish Diwan (Australia) and Serena Hu (USA)

O36 Risk factors for symptomatic adjacent segment disease following lumbar fusion: A systematic review and meta-analysis

Arnold Wong (China)
K. Lau, N. To, D. Samartzis, G. Harada, H. An id# 2822

O37 Prospective comparison of the accuracy of the New England Spinal Metastasis Score (NESMS) to legacy scoring systems in spinal metastases

Andrew Schoenfeld (USA)
M. Ferrone, J. Schwab, M. Harris id# 2529

O38 “Readmission-free survival” in metastatic spine tumour surgical patients: A novel concept

Naresh Kumar (Singapore)

O39 Comparison of opioid use in multilevel lumbar spinal fusion patients before and after implementation of an institutional opioid minimizing

Marie-Jacqueline Reisener (USA)
A.P. Hughes, I. Okano, J. Zhu, A. Arzani, J. Kostas, S.N. Salzmann, J. Shue, A.A. Sama, F.P. Girardi, E.M. Soffin id# 2708

O40 Preoperative Cross-sectional Area of Psoas Muscle Impacts Postoperative Functional Outcomes of Posterior Lumbar Surgery

Hikari Urankawa (USA)
K. Sato, A.S. Vaishnav, R. Lee, C. Chaudhary, J. Mok, Y. Katsuura, S.A. Qureshi id# 2749

O41 The extent, nature, and consequences of loss to follow-up in a long-established single-centre spine surgery registry of over 15'000 patients

Anne F Mannion (Switzerland)
O42  Decompressive surgery without instrumented fusion in patients with low-grade degenerative spondylolisthesis patients: long-term patient Reported outcome  
Judith M.P. van Grafhorst (The Netherlands)  
C.L. Vleggeert-Lankamp, W.C. Peul id# 2785  

SESSION 8: CLINICAL TRIALS, DEFORMITY, AND BALANCE  
Chairs: Tom Oxland (Canada) and Hans-Joachim Wilke (Germany)  

O43  Intervertebral disc repair with autologous nucleus pulposus-derived MSCs transplantation: a controlled clinical trial by 5-year follow-up  
Dike Ruan (China)  
C. Wang, Q. He, C. Zhang, C. Li, X. Bai, W. Ji, T. Wen id# 2548  

O44  Viable Disc Tissue Allograft Supplementation in the Treatment of Degenerated Intervertebral Discs the One Year Results of a Randomized Control Trial  
Douglas P Beall (USA) id# 2677  

O45  Supervised exercise therapy versus unsupervised exercise for patients with lumbar spinal stenosis: one-year follow-up of a randomized controlled trial  
Masakazu Minetama (Japan)  
M. Kawakami, M. Teraguchi, Y. Mera, T. Sumiya, M. Nakagawa, Y. Yamamoto, S. Matsuo, N. Sakon, T. Nakatani, T. Kitano, Y. Nakagawa id# 2612  

O46  Cone of Economy Classification: Evolution, Concept of Stability, Severity Level, and Correlation to Patient-Reported Outcome Scores  
Varun Sambhariya (USA),  
R. Haddas, T. Kosztowski, A. Block, I. Lieberman  id# 2523  

O47  Prevalence and characteristics of a spinal sagittal malalignment in patients with osteoporosis  
Masayuki Miyagi (Japan)  

O48  Global Balance of the Spine, an Independent Contributor to Physical Function and Falls in Older Adults: the SAFE Cohort Study  
Stephane Genevay (Switzerland)  
M. Hars, A. Faundez, j. fechtenbaum, K. Briot, C. Roux, F. Hermann, S. Ferrar, S. Boudabbous, A. Trombetti id# 2721
O49 Learning-based coronal spine alignment prediction using smartphone-acquired scoliosis radiograph images

Teng Zhang (Hong Kong)
Y. Li, J. Cheung, K. Wong id# 2695

PRESIDENTIAL LECTURE: MAMORU KAWAKAMI IMMEDIATE PAST PRESIDENT

Chair: Kazuhiro Chiba

SECOND BUSINESS MEETING (for members only)
Friday June 4

FELLOWSHIP AWARDS CEREMONY
Chair: Hirotaka Haro (Japan)

ISSLS Research Grant - Sponsored by Taisho Pharmaceutical
Olga Krupkova - 2019 winner
Graciosa Teixeira - 2020 winner

ISSLS Wiltse Lifetime Achievement Award
John O’Brien - 2020 winner

SPECIAL POSTER SESSIONS 9.1-9.4 (see page 19)

9.1: Intervertebral discs and Modic change
9.2. Surgery and clinical outcome
9.3: Muscle and intervertebral discs
9.4: Surgery and clinical outcome

SESSION 11 ISSLS PRIZE
Introduction: Björn Rydevik, ISSLS Prize Chairman (10 min)

O50 What are the risk factors for low back pain flares and does this depend on how flare is defined?
Paul Hodges (Australia) id# 2834

O51 A Novel Inducible System to Regulate Transgene Expression of TIMP1
Nam N Vo (USA)

O52 In vivo sagittal motion of the lumbar spine in low back pain patients: a radiological big data study
Fabio Galbusera (Milan)
F. Niemeyer, Y. Tao, A. Cina, L.M. Sconfienza, A. Kienle, H. Wilke id# 2538

CLOSING REMARKS - SCOTT BLUMENTHAL, FIRST VICE PRESIDENT
SESSION 5.1: PAIN GENERATOR AND TREATMENT
Chair: Christopher Colloca (USA) and Jiri Dvorak (Switzerland)

SP501  A systematic review on the risk factors for chronic low back pain in older adults
Arnold Wong (Hong Kong)
T. Kwok, M. Leung, R. Mak, J. Tsang, C. Wong, M. Ferreira, M. Funabashi, L. Macedo id# 2771

SP502  Epidural Steroid Compared To Placebo Injection In Patients With Sciatica: A Systematic Review And Meta-analysis
Eduard J.A. Verheijen (Netherlands)
C.A. Bonke, E.M. Amorij, C.L. Vleggeert-Lankamp id# 2626

SP503  Biomarkers as a predictive tool for the outcome of pain and function in acute low back pain.
Valerio Tonelli Enrico (United States)
G. Sowa, M. Schneider, M. Haas id# 2690

SP504  A Study on the Clinical Features of Interspinous Ligament Lesion in Adolescent Patients with Low Back Pain
Kenji Hatakeyama (Japan)
M. Urushibara, A. Kojima, S. Ohtori id# 2776

SP505  Axial loading during MRI induce lumbar foraminal area changes and may have the potential to improve diagnostics of nerve root compromise
Helena Brisby (Sweden)
N. Rydberg, H. Hebelka, J. Hutchins, K. Lagerstrand id# 2649

SP506  Women with lumbar degenerative spondylolisthesis demonstrate delayed abdominal reflex latency
John M. Popovich, Jr. (USA)
J. Cholewicki, A.S. Lee, L.W. Mysliwiec, M.D. Winkelpleck, J.N. Flood, P.K. Pathak, N.P. Reeves, R. Kothe id# 2801

SP507  Influences of limited flexibility of the lower extremities and occurrence of low back pain in adolescent baseball players: a prospective cohort study
Kinshi Kato (Japan)
K. Otoshi, S. Yabuki, K. Otani, T. Nikaido, K. Watanabe, H. Kobayashi, J. Handa, S. Konno id# 2582
SESSION 5.2: SURGERY AND CLINICAL OUTCOME

Chair: John D Lurie (USA) and Kotaro Nishida (Japan)

SP508  Loads at adjacent segment level before and after surgery – combined clinical and simulation study of 205 adult spinal deformity patients

**Dominika Ignasiak** (Switzerland)

SP509  Peri-operative complications of open spine surgery in the elderly over 90 years of age

**Takeru Tsujimoto** (Japan)
*M. Kanayama, K. Suda, F. Oha, M. Komatsu, M. Tanaka, Y. Hasegawa, T. Hashimoto, N. Iwasaki id# 2567*

SP510  Risk Factors for Adjacent Segment Degeneration Following Lumbar Fusion: A Meta-analysis

**Arnold Wong** (USA)
*S. Patel, C. Mestyanek, G. Harada, D. Samartzis id# 2832*

SP511  A retrospective analysis of patients with early deterioration of general condition after spinal metastasis surgery: Could we predict the early deterioration with the preoperative blood test?

**Zhongying Zhang** (Japan)
*Y. Takeoka, T. Yurube, Y. Junya, Y. Kakiuchi, K. Yutaro, R. Tsujimoto, K. Miyazaki, H. Ohnishi, T. Takada, R. Kuroda, K. Kakutani id# 2823*

SP512  The "spinal metastasis invasiveness index": A novel scoring system to assess surgical invasiveness

**Naresh Kumar** (Singapore)
*M.R. Ramos, R. Patel, B.W. Tan, K.G. Lopez, C.P. Nolan, A. Kumar, D. Shree Kumar, L.M. Benneker id# 2605*

SP513  Can collective intelligence improve the outcome of spine surgery?

**Tamas F Fekete** (Switzerland)
*D. Haschtmann, M. Loibl, F.S. Kleinstueck, D. Jeszenszky, A. Mannion id# 2720*
SESSION 5.3. OSTEOPOROSIS, DEFORMITY, AND BALANCE

Chair: Cornelia Neidlinger Wilke (Germany) and James Kang (USA)

SP514 Can We Predict the Cone of Economy Measurement using Only a Force Plate?

Varun Sambhariya (USA)
R. Haddas, A. Wood, I. Lieberman, P. Derman id# 2524

SP515 Risk factors of worsening global spinal mal-alignment after osteoporotic vertebral fracture

Akira Iwata (Japan)
M. Kanayama, O. Fumihiro, T. Hashimoto, M. Takahata, N. Iwasaki id# 2519

SP516 Age and Gender Related Differences in Gait Amongst Patients with Degenerative Spinal Disorders

Varun Sambhariya (USA)
R. Haddas, I. H. Lieberman id# 2633

SP517 Impact of Lumbar Fusion Length on Sitting Spino-pelvic Balance: Multi-segmental Versus Mono-segmental

Sinian Wang (China)
X. Sun, Y. Qiu id# 2557

SP518 An Active Hybrid Model of the Human Lumbosacral Spine: Facet Joint Integration in a Multi-Objective Optimization of Muscle Forces

Alina Hoffmann (Germany)
R. Remus, B. Bender id# 2662

SP519 Deficits in proprioceptive reweighting in middle-aged people with chronic low back pain and asymptomatic people: a cross-sectional study

Sabina Pinto (Hong Kong)
A. Wong, Y. Zheng, M. Pang, J. Cheung, J. Karppinen, D. Samartzis id# 2821

SP520 Lumbar disc degeneration and vertebral fracture at thoracolumbar junction are risk factors for chronic low back pain with disability: 7 years’ follow-up of the Wakayama Spine Study

Hiroshi Hashizume (Japan)
SESSION 5.4. ARTIFICIAL INTELLIGENCE AND NOVEL TECHNOLOGIES

Chair: Gen Inoue (Japan) and Dino Samartzis (USA)

SP521  
AI-based automated detection of traumatic thoracolumbar fractures on sagittal X-rays  
Fabio Galbusera (Italy)  
A. Cina, G. Sanchez, P. Varga, B. Gueorguiev-Rüegg, M. Alini, G. Schirò, P. Giorgi, E. Gallazzi  
id# 2539

SP522  
Learning-based fully automated prediction of lumbar disc degeneration progression with specified clinical parameters and preliminary validation  
Jason Pui Yin Cheung (Hong Kong)  
id# 2693

SP523  
Disc Height Assessment and Inter-observer Variability Using Auto-segmentation  
Douglas Beall (USA)  
C. Hancock, M. Crotsenburg, N. Georgiev  
id# 2793

SP524  
Predicting Disc Re-Herniation After Lumbar Decompression: A Machine Learning Approach  
Dino Samartzis (USA)  
id# 2789

SP525  
A novel tool to provide predictable alignment data irrespective of source and image quality acquired on mobile phones: what engineers can offer clinicians  
Teng Zhang (Hong Kong)  
C. Zhu, Q. Lu, J. Liu, A. Diwan, J. Cheung  
id# 2696

SP526  
Proposal for a new scoring system for spinal degeneration: Mo-Fi-Disc  
Emel Ozcan-Eksi (Turkey)  
M. Eksi, O. Orhun, V. Turgut, M. Pamir  
id# 2594

SP527  
Radiographic Lumbar Spondylosis Evaluated by a Novel Semi-quantitative Method in a Population Based-cohort Study  
Junichi Yamada (Japan)  
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