

AO

AO Trauma and AO Recon Course— **Comprehensive Periprosthetic Fracture Management of the Hip and Knee**

December 5–7, 2019
Davos, Switzerland

Lecture room:
Sertig

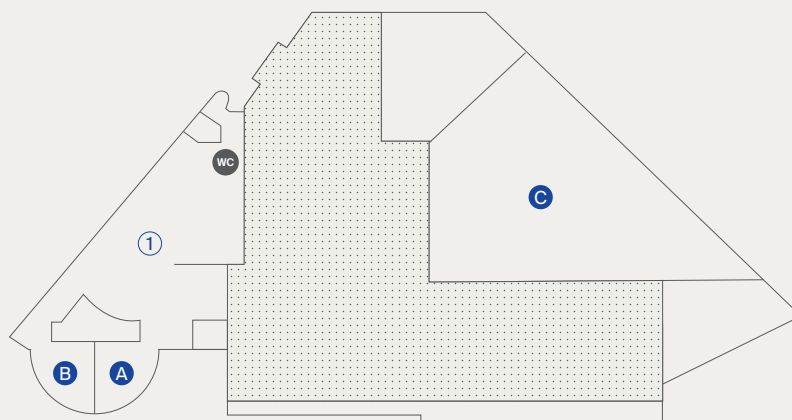
EVENT PROGRAM



Home to
**trauma and
orthopedics**

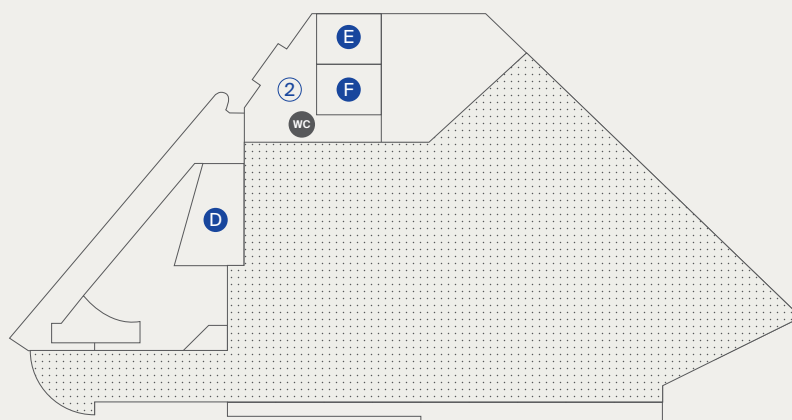
Level **Promenade**

- A** Aspen 1
- B** Aspen 2
- 1** Foyer C2
- C** Landwasser



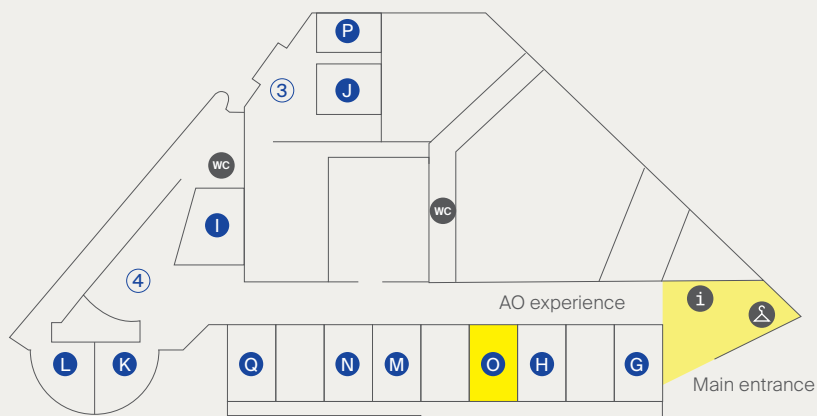
Level **Mezzanine**

- D** Chamonix (Faculty lounge)
- 2** Foyer B3
- E** Parsenn
- F** Pisch



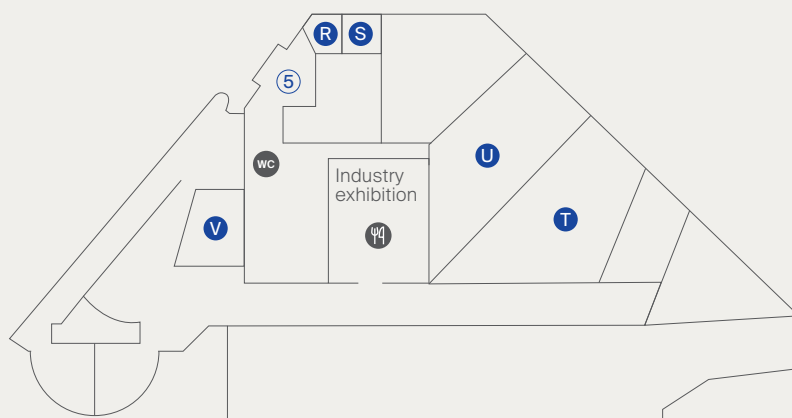
Level **Kurpark**

- G** Dischma
- H** Flüela
- I** Forum
- 3** Foyer B2
- 4** Foyer C1
- J** Jakobshorn
- K** Sanada 1
- L** Sanada 2
- M** Schwarzhorn
- N** Seehorn
- O** Sertig
- P** Strela Rinerhorn
- Q** Wisshorn (Faculty support center)



Level **Talstrasse**

- R** Altein
- S** Ducan
- T** Davos 1
- U** Davos 2
- V** Studio
- 5** Foyer B1



The AO's flagship educational event, the AO 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 learn skills that will help advance your career.

4 Mission
Purpose statement
The AO principles of fracture management

5 Welcome

6 Course description
Goal of the course
Target participants
Learning objectives

7 Chairpersons and faculty

8 Thursday, December 5, 2019

9 Friday, December 6, 2019

10 Saturday, December 7, 2019

11 Event organization
Event venue and opening times

12 Exhibitions
Sponsors

13 Business center
Wireless network

14 Event information

15 Principles of AO educational events

16 AO Research Institute Davos (ARI)

18 Upcoming AO Davos Courses 2020



Mission

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

Purpose statement

AO Recon is a global network of orthopedic surgeons committed to best-in-class education in joint preservation and replacement.

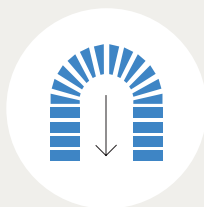
The AO principles of fracture management

1



Fracture reduction and fixation to restore anatomical relationships.

2



Fracture fixation providing absolute or relative stability, as required by the “personality” of the fracture, the patient, and the injury.

3



Preservation of the blood supply to soft-tissues and bone by gentle reduction techniques and careful handling.

4



Early and safe mobilization and rehabilitation of the injured part and the patient as a whole.



Welcome

Dear AO Davos Courses participant,

It is with great pleasure that we welcome you to the jointly developed, curriculum-based AO Trauma and AO Recon course. By addressing periprosthetic fractures, this course offers senior surgeons a holistic approach to this multifaceted subject.

Over the three-day program, world-class experts will lead lectures and deliver technical know-how in practical exercises to sharpen your professional understanding and develop your interdisciplinary skills.

The AO Davos Courses 2019 offer more than just a course experience.

Your primary focus is active engagement in your course. In addition, we encourage you to:

- Interact with the international faculty and speak with staff and surgeons from across the AO's clinical divisions, institutes and initiatives.
- Expand your professional network and establish new relationships with colleagues, including faculty and participants from all over the world
- Visit the exhibits in the AO experience, gain insight into the AO center, and learn about the AO's ongoing activities and the resources available to support you in your clinical work.

Your current knowledge level, 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 the insights and knowledge you gain here into your daily practice, in order to reach our shared goal of improving patient care through surgical excellence.

Yours sincerely,



Norbert P. Haas
AO Recon
Steering Board



Carsten Perka
AO Recon
Education Forum



Wa'el Taha
Chairperson
AO Trauma
Education Commission



Kodi Kojima
Chairperson
AO Trauma
International Board



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.

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 five 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



Chairpersons



Luigi Zagra
Milan, Italy



Karl Stoffel
Basel, Switzerland

International faculty

Michael Huo
Mark Reilly

Dallas
Newark

USA
USA

Regional faculty

Marco Berlusconi
Claudio Castelli
Theofilos Karachalios
Sam Oussedik
Richard Stange
Martin Thaler

Rozzano
Bergamo
Thessaly
London
Muenster
Innsbruck

Italy
Italy
Greece
United Kingdom
Germany
Austria

National faculty

Olivier Borens
Henrik Eckardt

Lausanne
Basel

Switzerland
Switzerland



Thursday

December 5, 2019

Location: Sertig

12:00–13:00	Registration of participants	
13:00–13:10	Welcome and introduction to the course	L Zagra, K Stoffel

Module 1

Moderator: M Huo

General principles

13:10–13:20	Introduction to the problem—two cases with poor outcomes	L Zagra, K Stoffel
13:20–13:30	Classification—principles and application	T Karachalios
13:30–13:40	Imaging	M Thaler
13:40–13:55	Case-based lecture—is the implant fixed well?	K Stoffel
13:55–14:05	Questions and answers	All faculty
14:05–14:50	Small group discussion 1: (Groups 1–6) Is the stem stable?	All faculty
14:50–15:10	Coffee break	

Module 2

Moderator: T Karachalios

Revision arthroplasty around the hip

15:10–15:20	Indications for revision arthroplasty of the proximal femur	M Huo
15:20–15:30	Surgical approaches and implant removal	C Castelli
15:30–15:45	Principles of revision and implant selection	L Zagra
15:45–15:55	Questions and answers	All faculty

Module 3

Moderator: C Castelli

Revision arthroplasty around the knee

15:55–16:05	Indications for revision arthroplasty around the knee	T Karachalios
16:05–16:15	Surgical approaches and implant removal	C Castelli
16:15–16:30	Principles of revision arthroplasty around the knee and implant selection	S Oussedik
16:30–16:40	Questions and answers	All faculty
16:40–17:30	Plenary case presentations and discussions Revision arthroplasty around the hip and knee 2–4 cases	Moderator: K Stoffel S Oussedik, M Thaler, M Huo, H Eckardt
17:30–18:30	Small group discussions 2: (Groups 1–6) Revision arthroplasty around the hip and knee	All faculty

Friday

December 6, 2019

Location: Sertig

Module 4

Moderator: O Borens

Fracture fixation with implant retention

08:00–08:10	Indications for fixation	R Stange
08:10–08:25	Fixation options and biomechanical principles	M Reilly
08:25–08:35	Reduction and fixation of periprosthetic fractures around the femur	M Berlusconi
08:35–08:40	Questions and answers	All faculty
08:40–09:40	Small group discussions 3: (Groups 1-6) Internal fixation cases around the proximal and distal femur	All faculty
09:40–10:00	Coffee break	

Module 5

Moderator: M Reilly

Other periprosthetic fractures

10:00–10:15	Periprosthetic acetabular fractures	H Eckardt
10:15–10:25	Periprosthetic fractures around the patella and proximal tibia	M Reilly
10:25–10:35	Questions and answers	All faculty
10:35–12:00	Small group discussions 4: (Groups 1-6) Internal fixation and revision arthroplasty around the acetabulum, patella, and tibia	All faculty
12:00–13:00	Lunch break	

Module 6

Moderator: H Eckardt

Patient journey

13:00–13:10	Management and optimization in the preoperative phase	R Stange
13:10–13:20	Prevention of complications in the postoperative phase	M Thaler
13:20–13:30	Questions and answers	All faculty

Module 7

Moderator: L Zagra

Special situations and complications

13:30–13:40	Open reduction and internal fixation of B2/B3 fractures—is it a problem?	H Eckardt
13:40–13:50	Nonunion and malunion	K Stoffel
13:50–14:00	Bone loss management	M Huo
14:00–14:10	Megaprosthesis for the hip and knee—indications and limitations	S Oussedik
14:10–14:25	Infected periprosthetic fractures	O Borens
14:25–14:35	Questions and answers	All faculty
14:35–15:20	Plenary case presentations and discussion Infected periprosthetic fractures (2 or 3 cases)	Moderator: L Zagra O Borens, R Stange, T Karachalios
15:20–15:40	Coffee break	
15:40–16:50	Small group discussion 5: (Groups 1-6) Complications	All faculty
16:50–17:50	Personal cases from the participants or the faculty	
17:50–18:00	Final questions, evaluation, and take-home messages	



Saturday

December 7, 2019

Location: Hospital

Module 8

Moderator: K Stoffel

Anatomical specimen laboratory

07:30-07:45	Transfer to the hospital Meeting point: Congress Centre Davos, main entrance (07:30)	
07:45-08:00	Preparation for the anatomical specimen laboratory	
08:00-10:00	Anatomical specimen laboratory—revision arthroplasty around the hip (lateral position) <ul style="list-style-type: none">• Posterior approach to the hip• Plate osteosynthesis of posterior column• 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	C Castelli M Reilly L Zagra
10:00-10:25	Coffee break	
10:25-13:10	Anatomical specimen laboratory—revision arthroplasty around the hip (lateral position) <ul style="list-style-type: none">• Extended trochanteric osteotomy (ETO) after broach insertion• Implantation of a modular revision stem• Refixation of ETO with cerclage wires and creation/ fixation of fracture of greater trochanter	T Karachalios K Stoffel H Eckardt
13:10-14:10	Lunch break	
14:10-14:15	Preparation for the anatomical specimen laboratory	
14:15-16:15	Anatomical specimen laboratory—internal fixation (supine position) <ul style="list-style-type: none">• Insertion of a distal femoral nail• Interprosthetic fracture fixation with distal femoral condylar variable angle (VA) plate, cables, cerclages, locking attachment plate, periprosthetic screws• Medial approach to the distal femur, double-plate osteosynthesis distal femur	O Borens M Berlusconi S Oussedik
16:15-16:50	Extended dissections	All faculty
16:50-17:00	Wrap-up summary and discussion	L Zagra, K Stoffel
17:00-17:15	Transfer to Congress Centre Davos Meeting point: Davos hospital, main entrance (17:00)	

Event organization

AO Recon Education

Sina Henrichs
Clavadelerstrasse 1
7270 Davos Platz
Switzerland
Phone +41 79 815 27 76
E-mail sina.henrichs@aorecon.org

AO funding sources

Unrestricted educational grants from different sources are collected and pooled together centrally by the AO. 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 and/or skills training if educationally necessary.

Event venue and opening times

Congress Centre Davos

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

General information

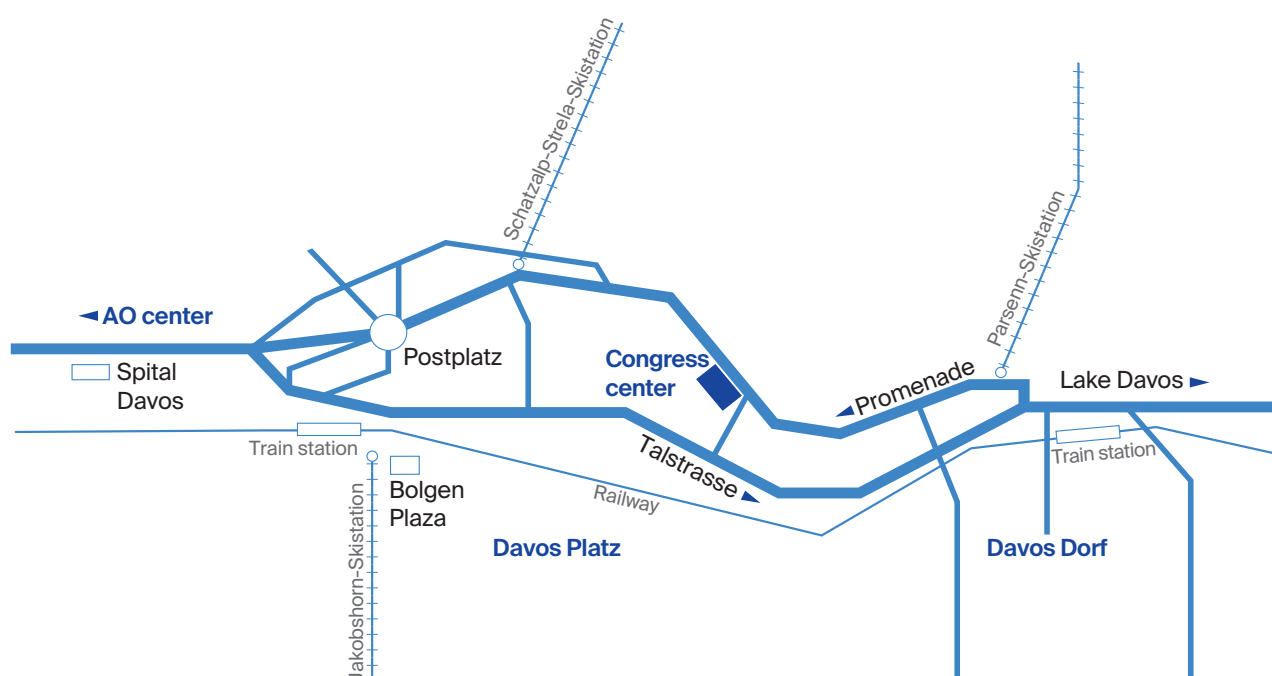
Sunday	12:00–19:00
Monday through Thursday	07:30–19:00
Friday	07:30–16:00

The AO experience

Sunday	14:00–17:00
Monday through Thursday	09:00–18:30 (Tuesday –20:30)
Friday	09:00–16:00

Industry exhibition

Sunday	14:00–17:00
Monday through Thursday	09:00–18:30
Friday	09:00–16:00





Exhibitions

The AO experience

The AO experience offers you the chance to view the latest publications in the AO library, see what benefits you are eligible for in the community and membership area and take a selfie with your new colleagues. Explore AO teaching and learning resources and find out about our new digital gateway myAO at the digital zone's interactive stations. Visit the innovation in research and development zone, to take part in hands on demos featuring some of our newest innovations, and join the AO Technical Commission's popular Meet the Experts sessions. Don't forget to purchase any mementos at our store in the main entrance. Experience the AO spirit, walk the timeline of AO history, and mingle with other participants. AO staff will be on-hand to help you get the most out of this experience..

Exhibition partners

Visit the exhibitions of our trusted partner DePuy Synthes, Siemens, and other exhibitors: SPI, Invibio, Precision OS, Synoste, Rimasys, AO Alliance.

Media exhibitors

Lehmanns Media is in the welcome area.

Sponsors

We thank our trusted partner **DePuy Synthes**, and **Siemens**, for contributing in-kind support (materials 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):



Business center

The business center facilities in the Congress Centre Davos are accessible to everyone.

Services

- Internet and e-mail access
- Printer access
- www.aodavoscourses.org
AO Davos Courses website offering course-related information

Opening hours

The business center is open 30 minutes before the first course of the day starts until 30 minutes after the end of the last course of the day.

Disclaimer

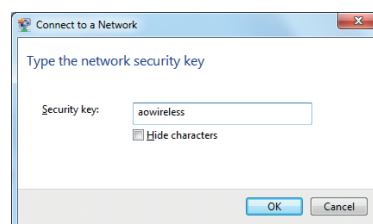
The use of your own computer in the business center network is inherently not secure. We strongly recommend that you take appropriate actions to protect your computer against unauthorized use or theft (eg, firewall, virtual private network [VPN] connection, virus scanner).
AO cannot be held responsible for any data loss or theft.

For further information or support, please contact:
Phone +41 81 414 28 70
E-mail it.helpdesk@aofoundation.org

Wireless network

How to connect to the AO wireless local area network (LAN)

1. Open the Wireless Network Connection window
2. Choose the **AO Business** network as shown in the image below and click on the **Connect** button
3. Our **AO Business** wireless network requires a wireless protected access (WPA) network key:
Network key: **aowireless**



4. Then click on the **OK** button

Event information

Event fee

AO Trauma and AO Recon Course—Comprehensive Periprosthetic Fracture Management of the Hip and Knee: CHF 4,100

The event fee covers the conference bag, documentation, coffee breaks, lunches, participation in AO Davos Courses night, and the 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

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

Evaluation guidelines

All AO Trauma and AO Recon events apply the same evaluation process, which includes pre- and post-event online evaluation and on-site written questionnaires. These evaluation tools help ensure that AO Trauma and AO Recon continue to meet your training needs.

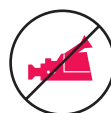
Use of social media

During the AO Davos Courses 2019, you can post about your experience using the #AODavosCourses2019 hashtag. While we encourage you to share your AO Davos Courses 2019 experience with your online network, it is expressly forbidden to share any images or recordings from inside the course.

Intellectual property

Event materials, presentations, and case studies are the intellectual property of the event faculty. All rights are reserved. For more information, please see: www.aofoundation.org/legal.

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.

Security

Security checks will be conducted at the building entrance. Wearing a name tag is compulsory at all times in the congress center and hospital.

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 permitted in the lecture halls or 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 AO Davos Courses 2019, 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 recommended.

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 AO network surgeons.

All education is planned based on needs assessment data, designed and evaluated using concepts and evidence from the most current medical education research, and reflects 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, US (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 (apart from the AO Foundation and its 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.

4. Use of technologies and products in simulations

In case simulations are chosen as an educational method to educate skills, the technology used has been reviewed by the AO Technical Commission—a large independent group of volunteer surgeons developing and peer-reviewing new technology on behalf of the AO Foundation.

Any technology used in the practical sessions of this event has been found suitable to serve the defined educational purposes. This does not imply any statement about its use in actual clinical scenarios.

More information on the AO Technical Commission can be found on the AO's website: www.aofoundation.org.

5. Personnel

Industry staff members are not permitted to interfere with the educational content or engage in educational activities during the event.

AO Research Institute Davos (ARI)

Mission

The AO 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 mission, ARI's purpose is to advance patient care through innovative orthopedic research and development.

Orthopedics concerns musculoskeletal, spine and craniomaxillofacial trauma, degenerative musculoskeletal diseases, infections, and congenital disorders.

Goals

- Contribute high-quality, applied preclinical research and development focused toward 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 and ideas, and learn about the latest results from ARI.

Collaborative research programs

- Annulus fibrosus rupture
- Acute cartilage injury
- Osteochondral defect

Craniomaxillofacial

- Imaging and planning of surgery, computer aided preoperative planning
- Medication-related osteonecrosis of the jaw
- Bone regeneration and 3D 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 principles: 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 computed tomography (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 *AO Research Institute Davos Activity Report 2018* and recent publications, go to www.aofoundation.org/ari/publications.



Notes



Upcoming AO Davos Courses 2020

AO Davos Courses—November 29–December 4, 2020

- AO Trauma Course—Basic Principles of Fracture Management
- AO Trauma Course—Advances Principles of Fracture Management
- AO Trauma Course—Advanced Principles of Fracture Management for Swiss residents
- AO Trauma Masters Course—Current Concepts
- AO Trauma Course—Pelvic and Acetabular Fracture Management
- AO Trauma Masters Kurs (German speaking)
- AO Trauma Course—Managing Pediatric Musculoskeletal Injuries
- AO Trauma and AO Recon Course—Comprehensive Periprosthetic Fracture Management of the Hip and Knee

AO Davos Courses—December 6–9, 2020

- AO Trauma Course—Basic Principles of Fracture Management for Swiss Surgeons
- AO Spine Courses
- AO CMF Courses
- AO VET Masters Course—Small Animal
- AO VET Masters Course—Large Animal
- AO Recon Course—Principles in Shoulder Arthroplasty
- AO Recon Course—Complex Total Hip and Knee Arthroplasty
- AO PEER Course—Level 1 Principles of Clinical Research
- AO PEER Course—Level 2 Grant writing
- AO PEER Course—Level 2 GCP and study management
- AO PEER Course—Level 2 Publication writing course

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 2020.

Expanding precision medicine in image-guided surgery

siemens-healthineers.com/surgery

The clinical overlay is not that of the individual pictured.
It was modified for better visualization. · 8368 1119



Expanding precision medicine through a complete imaging portfolio for orthopedic trauma, spine and CMF surgery ranging from mobile C-arms and robotic angiography systems to computed tomography and magnetic resonance imaging, as well as multi-modality suites.

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.



ARTIS pheno
As individual as your patients

To provide 3D capabilities that can be seamlessly integrated into clinical routine, we developed Cios Spin®: a mobile 2D and 3D C-arm for intraoperative quality assurance. Delivering new insights and perspectives, Cios Spin gives you more certainty in surgical routine – and full control over your procedures.



Cios Spin
New perspectives. Full control.

SIEMENS
Healthineers



AO Recon is a **global network**
of **orthopedic surgeons**
committed to best-in-class
education in **joint preservation**
and **replacement**.



AO Recon | Clavadelerstrasse 1 | CH-7270 Davos
Phone +41 81 414 21 11 | Fax +41 81 414 22 80 | info@aorecon.org

www.aorecon.org

AO
RECON