Preliminary program: Global Spine Congress 2018 Pre-course
Minimally Invasive Spinal Surgery—Lectures, case discussions and hands-on surgeon’s cockpit course

May 2, 2018      Singapore
AOSpine—the leading global academic community for innovative education and research in spine care, inspiring lifelong learning and improving patients' lives.
Welcome to Singapore

Dear colleagues,

It is my pleasure to welcome you to the “Minimally Invasive Spinal Surgery Hands-on Surgeon’s Cockpit Pre-course” of the Global Spine Congress 2018—comprising lectures, cases, discussions and practical exercises.

Advances in minimally invasive spinal surgery are revolutionizing spine care, especially with regards to patient selection, new technologies, surgical techniques, and surgical training & simulation. Many of the techniques and technologies in MIS aren’t commonly used in other disciplines within spine surgery.

At this pre-course, you will get the opportunity to be familiarized with technologies that you may not have been exposed to during your surgical training, such as 3D navigation, robotic surgery, the microscope and endoscope, drilling techniques as well as newly sophisticated implants. Also, you will get a step by step introduction to techniques such as microsurgical decompression, successful indirect decompression, and effective implant placement.

Participants will train techniques and procedures on a life-like simulator with haptics close to a real patient—anatomical structures, muscle tissues, bone, the dura, and the ligamentum flavum, including an intraoperative bleeding system, allowing for detailed feedback and assessment of performance to help you improve and master your surgical skills.

I am delighted to chair this pre-course to the Global Spine Congress 2018 with an outstanding international faculty from all over the world, that will not only coach you in complex skills, but also help you select the optimal treatment and procedure in MIS for a given patient.

Lastly, there will also be ample time for discussions, debates, and case discussions among faculty and participants.

I look forward to seeing you in Singapore.

Yours faithfully

Roger Härtl
Chairperson—AOSpine Pre-course at Global Spine Congress 2018

Weill Cornell Medicine
Department of Neurological Surgery
New York, United States of America
AOSpine Curriculum
This educational event carries the AOSpine Curriculum logo. This indicates that the program, content, and objectives have been developed based on the Curriculum framework, and that the event meets the implementation criteria defined by the AOSpine Education Commission (AOSEC). For more information, visit www.aospine.org.

Course
This course will review the current global MIS landscape and address the 4 “T”s of spinal MIS. These contain the following:

- **target** which defines the optimal patient and procedure selection in MIS.
- **technology** which addresses the current and evolving tools and instruments that enable MIS, such as 3D navigation and robotic surgery, microscope and endoscope, new sophisticated implants etc.
- surgical **techniques** and skills will be addressed in a step-by-step approach, such as microsurgical decompression, successful indirect decompression and effective implant placement.
- **teaching** and **training** will focus on using advanced surgical simulation for hands-on experience that will bring together all topics discussed.

Please be aware that hands-on training on surgical simulation tools will be available on a first-come, first-served basis to a limited number of participants.

The event will comprise of evidence-based lectures, debates, panel and case discussions, as well as practical exercises, and will provide ample time for discussion between faculty and participants.

Target participants
This event is targeted at senior surgeons who want to develop in MIS, and surgeons in training who want to consolidate their knowledge in working with microsurgical tools.

Learning objectives
After the event, participants will be able to:

- understand the current landscape of MIS, the breadth of the field with all options and opportunities
- review the current tools and technologies available for MIS with pros and cons
- experience hands-on training of a variety of surgical techniques and skills that enable microsurgical and indirect decompression
- learn the use of the surgical microscope, surgical power drill and navigation technologies
Chairperson
Roger Härtl
Weill Cornell Medicine, New York, USA

Speakers
Richard Assaker
Centre Hospitalier Regional Universitaire, Lille, France
Muhammed Assous
Razi Spine Clinic, Amman, Jordan
Massimo Balsano
Azienda Ospedaliera Universitaria Integrata Verona, Italy
Jens Chapman
Swedish Neuroscience Institute, Seattle, USA
Christoph Hofstetter
University of Washington, Seattle, USA
Jin-Sung "Luke" Kim
Spine center, Seoul, South Korea
Andreas Korge
Schön Klinik München-Harlaching, Munich, Germany
Khai Lam
The London Bridge Hospital, London, UK
Bernhard Meyer
Klinikum rechts der Isar der Technischen Universität München, Munich, Germany
Rodrigo Navarro
Weill Cornell Medicine, New York, USA
Avelino Parajon
Hospital Universitario Ramón y Cajal, Madrid, Spain
Kornelis "Kees" Poelstra
The Spine Center at Sacred Heart Hospital on the Emerald Coast, Florida, USA
S. Rajasekaran
Ganga Hospital, Coimbatore, India
Seang-Beng Tan
Singapore General Hospital, Singapore
Masato Tanaka
Okayama University Hospital, Okayama, Japan
Paul Taylor
Mount Medical Center, Perth, Australia
Claudius Thomé
Medical University Innsbruck, Innsbruck, Austria
Luiz Vialle
Catholic University, Curitiba, Brazil
Wai Mun Yue
Gleneagles Hospital, Singapore
<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
<th>WHO</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30–09:00</td>
<td>Registration</td>
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<tr>
<td>09:00–09:05</td>
<td>Welcome</td>
<td>Roger Härtl</td>
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<tr>
<td>09:05–09:15</td>
<td>Introduction to MIS Spine: What are we striving for?</td>
<td>Roger Härtl</td>
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<tr>
<td><strong>Session 1</strong></td>
<td><strong>Global MIS—Updates from around the world</strong></td>
<td><strong>Moderators:</strong> Bernhard Meyer Tanaka Masato</td>
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<tr>
<td>09:15–09:25</td>
<td>MIS in North America</td>
<td>Christoph Hofstetter</td>
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<tr>
<td>09:25–09:35</td>
<td>MIS in Latin America</td>
<td>Rodrigo Navarro</td>
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<td>09:35–09:45</td>
<td>MIS in Europe</td>
<td>Richard Assaker</td>
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<td>09:45–09:55</td>
<td>MIS in Middle East</td>
<td>Muhammed Assous</td>
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<td>09:55–10:05</td>
<td>MIS in Asia Pacific</td>
<td>Seang-Beng Tan</td>
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<td>10:05–10:15</td>
<td>Discussion</td>
<td>All</td>
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<td><strong>Session 2</strong></td>
<td><strong>The four Ts of MIS: Target, Technology, Technique, Teaching / Training</strong></td>
<td><strong>Moderators:</strong> Seang-Beng Tan Massimo Balsano</td>
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<tr>
<td>10:15–10:30</td>
<td><strong>Target</strong>—Optimized patient selection</td>
<td>Roger Härtl</td>
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<tr>
<td>10:30–10:45</td>
<td><strong>Technology</strong>—Retractors, microscopes, endoscope, navigation, instruments and implants—What are the minimum requirements for MIS?</td>
<td>Avelino Parajon</td>
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<tr>
<td>10:45–11:00</td>
<td><strong>Techniques</strong>—Surgical principles (unilateral approach, minimizing iatrogenic instability, indirect decompression)</td>
<td>Andreas Korge</td>
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<tr>
<td>11:00–11:15</td>
<td><strong>Teaching and Training</strong>—How can we become the best?</td>
<td>Bernhard Meyer</td>
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<td>11:15–11:30</td>
<td>Discussion</td>
<td>All</td>
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<td>11:30–11:45</td>
<td>LUNCH BREAK</td>
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<tr>
<td><strong>Session 3a</strong></td>
<td><strong>Surgeon's cockpit practical exercises</strong></td>
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<tr>
<td>11:45–12:00</td>
<td>Lecture on surgical technique with AO teaching material</td>
<td>Roger Härtl</td>
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<tr>
<td>12:00–12:15</td>
<td>Introduction of simulation model and techniques to be trained</td>
<td>Avelino Parajon</td>
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<td><strong>Split group in rooms for exercises</strong></td>
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<td>12:15–15:00</td>
<td>Practical exercises on stenosis, MIS over the top decompression and CSF leak repair</td>
<td>Richard Assaker Christoph Hofstetter</td>
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<td>12:15–15:00</td>
<td>Practical exercises on spondylolisthesis and MIS TLIF</td>
<td>Avelino Parajon Muhammed Assous Paul Taylor</td>
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<td></td>
<td>Both exercises will be accomplished on a <strong>simulated tool</strong> and not on a specimen.</td>
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<td><strong>Session 3b</strong></td>
<td><strong>Lectures: 10 step techniques for the workhorse MIS procedures</strong></td>
<td><strong>Moderators:</strong> Claudius Thomé Wai Mun Yue</td>
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<tr>
<td>11:45–11:55</td>
<td>MIS tubular decompression for central stenosis</td>
<td>Andreas Korge</td>
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<td>11:55–12:05</td>
<td>Endoscopic intralaminar approach L5/S1</td>
<td>Christoph Hofstetter</td>
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<td>12:05–12:15</td>
<td>Endoscopic transforminal approach L4/5</td>
<td>Ke Kim</td>
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<td>12:15–12:25</td>
<td>MIS TLIF</td>
<td>Claudius Thomé</td>
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<td>12:25–12:35</td>
<td>XLIF</td>
<td>Massimo Balsano</td>
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<td>12:35–12:45</td>
<td>OLIF</td>
<td>Masato Tanaka</td>
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<td>12:45–12:55</td>
<td>Total 3D Navigation</td>
<td>Roger Härtl</td>
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<td>12:55–13:05</td>
<td>Robotics</td>
<td>&quot;Kees&quot; Poelstra</td>
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<td>13:05–13:15</td>
<td>Multilevel MIS fusion: How to put it all together (percutaneous screws, XLIF, TLIF and iliac screws in the same patient)?</td>
<td>Khai Lam</td>
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<td><strong>Session 4</strong>  Lectures: MIS deformity—opportunity or limitation? The Battle</td>
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<tr>
<td>13:15–13:25</td>
<td>Debate—Contra: MIS has no role in deformity surgery</td>
<td>S. Rajasekaran</td>
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<td>13:25–13:35</td>
<td>Debate—Pro: MIS offers exciting opportunities to make deformity surgery safer</td>
<td>Richard Assaker</td>
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<td>13:35–13:50</td>
<td>Discussion</td>
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<td>13:50–14:30</td>
<td>COFFEE BREAK</td>
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<tr>
<td>14:30–14:40</td>
<td>MIS deformity—Opportunity or limitation; what the research shows</td>
<td>Roger Härtl</td>
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<td>14:40–15:00</td>
<td>Case discussion on deformity: How I do it!</td>
<td>Masato Tanaka</td>
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<td><strong>Session 5a</strong>  Surgeon's cockpit practical exercises</td>
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<td>Lecture on surgical technique with AO teaching material</td>
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<td><strong>Session 5b</strong>  Lectures: MIS treatment for lumbar spondylolisthesis</td>
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<tr>
<td>15:00–15:10</td>
<td>Case presentation: L4/5 spondylolisthesis</td>
<td>Massimo Balsano</td>
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<td>Debate:</td>
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<td>15:10–15:20</td>
<td>MIS TLIF is the best</td>
<td>Paul Taylor</td>
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<td>15:20–15:30</td>
<td>ALIF is the best</td>
<td>Andreas Korge</td>
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<td>15:30–15:40</td>
<td>XLIF is the best</td>
<td>Seang-Beng Tan</td>
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<td>15:40–15:50</td>
<td>Decompression alone—No fusion!</td>
<td>Richard Assaker</td>
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<td>15:50–16:15</td>
<td>Discussion</td>
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<td><strong>Session 6</strong>  Navigation</td>
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<td>16:15–16:35</td>
<td>Debate: Navigation and robotics—Pro and con</td>
<td>S. Rajasekaran (pro) vs Jens Chapman (con)</td>
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<td>16:35–17:00</td>
<td>Discussion</td>
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<td><strong>Session 7</strong>  Lectures: Case presentations and discussion</td>
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<tr>
<td>17:00–17:45</td>
<td>Degenerative scoliosis and spondylolisthesis cases</td>
<td>Wai Mun Yue Masato Tanaka Kees Poelstra Christoph Hofstetter</td>
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<tr>
<td>17:45–18:00</td>
<td>Closure</td>
<td>Roger Härtl</td>
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AO Foundation—Principles of AO Educational Events

1) Academic independence
Development of all curricula, design of scientific event programs, and selection of faculty are the sole responsibilities of volunteer surgeons from the AO network. All education is planned based on needs assessment data, designed and evaluated using concepts and evidence from the most current medical education research, and involving the expertise of the AO Education Institute (www.aofoundation.org). Industry participation is not allowed during the entire curriculum development and planning process to ensure academic independence and to keep content free from bias.

2) Compliance to accreditation and industry codes
All planning, organization, and execution of educational activities follow existing codes for accreditation of high-quality education:

- Accreditation Criteria of the Accreditation Council for Continuing Medical Education, USA (www.accme.org)
- ACCME Standards for Commercial Support: Standards to Ensure Independence in CME Activities (www.accme.org)
- Criteria for Accreditation of Live Educational Events of the European Accreditation Council for Continuing Medical Education (www.uems.eu)

Events that receive direct or indirect unrestricted educational grants or in-kind support from industry also follow the ethical codes of the medical industry, such as:

- Eucomed Guidelines on Interactions with Healthcare Professionals (www.medtecheurope.org)
- AdvaMed Code of Ethics on Interactions with Health Care Professionals (advamed.org)
- Mecomed Guidelines on Interactions with Healthcare Professionals (www.mecomed.org)

3) Branding and advertising
No industry logos or advertising (with the exception of the AO Foundation and AO Clinical Division) are permitted in the area where educational activities take place.

Sponsors providing financial or in-kind support are allowed to have a promotional booth or run activities outside the educational area with approval from the event chairperson.

4) Use of technologies and products in simulations
If case simulations are chosen as an educational method to educate skills, we only use technology approved by the AOTK System (AOTK)—a large independent group of volunteer surgeons developing and peer-reviewing new technology (more information about AOTK, its development and approval process can be found on the AO Foundation website: www.aofoundation.org).

5) Personnel
Industry staff are not allowed to interfere with the educational content or engage in educational activities during the event.
General information

No insurance: The event organization does not take out insurance to cover any individual against accidents, theft, or other risks.

Security: Access permitted with badge only.

Course language: English.

Mobile phone use is not allowed in the lecture halls and in other rooms during educational activities. Please be considerate of others by turning off your mobile phone.

Intellectual property: Course materials, presentations, and case studies are the intellectual property of the faculty. All rights are reserved. Check hazards and legal restrictions on www.aofoundation.org/legal. Recording, photographing, or copying of any course materials is absolutely forbidden. The AO Foundation reserves the right to film, photograph, and audio record during their events. Participants must understand that in this context they may appear in these recorded materials. The AO Foundation assumes participants agree that these recorded materials may be used for AO marketing and other purposes, and made available to the public.

Event organization

AOSpine International:

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Sr. Project Manager
Phone: +41 44 2002 415
Fax: +41 44 2002 412
Stettbachstrasse 6
CH—8600 Dübendorf
Email: mschatz@aospine.org
www.aospine.org

Registration and venue

Registration fee:
theoretical part USD 290.–
theoretical and practical part USD 699.–

Included in registration fee: coffee breaks, lunches, and CME, AOSpine course certificate.

Online registration and payment:
www.gsc2018.org

Event venue:
Room 304—theoretical sessions
Room 303—practical exercise on stenosis
Room 302—practical exercise on spondylolisthesis
Suntec Singapore International Convention and Exhibition Centre, 1 Raffles Boulevard, Suntec City, Singapore 039593

European CME Accreditation:
An application has been made to the UEMS—EACCME® in Brussels for CME accreditation of this event.

Evaluation guidelines: All AOSpine events apply the same evaluation process, either online (pre- and post-event evaluation) or/and on-site by audience response system (ARS) or paper and pencil questionnaires. This helps AOSpine to ensure that we continue to meet your training needs.
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Research
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Dan Riew
AOSpine International Chairperson

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www.aospine.org/membership
Sponsors
We thank our major industry partner DePuy Synthes and industrial partner Carl Zeiss Medicon AG for contributing with in-kind support (material and logistics) without which this event would not be possible.
The Global Spine Congress heads to Asia Pacific

Global Spine Congress
Singapore | May 2–5, 2018

www.gsc2018.org

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