Event program

AOTrauma | AOREcon Course—Comprehensive Periprosthetic Fracture Management of the Hip and Knee

December 10–12, 2018  Davos, Switzerland

Lecture hall: Dischma
Floor plan
The AO Foundation’s flagship educational event, the Davos Courses, offer surgeons at all stages of their career outstanding educational and networking opportunities. Experience this pioneering spirit of peer-to-peer collaboration and skills that will help advance your career.

This year the AO Foundation celebrates its 60th anniversary and there will be several special events during the Davos Courses 2018 to mark 60 years of transforming surgery and changing lives.

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Mission

The AO’s mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

Purpose statement

AOReon fosters a global network of orthopedic surgeons providing education to improve patient care in joint preservation and replacement.

7 Principles of Education
Welcome
Dear course participant

It is with great pleasure that we welcome you to the AOTrauma/AORecon joint curriculum course. By addressing periprosthetic fractures as they overlap between trauma and arthroplasty, this course offers senior surgeons a holistic approach to this multifaceted subject.

Over the program's three days, high-level experts from both subspecialties will lead associated lectures and deliver technical know-how to sharpen your respective understanding and develop your interdisciplinary skills.

At the Davos Courses AOTrauma and AORecon offer you a chance to actively engage in your course and the opportunity to:

• interact with over 100 international faculty
• expand your professional network by building contacts and new relationships with colleagues that include faculty and participants from over 80 countries
• meet with staff and surgeons from the AO Foundation's clinical divisions, institutes, and initiatives
• visit exhibits in the AO World and our headquarters on the Insight into the AO Center Davos tour, giving you an overview of the AO’s ongoing activities and resources available to support you in your clinical work
• experience the AO spirit of collegiality and camaraderie that is felt by participants and faculty alike

Your current level of knowledge, attitudes, and skills will be challenged throughout the course. The best-in-class curriculum and faculty will provide you a memorable learning experience that will remain with you for a lifetime. We hope that you will immediately transfer these insights and learnings into your daily practice, to reach our shared goal: to promote excellence in patient care and outcomes in trauma and musculoskeletal disorders.

Yours sincerely,

Norbert P Haas
AORecon Steering Board

Carsten Perka
AORecon Education Forum

Kodi Kojima
Chairperson AOTrauma
International Board

Wa’el Taha
Chairperson AOTrauma
Education Commission

Norbert P Haas
AORecon Steering Board

Carsten Perka
AORecon Education Forum
Goal of the course

This course aims to maximize patient outcomes following a periprosthetic fracture by improving the practicing surgeon's ability to recognize, classify, plan, and perform internal fixation and revision procedures for total joint arthroplasty around the hip and knee prostheses.

Target participants

Senior, experienced (more than 5 years) consultant/practicing surgeons:
- General orthopedic surgeons
- Fracture specialists
- Arthroplasty specialists
- Surgeons experienced with both trauma and arthroplasty

Learning objectives

Upon completion of this course participants will be able to:
- Recognize the challenges of periprosthetic fracture management
- Explain the indications for internal fixation and revision arthroplasty (including intraoperative fractures)
- Apply techniques of internal fixation
- Apply techniques of revision arthroplasty
- Manage the patient with a periprosthetic fracture from a medical and orthogeriatric point of view
- Prevent and treat complications
- Follow up with the patient and optimize patient satisfaction
- Analyze treatment failures and recognize possible pitfalls in treatment

Course description

The course is delivered using a combination of small group discussions, cases, exercises with anatomical specimens or other simulation materials (when appropriate), and summary lectures. All activities are moderated by expert faculty in a highly interactive learning environment. Participants are encouraged to discuss the cases and content in an open manner and to share their own experiences.
Chairperson

Luigi Zagra
IRCCS Istituto Ortopedico Galeazzi
Milan, Italy

Co-Chairperson

Mark Reilly
Rutgers, New Jersey Medical School
Newark, USA

International Faculty

Rodrigo Pesantez-Hoyos
Fundacion Santa Fe de Bogota
Bogota, Colombia

Regional Faculty

Michael Blauth
Medical University Innsbruck
Innsbruck, Austria

Theofilos Karachalios
University of Thessaly
Thessaly, Greece

Iain McFadyen
University Hospital of North Staffordshire
Stoke-on-Trent, United Kingdom

Michael Mueller
Charité Berlin
Berlin, Germany

Sam Oussedik
University College London Hospitals
London, UK

Kristian Sisak
University of Szeged
Szeged, Hungary

Endre Varga
University of Szeged
Szeged, Hungary

Giovanni Zatti
University of Milano-Bicocca
Milano, Italy

National Faculty

Karl Stoffel
Kantonsspital Baselland
Bruderholz, Switzerland
# Monday, December 10, 2018

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
<th>WHO</th>
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<tbody>
<tr>
<td>12:00–13:00</td>
<td>Registration of participants</td>
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<tr>
<td>13:00–13:10</td>
<td>Welcome and introduction to the course</td>
<td>L Zagra, M Reilly</td>
</tr>
<tr>
<td><strong>Module 1</strong></td>
<td><strong>General principles</strong></td>
<td>Moderator: M Mueller</td>
</tr>
<tr>
<td>13:10–13:20</td>
<td>Introduction to the problem—two cases with poor outcomes</td>
<td>M Reilly, L Zagra</td>
</tr>
<tr>
<td>13:20–13:30</td>
<td>Classification—principles and application</td>
<td>T Karachalios</td>
</tr>
<tr>
<td>13:30–13:40</td>
<td>Imaging</td>
<td>K Sisak</td>
</tr>
<tr>
<td>13:40–13:55</td>
<td>Case-based lecture—is the implant fixed well?</td>
<td>K Stoffel</td>
</tr>
<tr>
<td>13:55–14:40</td>
<td><strong>Round table discussion 1</strong></td>
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<td></td>
<td><em>Is the stem stable?</em></td>
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<tr>
<td>14:40–14:50</td>
<td>Questions and answers</td>
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<tr>
<td>14:50–15:10</td>
<td>COFFEE BREAK</td>
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<tr>
<td><strong>Module 2</strong></td>
<td><strong>Revision arthroplasty around the hip</strong></td>
<td>Moderator: M Reilly</td>
</tr>
<tr>
<td>15:10–15:20</td>
<td>Case-based lecture—indications for revision arthroplasty of the proximal femur</td>
<td>G Zatti</td>
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<tr>
<td>15:20–15:30</td>
<td>Surgical approaches and implant removal for B2/3 fractures</td>
<td>M Mueller</td>
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<tr>
<td>15:30–15:45</td>
<td>Principles of revision and implant selection for B2/3 fractures</td>
<td>L Zagra</td>
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<tr>
<td>15:45–15:55</td>
<td>Questions and answers</td>
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<tr>
<td><strong>Module 3</strong></td>
<td><strong>Revision arthroplasty around the knee</strong></td>
<td>Moderator: S Oussedik</td>
</tr>
<tr>
<td>15:55–16:05</td>
<td>Case-based lecture—indications</td>
<td>T Karachalios</td>
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<tr>
<td>16:05–16:20</td>
<td>Principles of revision, implant removal, and implant selection</td>
<td>S Oussedik</td>
</tr>
<tr>
<td>16:20–17:00</td>
<td><strong>Plenary case presentations and discussion—revision arthroplasty around the hip and knee, including complications</strong></td>
<td>All faculty</td>
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<tr>
<td>17:00–18:20</td>
<td><strong>Round table discussion 2</strong></td>
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<tr>
<td></td>
<td><em>Revision arthroplasty around the hip and knee</em></td>
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<tr>
<td>18:20–18:30</td>
<td>Questions and answers</td>
<td>L Zagra, S Oussedik</td>
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</tbody>
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## Tuesday, December 11, 2018

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<th>TIME</th>
<th>AGENDA ITEM</th>
<th>WHO</th>
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<tbody>
<tr>
<td><strong>LOCATION: Dischma</strong></td>
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<tr>
<td><strong>Module 4</strong></td>
<td><strong>Fracture fixation with implant retention</strong></td>
<td>Moderator: E Varga</td>
</tr>
<tr>
<td>08:00–08:10</td>
<td>Case-based lecture—indications</td>
<td>R Pesantez</td>
</tr>
<tr>
<td>08:10–08:25</td>
<td>Fixation options and biomechanical principles</td>
<td>M Reilly</td>
</tr>
<tr>
<td>08:25–08:35</td>
<td>Reduction and fixation of periprosthetic fractures around the femur</td>
<td>I McFayden</td>
</tr>
<tr>
<td>08:35–09:35</td>
<td><strong>Round table discussion 3</strong> Internal fixation cases around the proximal and distal femur</td>
<td>All faculty, M Reilly</td>
</tr>
<tr>
<td>09:35–10:00</td>
<td>COFFEE BREAK</td>
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<tr>
<td><strong>Module 5</strong></td>
<td><strong>Other periprosthetic fractures</strong></td>
<td>Moderator: M Blauth</td>
</tr>
<tr>
<td>10:00–10:15</td>
<td>Periprosthetic acetabular fractures</td>
<td>E Varga</td>
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<tr>
<td>10:15–10:25</td>
<td>Periprosthetic fractures around the patella and distal tibia</td>
<td>R Pesantez</td>
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<tr>
<td>10:25–10:45</td>
<td><strong>Plenary case presentations and discussion—internal fixation and revision arthroplasty around the acetabulum, patella, and tibia, including complications</strong></td>
<td>All faculty</td>
</tr>
<tr>
<td>10:45–11:45</td>
<td><strong>Round table discussion 4</strong> Internal fixation and revision arthroplasty around the acetabulum, patella, and tibia</td>
<td>All faculty, K Stoffel</td>
</tr>
<tr>
<td>11:45–12:00</td>
<td>Questions and answers</td>
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<tr>
<td>12:00–13:00</td>
<td>LUNCH BREAK</td>
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<tr>
<td><strong>Module 6</strong></td>
<td><strong>Complications</strong></td>
<td>Moderator: L Zagra</td>
</tr>
<tr>
<td>13:00–13:10</td>
<td>Bone loss management</td>
<td>G Zatti</td>
</tr>
<tr>
<td>13:10–13:20</td>
<td>Megaprostheses for the hip and knee—indications and limitations</td>
<td>S Oussedik</td>
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<tr>
<td>13:20–13:30</td>
<td>Nonunion and malunion</td>
<td>K Stoffel</td>
</tr>
<tr>
<td>13:30–13:45</td>
<td>Case-based lecture—open reduction and internal fixation of B2/B3 fractures—a no-go or a go?</td>
<td>M Reilly</td>
</tr>
<tr>
<td>13:45–14:00</td>
<td>Infected periprosthetic fractures</td>
<td>M Mueller</td>
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<tr>
<td>14:00–14:15</td>
<td>Questions and answers</td>
<td></td>
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<tr>
<td>14:15–15:00</td>
<td><strong>Plenary case presentations and discussion—infected periprosthetic fractures</strong></td>
<td>All faculty</td>
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<tr>
<td>15:00–15:20</td>
<td>COFFEE BREAK</td>
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<tr>
<td>15:20–16:30</td>
<td><strong>Round table discussion 5</strong> Complications</td>
<td>All faculty, M Reilly, L Zagra</td>
</tr>
<tr>
<td><strong>Module 7</strong></td>
<td><strong>Patient journey</strong></td>
<td>Moderator: I McFayden</td>
</tr>
<tr>
<td>16:30–16:40</td>
<td>Management and optimization in the preoperative phase</td>
<td>K Sisak</td>
</tr>
<tr>
<td>16:40–16:50</td>
<td>Prevention of complications in the postoperative phase</td>
<td>M Blauth</td>
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<tr>
<td>16:50–17:00</td>
<td>Questions and answers</td>
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<tr>
<td>17:00–17:50</td>
<td>Personal cases from the participants</td>
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<tr>
<td>17:50–18:00</td>
<td>Final questions, evaluation, and take-home messages</td>
<td>M Reilly, L Zagra</td>
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</tbody>
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# Wednesday, December 12, 2018

<table>
<thead>
<tr>
<th>TIME</th>
<th>AGENDA ITEM</th>
<th>WHO</th>
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<tbody>
<tr>
<td></td>
<td><strong>Module 8</strong> <strong>Anatomical specimen laboratory</strong></td>
<td>Moderator: K Stoffel</td>
</tr>
<tr>
<td>07:40–08:00</td>
<td>TRANSFER TO THE HOSPITAL&lt;br&gt;MEETING POINT 07:40 MAIN ENTRANCE CONGRESS CENTER</td>
<td>K Stoffel</td>
</tr>
<tr>
<td>08:00–08:15</td>
<td>Preparation for the anatomical specimen laboratory</td>
<td>K Stoffel</td>
</tr>
<tr>
<td>08:15–10:30</td>
<td><strong>Anatomical specimen laboratory—revision arthroplasty around the hip (lateral position)—part 1</strong></td>
<td>K Stoffel</td>
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<tr>
<td></td>
<td>• Posterior approach to the hip&lt;br&gt;• Plate osteosynthesis of posterior column&lt;br&gt;• Head resection, creation of a contained acetabular defect with a small reamer, bone impaction grafting from the femoral head, and implantation of a hemispherical revision cup with additional screw fixation of the shell</td>
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<tr>
<td>10:30–11:00</td>
<td>COFFEE BREAK</td>
<td>K Stoffel</td>
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<tr>
<td>11:00–13:00</td>
<td><strong>Anatomical specimen laboratory—revision arthroplasty around the hip (lateral position)—part 2</strong></td>
<td>K Stoffel</td>
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<td></td>
<td>• Extended trochanteric osteotomy (ETO)&lt;br&gt;• Implantation of a modular revision stem&lt;br&gt;• Refixation of ETO with cerclage wires&lt;br&gt;• Creation and fixation of fracture of greater trochanter</td>
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<tr>
<td>13:00–14:00</td>
<td>LUNCH BREAK</td>
<td>K Stoffel</td>
</tr>
<tr>
<td>14:00–14:15</td>
<td>Preparation for the anatomical specimen laboratory</td>
<td>K Stoffel</td>
</tr>
<tr>
<td>14:15–16:15</td>
<td><strong>Anatomical specimen laboratory—internal fixation (supine position)</strong></td>
<td>K Stoffel</td>
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<tr>
<td></td>
<td>• Insertion of a distal femoral nail&lt;br&gt;• Interprosthetic fracture fixation with distal femoral condylar variable angle (VA) plate, cables, cerclages, locking attachment plate, periprosthetic screws&lt;br&gt;• Medial approach to the distal femur, double-plate osteosynthesis distal femur</td>
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<tr>
<td>16:15–16:50</td>
<td>Good clinical practice in difficult cases—how the experts solve problems</td>
<td>All faculty</td>
</tr>
<tr>
<td>16:50–17:00</td>
<td>Wrap-up summary and discussion</td>
<td>M Reilly, L Zagra, K Stoffel</td>
</tr>
<tr>
<td>17:00–17:15</td>
<td>TRANSFER TO THE CONGRESS CENTER&lt;br&gt;MEETING POINT 17:00 MAIN ENTRANCE HOSPITAL</td>
<td>M Reilly, L Zagra, K Stoffel</td>
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</table>
Event organization

**AOTrauma**
Bettina Bolliger
Clavadelerstrasse 8
7270 Davos, Switzerland
Tel +41 81 414 27 22
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**AORecon**
Sina Henrichs
Clavadelerstrasse 8
7270 Davos
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Tel +41 79 815 27 76
Email sina.henrichs@aorecon.org

**AO funding sources**
Unrestricted educational grants from different sources are collected and pooled together centrally by the AO Foundation. All events are planned and scheduled by local and regional AO surgeon groups based on local needs assessments. We rely on industrial/commercial partners for in-kind support to run simulations/skills training if educationally needed.

Event venue and opening times

**Congress Center Davos**
Talstrasse 49A
7270 Davos, Switzerland
Phone +41 81 414 62 00
Fax +41 81 414 62 29

**General information**
Saturday 12:00–19:00
Sunday to Wednesday 07:30–19:00

**AO World**
Saturday 13:00–16:00
Sunday to Tuesday 09:00–18:30 (Monday –20:30)
Wednesday 09:00–16:30

**Industry exhibition**
Saturday 13:00–16:00
Sunday to Tuesday 09:00–18:30
Wednesday 09:00–16:30
Exhibitions

Experience a whole new AO World
This year AO World has been transformed to give you a new insight into our history and activities. You are invited to view the latest publications at the AO library, find out what benefits you are eligible for at the AO community and membership area, explore the AO’s teaching and learning resources at the AO digital learning zone’s interactive stations, visit AO research and innovations – which this year includes AOTK’s popular Meet the Experts sessions, and purchase mementos at the AO merchandise area. Experience the AO spirit, walk the timeline of the AO’s history and development, and mingle with other participants. AO staff will be on-hand to ensure you get the most out of this experience.

Exhibition partners
Visit the exhibitions of our industry partners DePuy Synthes and Siemens, and the other exhibitors: Ethicon, SYNBone, Augmedics, Digital Surgery, Invibio, Precision OS, Victorinox, AO Alliance, Medical Insights.

Media exhibitors
Lehmanns Media can be found this year newly in the industry exhibition.

Sponsors

We thank our major industry partners DePuy Synthes and Siemens for contributing in-kind support (material and logistics) without which this event would not be possible. A special thanks to DePuy Synthes and Siemens for providing an unrestricted educational grant for this event.

We also extend our thanks to the following co-sponsors (educational grants, in-kind support):

[Images of sponsor logos]
Business center

There are business center facilities in the Congress Center which are accessible to everybody.

**Services**
- Internet and e-mail access
- Printer access
- [www.aodavoscourses.org](http://www.aodavoscourses.org)
  AO Course website offering course-related information

**Opening hours**
- 30 minutes before the first course of the day starts until
- 30 minutes after the last course ends

**Disclaimer**
The use of your own computer in the business center network is inherently not secure. We strongly recommend that you take appropriate actions to protect your computer against unauthorized use or theft (e.g., Firewall, VPN-Connection, VirusScanner). AO cannot be held responsible for any data loss or theft. For further information or support please contact:

AO Foundation
Phone +41 81 414 28 70
E-mail it.helpdesk@aofoundation.org

Wireless network

**How to connect to the AO Wireless LAN**

1. Open the Wireless Network Connection Window
2. Choose the **AO Business** Network as shown in the print screen below and click on the **Connect** Button
3. Our **AO Business** Wireless Network requires a WPA network key:
   Network key: `aowireless`
4. Then click on the **OK** button
Event information

Event fee
Included in the event fee is the conference bag with documentation, coffee breaks, lunches, AO World Night, and course certificate.

European CME Accreditation
For this course the UEMS-EACCME® in Brussels have granted 21 European CME credits (ECMEC).

Swiss CME Accreditation
Additionally, an application has been made to the following Swiss societies:
Schweizerische Gesellschaft für Chirurgie (SGC/SSC)
Schweizerische Gesellschaft für Orthopädie und Traumatologie (SGO/SSO)

Conflicts of Interest (COI)
All disclosure information can be viewed at the event webpage:
https://aorecon.aofoundation.org/disclosure.html

Course certificate
The course certificates will be available at the end of the event at the general information desk.

Evaluation guidelines
All AOTrauma events apply the same evaluation process, which includes online before and after the event evaluation and on-site written questionnaires. This helps AOTrauma to ensure that we continue to meet your training needs.

Recording, photographing, or copying lectures, practical exercises, case discussions, or any event materials is strictly forbidden. Participants violating intellectual property will be dismissed.
The AO Foundation reserves the right to film, photograph, and audio record during its 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 the AO’s marketing and other purposes, and that they may be made available to the public.

Use of social media
During the Davos Courses you can post about your experience using the #AODavosCourses2018. While we encourage you to share your Davos Courses experience with your online network, it is expressly forbidden to share any images or recordings from inside the course.

Security
Security checks will be conducted at the building entrance. Wearing a name tag is compulsory during lectures, practical exercises, and group discussions.

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

Use of mobile phones
Use of mobile phones 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.

Picture Gallery
Check out aodavoscourses.org for a daily selection of pictures from the Davos Courses 2018, the best from last year’s courses, and a selection of photographs from the first ever AO Davos Courses.

Dress code
Warm clothes and suitable shoes are advisable.
AO Foundation—Principles of AO Educational Events

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.

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)

Branding and advertising
No industry logos or advertising (with the exception of the AO Foundation and AO clinical divisions) 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.

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 the AOTK, its development and approval process can be found on the AO Foundation website: www.aofoundation.org).

Personnel
Industry staff are not allowed to interfere with the educational content or engage in educational activities during the event.
AO Research Institute Davos (ARI)

Mission
The AO Foundation's mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

AO Research Institute Davos (ARI)
In its work to further the AO Foundation's mission, ARI's purpose is to advance patient care through innovative orthopedic research and development.

Orthopedics concerns musculoskeletal, spine and cranio-maxillo-facial trauma, degenerative musculoskeletal diseases, infections, and congenital disorders.

Goals
- Contribute high quality applied preclinical research and development focused towards clinical applications/solutions.
- Investigate and improve the performance of surgical procedures, devices and substances.
- Foster a close relationship with the AO medical community, academic societies, and universities.
- Provide research environment/support/training for AO clinicians.

Meet with our team including our ARI Medical Research Fellows, establish contacts, freely discuss your clinical problems, ideas, and learn about the latest results from the ARI.

Collaborative research programs
- Annulus fibrosus rupture
- Acute cartilage injury
- Osteochondral defect

Cranio-maxillofacial
- Imaging and planning of surgery, computer aided preoperative planning
- Medication-related osteonecrosis of the jaw
- Bone regeneration and 3-D printing

Spine
- Degeneration and regeneration of the intervertebral disc
- Biomarkers and patient outcomes

Trauma
- Bone infection, including the development and testing of active anti-infective interventions
- Sensing implants for objective monitoring of fracture healing
- Development of smart surgical tools
- New implant concepts for optimized bone healing
- Prediction of subject-specific risk of proximal humeral fixation failure via computational tools
- Development of generic Asian pelvic bone model
- Patient outcomes and biomarkers

Veterinary medicine
- Improving osteosynthesis for small and large animals

Multidisciplinary
- 3R – refinement of preclinical studies
- Bioreactor culture systems and mechanobiology
- Development, standardization, optimization, and improvement of preclinical models and methods
- Ex vivo testing using advanced biomechanical models
- Gene transfer: non-viral and viral
- Implant design using the finite element methods
- Implant positioning assistance, C-arm guided implant placement
- In-vivo and in-vitro quantification of bone turnover and scaffold degradation
- Medical additive manufacturing and biofabrication
- Medical CT image processing and analysis
- Polymers to deliver cells and biological factors, create potential space for tissue development, and guide the process of tissue regeneration
- Prototype development and production
- Stem cell therapies for the treatment of bone, intervertebral disc, and cartilage defects

For the 2017 AO Research Institute Davos activity report and recent publications go to: www.aofoundation.org/ari/publications
Upcoming AO Courses—Davos 2019

**AO Courses—December 1–6, 2019**
- AOTrauma Course—Basic Principles of Fracture Management
- AOTrauma Course—Advances Principles of Fracture Management
- AOTrauma Course—Advanced Principles of Fracture Management for Swiss Residents
- AOTrauma Masters Course—Current Concepts
- AOTrauma Course—Pelvic and Acetabulum Fractures
- AOTrauma Masters Course
- AOTrauma/AORecon Course—Comprehensive Periprosthetic Fracture Management of the Hip and Knee
- AORecon Course—Complex Total Hip and Knee Arthroplasty

**AO Courses—December 8–12, 2019**
- AOTrauma Course—Basic Principles of Fracture Management for Swiss Surgeons
- AOSpine Courses
- AOCMF Courses
- AOVET Masters Course—Small Animal
- AOVET Masters Course—Large Animal

This course list is subject to further change. The final list of AO Davos Courses and worldwide courses will be available on www.aotrauma.org in January 2019.
Notes
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Engineered to be truly patient-oriented, ARTIS pheno® is a unique floor-mounted robotic C-arm system for individualized preprocedural planning, intraoperative guidance, and immediate checkup in 2D and 3D directly in the hybrid operating room – regardless of patient condition or procedure complexity.

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* Cios Spin®, with VA30 is pending 510(k) clearance, and is not yet commercially available in the United States or in other countries. Due to regulatory reasons, its future availability cannot be guaranteed.