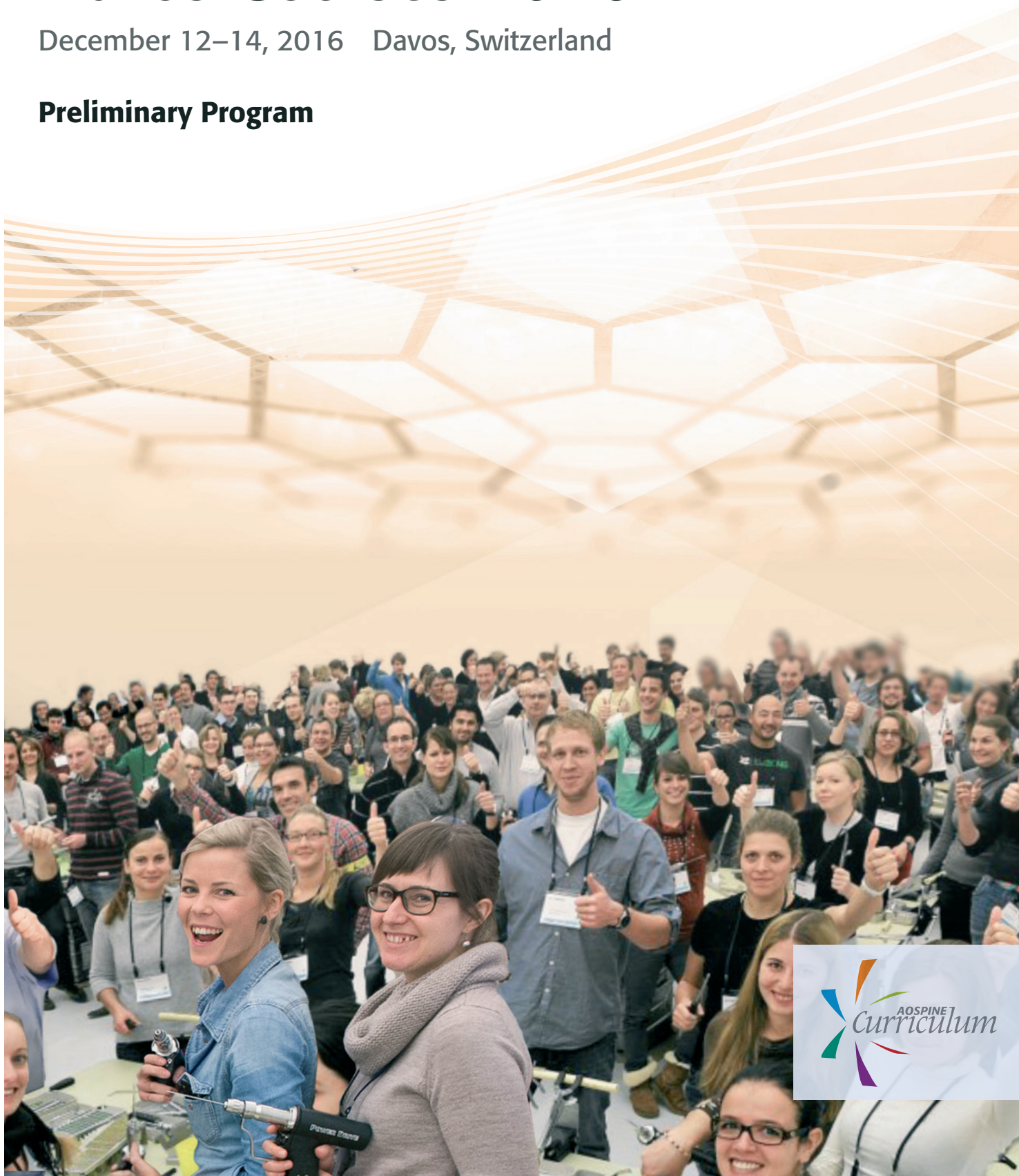


Education

Davos Courses 2016

December 12–14, 2016 Davos, Switzerland

Preliminary Program



Contents

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

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Welcome from the course director

Welcome to the Davos Courses 2016!

Dear Colleagues,

On behalf of AOSpine, I take great pleasure in welcoming you to the Davos Courses—the educational highlight of 2016.

We promise you an extraordinary learning experience, involving the latest teaching system technology and excellent networking opportunities in one of the most inspirational environments.

The Davos Courses 2016 course format is focused on interactive, case-based learning, which is directly related to your daily practice. This Master's Level format creates a unique setting for an open exchange of knowledge and experiences between spine experts from around the world. This year, we are also offering "Meet the Experts: The Good, the Bad, the Ugly—a Case That Taught Me a Lesson" sessions, where you can learn tips, tricks, and gain new insights through challenging and unique cases.

In response to requests from participants last year, we have extended our practical exercise sessions for you.

Each morning's keynote lectures and the combined AOSpine and Technical Commission (TK) sessions are further highlights in this year's program.

A faculty team of 56 leading spine experts, from more than 20 different countries, will carefully guide your interactive learning experience, and make sure that you get the most out of your Davos Courses experience. By attending the courses, you will be able to interact with these world-renowned experts as they share their extensive knowledge and experiences in the field of spine surgery.

Even though we present a demanding program, you will also have time to socialize with friends and colleagues, while also extending your network within the AOSpine family.

We hope that you get the most from the Davos Courses 2016.

A handwritten signature in blue ink, appearing to read "M. Grevitt". The signature is fluid and stylized, with a long horizontal stroke at the end.

Michael Grevitt

AOSpine Education Commission Chairperson
Course Director Davos Courses 2016

Course format and content

Over three extraordinary days, participants to the Davos Courses 2016 will have multiple opportunities to interact with renowned worldwide faculty, who will be teaching a range of spine topics at the highest level. These specialists will share their knowledge and experiences in a high faculty-to-participant ratio course setting, and will focus on the most relevant, evidence-based information and current controversies in spinal surgery.

All of the modules are taught at the Masters Level. They are highly interactive, fully case-based, and include three case sessions, with presentations, discussions, lectures, and take-home messages. The modules are moderated by faculty members who are experts in their fields, and have previously attended AOSpine's extensive faculty development program.

In addition to the learning modules, participants to the AOSpine Davos Courses 2016 can also attend a practical exercise session in the afternoon on each day.

The Davos Courses: Where expert knowledge is enhanced, lifelong professional networks are created, and friendships are maintained.

Content

This educational event carries the AOSpine Curriculum logo. This indicates that the program, its content, and objectives have been developed based on AOSpine's curriculum framework, and that the event meets the implementation criteria as defined by the AOSpine Education Commission (AOSEC).

Each of the three, one day-long educational modules focus on a specific topic, and have been developed to meet the educational needs of spine surgeons worldwide.

The course content is based on the latest updates and research within the field, and aims to enhance participants' expertise across several pathologies.

After attending the course, participants should be able to adapt and apply new concepts and techniques to their clinical environment, and subsequently improve patient care and outcomes.



Program guide

The AOSpine educational modules are taking place in the following rooms:

	Room Seehorn—House A, entry level Adult Deformity
	Room Sanada 1—House C, entry level Cervical Degenerative Including Complications
	Room Sanada 2—House C, entry level Lumbar Degenerative Including Complications
	Room Aspen 1—House C, upper level Trauma
	Room Aspen 2—House C, upper level Tumors and Infection

Module overview

Davos Courses 2016 module schedule (participants choose one module per day)

Monday, December 12	Tuesday, December 13	Wednesday, December 14
Trauma	Trauma	Trauma
Cervical Degenerative Including Complications	Cervical Degenerative Including Complications	Cervical Degenerative Including Complications
Lumbar Degenerative Including Complications	Lumbar Degenerative Including Complications	Lumbar Degenerative Including Complications
Adult Deformity	Adult Deformity	Adult Deformity
Tumors and Infections	Tumors and Infections	Tumors and Infections

Schedule at a glance

Activity	Room	Time
Sunday, December 11		
Registration	Main entrance	13:00—17:00
Opening ceremony and welcome cocktail (AO Foundation)	House A	17:00—20:00
Monday, December 12		
AOSpine opening session	Sanada 1+2—House C	07:15—07:30
Keynote lecture—Trauma Classification Sacral	Sanada 1+2—House C	07:30—08:30
TK Session—Hyperlordotic Cages with Integrated Screw Fixation	Sanada 1+2—House C	08:30—09:30
Bio Break	House C	09:30—09:45
Scientific program including coffee break	Session rooms	09:45—12:45
Lunch break	Exhibition area—House A	12:45—13:45
Practical exercise sessions 1—3	Foyer 1+2—House C	13:45—14:30
Coffee break	House C	14:30—14:45
Practical exercise sessions 4—5	Foyer 1+2—House C	14:45—16:15
Meet the Expert 1—Trauma	Hotel Ameron	14:45—16:15
Meet the Expert 2—Adult Deformity	Hotel Ameron	14:45—16:15
AOSpine "Meet your Faculty" reception	Restaurant Extrablatt	16:30—18:00
Tuesday, December 13		
Keynote lecture—Good Practice in Tumor Care	Sanada 1+2—House C	08:30—09:30
TK Session—Important Considerations for the Safe and Efficient use of Powered Pedicle Screw Insertion	Sanada 1+2—House C	09:30—10:30
Bio Break	House C	10:30—10:45
Scientific program including coffee break	Session rooms	10:45—13:45
Lunch break	Exhibition area—House A	13:45—14:45
Practical exercise sessions 1—3	Foyer 1+2—House C	14:45—15:30
Coffee break	House C	15:30—15:45
Practical exercise sessions 4—5	Foyer 1+2—House C	15:45—17:15
Meet the Expert 1—Cervical Degenerative	Hotel Ameron	17:00—18:30
Meet the Expert 2—Lumbar Degenerative	Hotel Ameron	17:00—18:30
AO World Night (social event)	Congress Center	18:30—20:00
Wednesday, December 14		
Keynote lecture—Non-technical Skills for Surgeons—Are They Important or Not?	Sanada 1+2—House C	07:30—08:30
TK Session	Sanada 1+2—House C	08:30—09:30
Bio Break	House C	09:30—09:45
Scientific program including coffee break	Session rooms	09:45—12:45
Lunch break	Exhibition area—House A	12:45—13:45
Practical exercise sessions 1—3	Foyer 1+2—House C	13:45—14:30
Coffee break	House C	14:30—14:45
Practical exercise sessions 4—5	Foyer 1+2—House C	14:45—16:15



Chairpersons and Educational Advisors

Course Director

Michael Grevitt

Queen's Medical Centre, UK

Chairpersons

Educational Advisors

Adult Deformity



Emiliano Vialle

Catholic University of Parana,
Brazil



Pablo Vela

Clinica los Rosales,
Colombia

Cervical Degenerative Including Complications



Mohammad El-Sharkawi

Assiut University Medical
School, Egypt



Ali Haghnegahdar

Shiraz University of Medical
Sciences, Iran

Lumbar Degenerative Including Complications



Bharat Dave

Stavya Spine Hospital and
Research Institute, Near
Nagari Hospital, India



Yoshiharu Kawaguchi

University of Toyama,
Japan

Trauma



Richard Bransford

Harborview Medical Center—
University of Washington, USA



John France

West Virginia University,
USA

Tumors and Infections



Claudius Thomé

Medical University Innsbruck,
Austria



Emre Acaroglu

Ankara Spine Center,
Turkey

Course faculty

Asia Pacific

Bryan Ashman		Australia
Abhay Nene		India
Yong Qiu		China
Yu Sun		China
Yan Wang		China
Dick Zeilstra		Thailand

Europe

Ufuk Aydinli		Turkey
Massimo Balsano		Italy
Phillipe Bancel		France
Giuseppe Barbagallo		Italy
Cedric Barrey		France
Lorin Benneker		Switzerland
Thomas Blattert		Germany
Philippe Charles		France
Ashley Cole		UK
Bart Depreitere		UK
Alessandro Gasbarrini		Italy
Nicholas Haden		UK
Paul Heini		Switzerland
Frank Kandziora		Germany
Jesus Lafuente		Spain
Khai Lam		UK
Michael Lassen		Denmark
Ulf Liljenqvist		Germany
Teija Lund		Finland

Christian Mazel

 France

Bernhard Meyer

 Germany

Sean Molloy

 UK

Yohan Robinson

 Sweden

Dominique Rothenfluh

 UK

Klaus Schnake

 Germany

Masood Shafafy

 UK

Ahmed M Shawky

 Germany

Middle East

Khalid AlSaleh		Saudi Arabia
Wael T Koptan		Egypt
Babak Pourabbas Tahvildarim		Iran

North America

Vincent Arlet		USA
Carlo Bellabarba		USA
Dean Chou		USA
Daniel Gelb		USA
Munish Gupta		USA
Han Jo Kim		USA
Robert Molinari		USA
Peter Rose		USA

Latin America

Nestor Taboada		Colombia
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Venue



Congress Center Davos

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

AOSpine registration—opening hours

Congress Center, main entrance

Sunday, December 11 13:00–17:00

Main entrance information desk—opening hours

General information/registration for special events
Congress Center, main entrance

Saturday 12:00–18:00

Sunday—Wednesday 07:30–19:00

AO World and industry exhibition—opening hours

Sunday, December 11 15:00–19:00

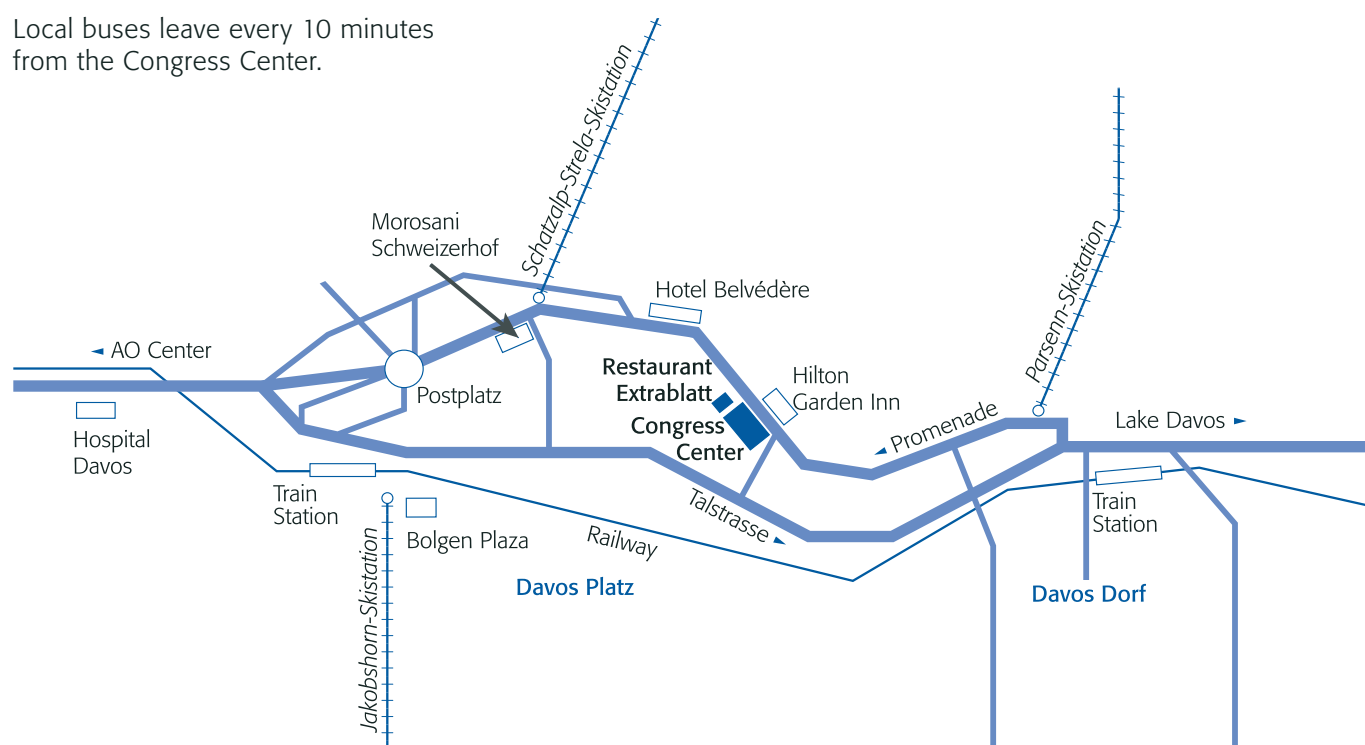
(welcome ceremony starts at 17:00)

Monday, December 12 09:00–17:00

Tuesday, December 13 09:00–20:30
(AO World Night)

Wednesday, December 14 09:00–17:00

Local buses leave every 10 minutes
from the Congress Center.



Course information

Accommodation

Please refer to the event page www.aodavoscourses.org for more information about accommodation and special hotel rates for Davos Course participants.

Accreditation

An application has been made to the UEMS-EACCME® for CME accreditation of this event.

Swiss local accreditation is provided as follows:
Swiss Orthopaedics with 25 CME credit points
Swiss Surgical Society with 22 CME credit points

All AOSpine courses apply the same pre-evaluation, on-site and post-evaluation process, with audience response system (ARS). This will help AOSpine to ensure that we continue to meet your training needs.

Insurance

The course organization does not take out insurance to cover any individual against accidents, theft, or other risks.

Mobile phone and camera use

The use of mobile phones and cameras is strictly prohibited in the lecture halls and during practical exercises.

Social evenings

The AOSpine "Meet Your Faculty" reception will take place on Monday, December 12, at the restaurant Extrablatt, next to the Congress Center, following the scientific sessions.

AO World Night, where participants can interact with participants and faculty from other clinical divisions, will take place on Tuesday, December 13, in the Congress Center.

Travel by car

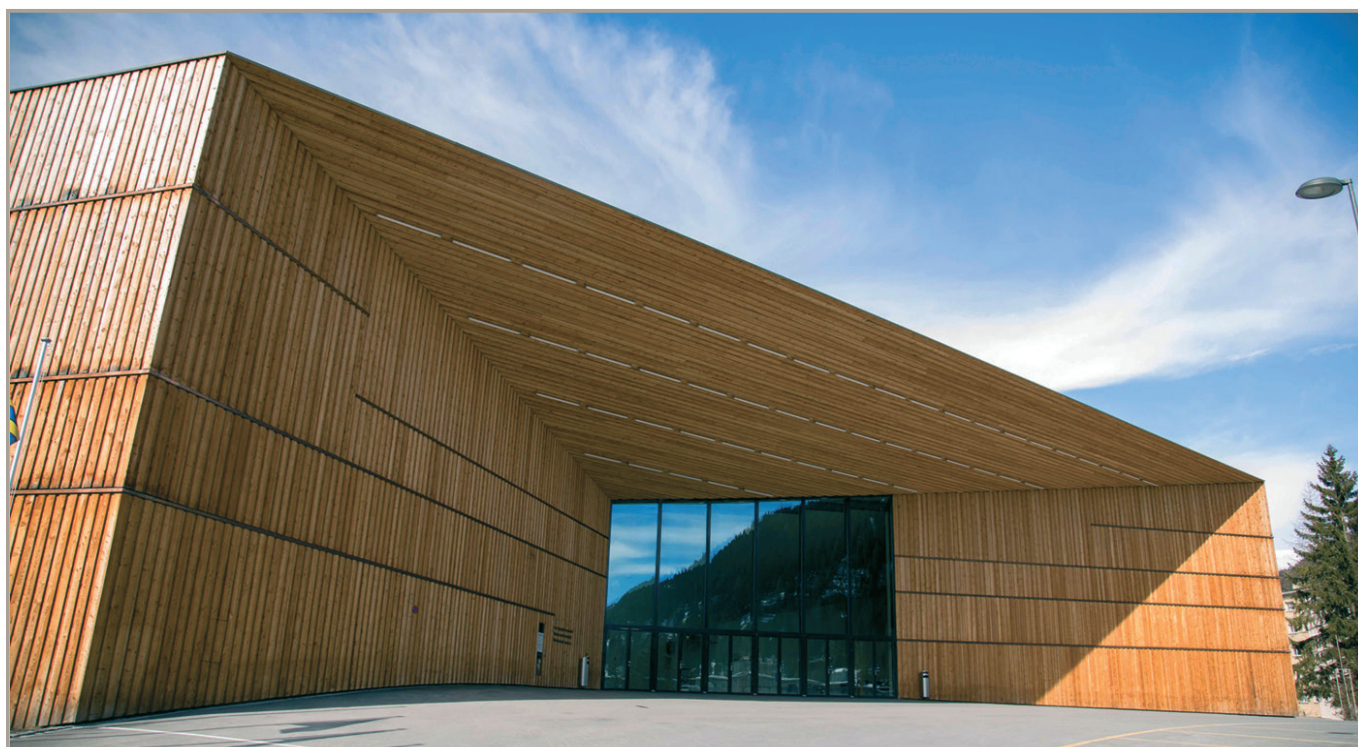
Davos is located in the heart of Grisons (Graubünden) in the east of Switzerland, about 150 km from Zurich. It takes approximately two hours from Zurich. Four wheel drive and winter tires are strongly recommended at this time of the year. Depending on road conditions, you may need snow chains on the last few kilometers.

Travel by plane

The nearest airport is Zurich Airport. From there you can travel to Davos either by train or by car.

Travel by train

A regular train service will conveniently take you from Zurich main station or Zurich Airport to Davos Platz; travel time is approximately three hours. Tickets and train schedule available at: www.sbb.ch





Adult Deformity

What to expect

Emiliano Vialle shares, "This module will focus on the alternatives to enhance fixation in osteoporotic bone, the adequate use of radiographic measurements for determining the type of surgery (osteotomies/ extent of fixation), as well as the current advantages and limitations of an anterior/lateral approach for interbody fusion in adult spinal deformity."

Adult Deformity

This module summarizes the current knowledge on the surgical management of adult deformity, with a focus on surgical planning, implant selection, and the avoidance of complications.

Learning objectives:

- Recognize the most important radiographic measurements for adult patients with a deformity, and apply these for surgical planning and execution
- Select the most appropriate implant type according to its characteristics and location for each patient
- Anticipate the complications associated with each treatment and formulate strategies for their prevention and management

Outlining the benefits

Vialle proposes,

"The case-based format enables experienced participants to use their own clinical judgement when making decisions, to correlate the case examples to their own personal experiences, as well as enlighten the discussion by sharing with the group their own knowledge and experiences."



Mohammad El-Sharkawi—Chairperson
Assiut University Medical School
Assiut, Egypt

Modules

Cervical Degenerative Disease Including Complications

What to expect

Mohammad El-Sharkawi explains, “This module provides a comprehensive overview of cervical degenerative disease and its complications.”

Cervical Degenerative

This module focuses on cervical degenerative instability, complex surgical degenerative problems, and strategies to prioritize treatment. It also covers controversial issues regarding treatment options for common and complicated cervical degenerative problems.

Learning objectives:

- Explain the concepts of cervical stability and instability
- Discuss anterior versus posterior decompression in cervical myelopathy
- Evaluate the risks and benefits of the different treatment strategies
- Integrate knowledge, experience, and peer consultation to develop guidelines for managing complex cervical degenerative cases
- Formulate and apply strategies to manage surgical complications in the cervical spine

Outlining the benefits

El-Sharkawi shares,

“The fully case-based format enables real-life scenarios to be discussed, and evidence-based practices to be promoted, which will allow participants to ask and discuss specific issues relevant to their own daily practice. World-class expert faculty members will present diverse opinions, encouraging lively discussions on the pros and cons of the different treatment options, providing a truly global perspective on spine surgery.”



Bharat Dave—Chairperson
Stavva Spine Hospital and Research
Institute, Near Nagari Hospital,
Ahmedabad, India

Modules

Lumbar Degenerative Disease Including Complications

What to expect

Bharat Dave summarizes, “Degenerative spinal conditions present unique difficulties. This module enables surgeons to develop a strategic surgical approach for the management of lumbar degenerative disease in an ageing patient population.”

Lumbar Degenerative Disease

This module focuses on treatment options, challenges, and complications in the lumbar spine.

Learning objectives:

- Disc prolapse evaluation: define the surgical candidate and discuss the operative options and complications
- Axial back pain: evaluate the patient and discuss treatment options with the patient's perspective
- Validate motion preservation: discuss the techniques, indications, and complications
- Operative controversies: discuss key aspects of the management of degenerative scoliosis
- Strategies in management: address challenging conditions such as tandem stenosis, obesity, older adults, and osteoporotic patients

Outlining the benefits

Dave says,

“The case-based, Master's Level educational format provides an excellent platform for global experts to exchange opinions as well as experiences in dealing with complex case scenarios. The highly-interactive sessions focus on the most relevant, evidence-based information, which benefits participants' own clinical practices, and promotes interactive learning. The small-group discussions, which analyze the various clinical presentations and pathologies of a given case scenario, also offer the pros and cons of each modality available, for a better understanding of the latest concepts in dealing with an ageing population.”



Richard Bransford—Chairperson
Harborview Medical Center—
University of Washington,
Seattle, USA

Modules

Trauma

What to expect

Richard Bransford highlights, "This module focuses on the traumatic spine injuries that are frequently mismanaged, and on injuries where there is a clear controversy in literature and among experts. The individual topics will be discussed and analyzed, in order to attempt to synthesize true evidence-based practice patterns."

Trauma

This module will focus on specific cervical fractures including dens fractures, jumped facets, and isolated facet fractures, thoracolumbar extension injuries, AO C type injuries, thoracolumbar A3/A4 fractures, and thoracolumbar B1/B2 injuries. It will also focus on other spine trauma topics, including unstable sacral fractures, post-traumatic kyphosis, and issues related to spinal cord injuries.

Learning objectives:

- Identify and assess traumatic injury patterns
- Recognize and discuss the controversies surrounding traumatic spinal injuries
- Synthesize an evidence-based approach and philosophy for the care of patients with traumatic spinal injuries
- Apply appropriate, timely management, consistent with proven principles

Outlining the benefits

Bransford explains,

"The case-based educational format places the surgeon in a familiar scenario with specifics. This is a fantastic platform for launching into the many nuances that pertain to one's day-to-day practice. The sharing of participants' individual perspectives, inputs, and interpretations are invaluable when reviewing each case to deliver optimal care."



Claudius Thomé—Chairperson
Medical University Innsbruck,
Innsbruck, Austria

Modules

Tumors and Infections

What to expect

"Spinal infection is dramatically increasing and management can be cumbersome," shares Claudius Thomé. In this module, treatment algorithms and a detailed knowledge on special subgroups will enable the participants to improve patient care. The course will also discuss primary spinal tumors. "Although rare, identifying them and knowing both the pearls and pitfalls, plus the recent advances in the field, ensures a standardized patient management," he adds.

Tumors and Infections

With spinal tumors and infections, timing and diagnostic modalities are crucial for optimized patient management. This module will focus on the basics, pitfalls, and pearls of diagnosis, followed by treatment options. These range from biopsy, medical management, and minimally invasive surgery to extensive en bloc resections. Anterior and/or posterior approaches to lesions will be discussed, as well as the establishment of individualized treatment algorithms. The latest oncological advances will also be covered.

Learning objectives:

- Recognize the relevant diagnostic studies and their timing in the evaluation of spinal tumors and infection
- Recognize the importance of a biopsy for histological and microbiological diagnosis in spinal tumors and infection
- Identify the role of spinal stability in neoplastic and infectious disease
- Discuss the different treatment options for spinal tumors and infection and their benefits and limitations in relation to their invasiveness
- Recognize relevant differences when treating malignant primary spinal tumors and specific spondylodiscitis
- Select the treatment options for spinal tumors and infection based on an individualized algorithm

Outlining the benefits

Thomé shares,

"In contrast to lengthy lectures, the treatment principles and algorithms are discussed and practiced in small groups and followed-up by expert opinions. With the number of cases available, a wide range of infectious and neoplastic entities can be covered, so that the practical value for the participants' daily practice is evident."

Technical Commission (TK) sessions

Monday, December 12 Room Sanada 1+2

Hyperlordotic Cases with Integrated Screw Fixation

Time: **08:30–09:30**

Speaker: **P Heini**

Tuesday, December 13 Room Sanada 1+2

Important Considerations for the Safe and Efficient Use of Powered Pedicle Screw Insertion

Time: **09:30–10:30**

Speaker: **J Ouellet**

Wednesday, December 14 Room Sanada 1+2

The next step in ZeroP technology for ACDF: Allograft Spacer

Time: **08:30–09:30**

Speaker: **R Bransford**

Keynote lectures

Monday, December 12

Subaxial Classification System

Evaluation & Classification of Sacral Fx—Carlo Bellabarga

Treatment of Sacral Fx. How does the AO classification help?—Klaus Schnake

Pearls, pitfalls & complications of sacral fractures—Richard Bransford

Discussion—All

Time: **07:30–08:30**

Location: **Congress Center, Sanada 1+2**

Chairperson: **Carlo Bellabarba**

Faculty: **Richard Bransford, Klaus Schnake**

Tuesday, December 13

New Guidelines

SCI guidelines (methodology, outcomes and next steps)—Michael Fehlings per video dial in

Spine Tumor recommendations based on focus issue from KF Tumor—Charles Fisher per video dial in and Dean Chou on site

Time: **08:30–09:30**

Location: **Congress Center, Sanada 1+2**

Chairperson: **Michael Fehlings**

Faculty: **Charles Fisher, Dean Chou**

Wednesday, December 14

Non-Technical Skills for Surgeons—Are They Important or Not?

Pro and Con panel discussion

Time: **07:30–08:30**

Location: **Congress Center, Sanada 1+2**

Chairperson: **Bryan Ashman**

Faculty: **Teija Lund, Claudius Thomé**

Practical exercises

Monday, December 12

Cervical Degenerative

Time: **13:45–14:30**

Location: **Congress Center, Foyer C2**

Chairperson: **Ali Haghnegahdar**

Faculty:

Phillipe Bancel

Nicholas Haden

Wael T Koptan

Ahmed M Shawky

Trauma

Time: **13:45–15:30**

Location: **Congress Center, Foyer C1**

Chairperson: **Richard Bransford**

Faculty:

Lorin Benneker

John France

Frank Kandziora

Han Jo Kim

Tumors and Infections

Time: **13:45–14:30**

Location: **Congress Center, Foyer C2**

Chairperson: **Emre Acaroglu**

Faculty:

Thomas Blattert

Bart Depreitere

Alessandro Gasbarrini

Ulf Liljenqvist

Adult Deformity

Time: **14:45–16:15**

Location: **Congress Center, Foyer C2**

Chairperson: **Pablo Vela**

Faculty:

Cedric Barrey

Paul Heini

Yong Qiu

Nestor Taboada

Lumbar Degenerative

Time: **14:45–16:15**

Location: **Congress Center, Foyer C1**

Chairperson: **Giuseppe Barbagallo**

Faculty:

Jesus Lafuente

Christian Mazel

Robert Molinari

Abhay Nene

Practical exercises

Tuesday, December 13

Cervical Degenerative

Time: **14:45–15:30**

Location: **Congress Center, Foyer C2**

Chairperson: **Mohammad El-Sharkawi**

Faculty:

Khalid AlSaleh

Wael T Koptan

Babak Pourabbas Tahvildari

Ahmed M Shawky

Trauma

Time: **14:45–15:30**

Location: **Congress Center, Foyer C1**

Chairperson: **John France**

Faculty:

Lorin Benneker

Ashley Cole

Frank Kandziora

Masood Shafafy

Tumors and Infections

Time: **14:45–15:30**

Location: **Congress Center, Foyer C1**

Chairperson: **Claudius Thomé**

Faculty:

Ufuk Aydinli

Thomas Blattert

Philippe Charles

Alessandro Gasbarrini

Adult Deformity

Time: **15:45–17:15**

Location: **Congress Center, Foyer C2**

Chairperson: **Emiliano Vialle**

Faculty:

Massimo Balsano

Nestor Taboada

Pablo Vela

Yan Wang

Lumbar Degenerative

Time: **15:45–17:15**

Location: **Congress Center, Foyer C1**

Chairperson: **Bharat Dave**

Faculty:

Giuseppe Barbagallo

Peter Rose

Dominique Rothenfluh

Yu Sun

Practical exercises

Wednesday, December 14

Cervical Degenerative

Time: **13:45–14:30**

Location: **Congress Center, Foyer C2**

Chairperson: **Bryan Ashman**

Faculty: **Dean Chou**

Nicholas Haden

Babak Pourabbas Tahvildari

Yu Sun

Trauma

Time: **13:45–14:30**

Location: **Congress Center, Foyer C1**

Chairperson: **Klaus Schnake**

Faculty: **Daniel Gelb**

Han Jo Kim

Robert Molinari

Masood Shafafy

Tumors and Infections

Time: **13:45–14:30**

Location: **Congress Center, Foyer C2**

Chairperson: **Bernhard Meyer**

Faculty: **Ufuk Aydinli**

Massimo Balsano

Jesus Lafuente

Teija Lund

Adult Deformity

Time: **14:45–16:15**

Location: **Congress Center, Foyer C2**

Chairperson: **Vincent Arlet**

Faculty: **Phillipe Bancel**

Munish Gupta

Yong Qiu

Yan Wang

Lumbar Degenerative

Time: **14:45–16:15**

Location: **Congress Center, Foyer C1**

Chairperson: **Yoshi Kawaguchi**

Faculty: **Michael Rud Lassen**

Sean Molloy

Dominique Rothenfluh

Dick Zeilstra

Meet the Experts sessions

Monday, December 12

Expert group

Trauma

Time: **14:45–16:15**

Location: **Hotel Ameron**

Room: **tbc**



**Carlo
Bellabarba**



Ashley Cole



Daniel Gelb

Adult Deformity

Time: **14:45–16:15**

Location: **Hotel Ameron**

Room: **tbc**



Vincent Arlet



**Munish
Gupta**



**Emiliano
Vialle**

Tuesday, December 13

Expert group

Cervical Degenerative

Time: **17:00–18:30**

Location: **Hotel Ameron**

Room: **tbc**



**Bryan
Ashman**



**Yohan
Robinson**



**Claudius
Thomé**

Lumbar Degenerative

Time: **17:00–18:30**

Location: **Hotel Ameron**

Room: **tbc**



Nene Abhay



**Finn
Christensen**



Khai Lam

Monday, December 12

TK Sessions take place in rooms Sanada 1+2. See detailed schedule on page 20.

Keynote lectures take place in room Sanada 1+2. See detailed schedule on page 21.

Practical exercises take place in Foyer C1 and C2. See detailed schedule on page 22.

Meet the Expert sessions take place in the hotel Ameron. See detailed schedule on page 23.

Adult Deformity Room Seehorn—House A

Time	Title	Moderators/ Faculty
09:45—10:45	Case 1: Degenerative Spondylolisthesis	P Vela
09:45—09:50	Case presentation	E Vialle
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	E Vialle
10:30—10:40	Expert opinion	M Balsano
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Lumbar Saggital Imbalance	N Taboada
10:45—10:50	Case presentation	V Arlet
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	V Arlet
11:30—11:40	Expert opinion	C Barrey
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Rigid Saggital Imbalance	E Vialle
11:45—11:50	Case presentation	Y Qiu
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	Y Qiu
12:30—12:40	Expert opinion	Y Wang
12:40—12:45	Case evaluation	

Cervical Degenerative Including Complications Room Sanada 1—House C

Time	Title	Moderators/ Faculty
07:00—07:15	AOSpine opening session	M Grevitt
07:30—08:30	Keynote lecture	
08:30—09:20	TK session	
09:45—10:45	Case 1: Single level Radiculopathy; What is the Optimum Approach? ACDF / CDR / Posterior Foraminotomy	B Ashman
09:45—09:50	Case presentation	B Pourabbas Tahvildari
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	B Pourabbas Tahvildari
10:30—10:40	Expert opinion	D Chou
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Cervical Canal Stenosis with Maintained Lordosis. Treatment Options/ Why Not Laminectomy?	Y Robinson
10:45—10:50	Case presentation	Y Sun
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	Y Sun
11:30—11:40	Expert opinion	W Koptan
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Failed CDR. Causes, Incidence, and Revision Strategies	P Bancel
11:45—11:50	Case presentation	A Shawky
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	A Shawky
12:30—12:40	Expert opinion	B Ashman
12:40—12:45	Case evaluation	

Lumbar Degenerative Including Complications

Room Sanada 2—House C

Time	Title	Moderators/ Faculty
07:00—07:15	AOSpine opening session	M Grevitt
07:30—08:30	Keynote lecture	
08:30—09:20	TK session	
09:45—10:45	Case 1: Lumbar Disc Prolapse with Recurrence	G Barbagallo
09:45—09:50	Case presentation	C Mazel
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	C Mazel
10:30—10:40	Expert opinion	B Dave
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Degenerative Scoliosis with Tandem Stenosis	S Molloy
10:45—10:50	Case presentation	D Rothenfluh
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	D Rothenfluh
11:30—11:40	Expert opinion	A Nene
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Axial Back Pain with Motion Preservation	T Lund
11:45—11:50	Case presentation	D Zeilstra
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	D Zeilstra
12:30—12:40	Expert opinion	Khai Lam
12:40—12:45	Case evaluation	

Trauma

Room Aspen 1—House C

Time	Title	Moderators/ Faculty
09:45—10:45	Case 1: Geriatric Dens Fx	L Benneker
09:45—09:50	Case presentation	HJ Kim
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	HJ Kim
10:30—10:40	Expert opinion	R Molinari
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Unilateral Facet Fracture	R Molinari
10:45—10:50	Case presentation	A Cole
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	A Cole
11:30—11:40	Expert opinion	D Gelb
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Sub-axial Facet Fx-Dislocation	F Kandziora
11:45—11:50	Case presentation	M Shafafy
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	M Shafafy
12:30—12:40	Expert opinion	C Bellabarba
12:40—12:45	Case evaluation	

Tumors and Infections

Room Aspen 2—House C

Time	Title	Moderators/ Faculty
09:45—10:45	Case 1: Spinal Sarcoma	C Thomé
09:45—09:50	Case presentation	U Liljenqvist
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	U Liljenqvist
10:30—10:40	Expert opinion	A Gasbarrini
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Metastasis in the Cervical Spine	P Charles
10:45—10:50	Case presentation	J Lafuente
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	J Lafuente
11:30—11:40	Expert opinion	P Rose
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Spondylodiscitis with Epidural Abscess	U Liljenqvist
11:45—11:50	Case presentation	B Meyer
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	B Meyer
12:30—12:40	Expert opinion	J Lafuente
12:40—12:45	Case evaluation	

Tuesday, December 13

TK Sessions take place in rooms Sanada 1+2. See detailed schedule on page 20.

Keynote lectures take place in room Sanada 1+2. See detailed schedule on page 21.

Practical exercises take place in Foyer C1 and C2. See detailed schedule on page 22.

Meet the Expert sessions take place in the hotel Ameron. See detailed schedule on page 23.

Adult Deformity Room Seehorn—House A

Time	Title	Moderators/ Faculty
10:45—11:45	Case 1: Degenerative Scoliosis	P Vela
10:45—10:50	Case presentation	M Gupta
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	M Gupta
11:30—11:40	Expert opinion	P Heini
11:40—11:45	Case evaluation	
11:45—12:45	Case 2: Proximal Junctional Failure	N Taboada
11:45—11:50	Case presentation	P Heini
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	P Heini
12:30—12:40	Expert opinion	Y Qiu
12:40—12:45	Case evaluation	
12:45—13:45	Case 3: Postoperative Infection	V Arlet
12:45—12:50	Case presentation	N Taboada
12:50—13:10	Case discussion at group tables	all faculty
13:10—13:25	Case presentation from group results	all faculty
13:25—13:30	Case solution	N Taboada
13:30—13:40	Expert opinion	Y Wang
13:40—13:45	Case evaluation	

Cervical Degenerative Including Complications Room Sanada 1—House C

Time	Title	Moderators/ Faculty
08:30—09:30	Keynote lecture	
09:30—10:20	TK session	
10:45—11:45	Case 1: Cervical Cord Compression with No or Mild Symptoms. Observe or Treat?	D Chou
10:45—10:50	Case presentation	W Koptan
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	W Koptan
11:30—11:40	Expert opinion	N Haden
11:40—11:45	Case evaluation	
11:45—12:45	Case 2: Dysphagia	Y Sun
11:45—11:50	Case presentation	B Ashman
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	B Ashman
12:30—12:40	Expert opinion	B Pourabbas Tahvildari
12:40—12:45	Case evaluation	
12:45—13:45	Case 3: Degenerative Cervical Kyphosis / Cervical Osteotomies	N Haden
12:45—12:50	Case presentation	D Chou
12:50—13:10	Case discussion at group tables	all faculty
13:10—13:25	Case presentation from group results	all faculty
13:25—13:30	Case solution	D Chou
13:30—13:40	Expert opinion	Y Robinson
13:40—13:45	Case evaluation	

Lumbar Degenerative Including Complications Room Sanada 2—House C

Time	Title	Moderators/ Faculty
08:30—09:30	Keynote lecture	
09:30—10:20	TK session	
10:45—11:45	Case 1: Lumbar Disc Prolapse with Infection	B Dave
10:45—10:50	Case presentation	A Nene
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	A Nene
11:30—11:40	Expert opinion	C Mazel
11:40—11:45	Case evaluation	
11:45—12:45	Case 2: Degenerative Scoliosis with Obesity and Tandem Stenosis	Christian Mazel
11:45—11:50	Case presentation	S Molloy
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	S Molloy
12:30—12:40	Expert opinion	G Barbagallo
12:40—12:45	Case evaluation	
12:45—13:45	Case 3: Stenosis Use of Spacer	D Zeilstra
12:45—12:50	Case presentation	K Lam
12:50—13:10	Case discussion at group tables	all faculty
13:10—13:25	Case presentation from group results	all faculty
13:25—13:30	Case solution	K Lam
13:30—13:40	Expert opinion	D Rothenfluh
13:40—13:45	Case evaluation	

Trauma Room Aspen 1—House C

Time	Title	Moderators/ Faculty
10:45—11:45	Case 1: Extension Injury in Ank Spond or DISH	D Gelb
10:45—10:50	Case presentation	F Kandziora
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	F Kandziora
11:30—11:40	Expert opinion	M Shafafy
11:40—11:45	Case evaluation	
11:45—12:45	Case 2: Thoracolumbar A3/A4 Fx	A Cole
11:45—11:50	Case presentation	L Benneker
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	L Benneker
12:30—12:40	Expert opinion	F Kandziora
12:40—12:45	Case evaluation	
12:45—13:45	Case 3: Thoracolumbar B1/B2 Injuries	C Bellabarba
12:45—12:50	Case presentation	R Molinari
12:50—13:10	Case discussion at group tables	all faculty
13:10—13:25	Case presentation from group results	all faculty
13:25—13:30	Case solution	R Molinari
13:30—13:40	Expert opinion	K Schnake
13:40—13:45	Case evaluation	

Tumors and Infections Room Aspen 2—House C

Time	Title	Moderators/ Faculty
10:45—11:45	Case 1: Cervical Chordoma	B Meyer
10:45—10:50	Case presentation	C Thomé
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	C Thomé
11:30—11:40	Expert opinion	U Liljenqvist
11:40—11:45	Case evaluation	
11:45—12:45	Case 2: Solitary Spinal Metastasis	U Aydinli
11:45—11:50	Case presentation	T Blattert
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	T Blattert
12:30—12:40	Expert opinion	B Depreitere
12:40—12:45	Case evaluation	
12:45—13:45	Case 3: Recurrent Postoperative Spinal Infection	P Rose
12:45—12:50	Case presentation	P Charles
12:50—13:10	Case discussion at group tables	all faculty
13:10—13:25	Case presentation from group results	all faculty
13:25—13:30	Case solution	P Charles
13:30—13:40	Expert opinion	T Blattert
13:40—13:45	Case evaluation	

Wednesday, December 14

TK Sessions take place in rooms Sanada 1+2. See detailed schedule on page 20.

Keynote lectures take place in room Sanada 1+2. See detailed schedule on page 21.

Practical exercises take place in Foyer C1 and C2. See detailed schedule on page 22.

Meet the Expert sessions take place in the hotel Ameron. See detailed schedule on page 23.

Adult Deformity Room Seehorn—House A

Time	Title	Moderators/ Faculty
09:45—10:45	Case 1: Degenerative Scoliosis	K Alsaleh
09:45—09:50	Case presentation	C Barrey
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	C Barrey
10:30—10:40	Expert opinion	V Arlet
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Lumbosacral Junctional Failure	P Vela
10:45—10:50	Case presentation	M Balsano
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	M Balsano
11:30—11:40	Expert opinion	Y Qiu
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Lumbar Non-Union	N Taboada
11:45—11:50	Case presentation	P Heini
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	P Heini
12:30—12:40	Expert opinion	K Alsaleh
12:40—12:45	Case evaluation	

Cervical Degenerative Including Complications Room Sanada 1—House C

Time	Title	Moderators/ Faculty
07:30—08:30	Keynote lecture	
08:30—09:20	TK session	
09:45—10:45	Case 1: Adjacent Segment Degeneration (Adjacent to ACDF / CDR)	A Shawky
09:45—09:50	Case presentation	Y Robinson
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	Y Robinson
10:30—10:40	Expert opinion	P Bancel
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: OPLL	B Pourabbas Tahvildari
10:45—10:50	Case presentation	P Bancel
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	P Bancel
11:30—11:40	Expert opinion	Y Sun
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Post-surgical C5 Palsy (Post-ACDF, Post-Laminectomy)	W Koptan
11:45—11:50	Case presentation	N Haden
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	N Haden
12:30—12:40	Expert opinion	A Shawky
12:40—12:45	Case evaluation	

Lumbar Degenerative Including Complications Room Sanada 2—House C

Time	Title	Moderators/ Faculty
07:30—08:30	Keynote lecture	
08:30—09:20	TK session	
09:45—10:45	Case 1: Multilevel Lumbar Disc Prolapse with Constitutional Narrow Canal	K Lam
09:45—09:50	Case presentation	T Lund
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	T Lund
10:30—10:40	Expert opinion	D Zeilstra
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Degenerative Scoliosis with Pelvic Tilt	D Rothenfluh
10:45—10:50	Case presentation	B Dave
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	B Dave
11:30—11:40	Expert opinion	T Lund
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Degenerative Olisthesis with Osteoporosis	A Nene
11:45—11:50	Case presentation	G Barbagallo
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	G Barbagallo
12:30—12:40	Expert opinion	S Molloy
12:40—12:45	Case evaluation	

Trauma Room Aspen 1—House C

Time	Title	Moderators/ Faculty
09:45—10:45	Case 1: Unstable Sacral Fx	K Schnake
09:45—09:50	Case presentation	J France
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	J France
10:30—10:40	Expert opinion	C Bellabarba
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Post-Traumatic Kyphosis	A Cole
10:45—10:50	Case presentation	K Schnake
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	K Schnake
11:30—11:40	Expert opinion	J France
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Dense Central Cord Syndrome	HJ Kim
11:45—11:50	Case presentation	L Benneker
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	L Benneker
12:30—12:40	Expert opinion	D Gelb
12:40—12:45	Case evaluation	

Tumors and Infections Room Aspen 2—House C

Time	Title	Moderators/ Faculty
09:45—10:45	Case 1: Pathologic Fracture Due to Spinal Metastasis	
09:45—09:50	Case presentation	P Rose
09:50—10:10	Case discussion at group tables	all faculty
10:10—10:25	Case presentation from group results	all faculty
10:25—10:30	Case solution	P Rose
10:30—10:40	Expert opinion	B Meyer
10:40—10:45	Case evaluation	
10:45—11:45	Case 2: Aneurysmal Bone Cyst	J Lafuente
10:45—10:50	Case presentation	A Gasbarrini
10:50—11:10	Case discussion at group tables	all faculty
11:10—11:25	Case presentation from group results	all faculty
11:25—11:30	Case solution	A Gasbarrini
11:30—11:40	Expert opinion	C Thomé
11:40—11:45	Case evaluation	
11:45—12:45	Case 3: Tuberculous Spondylitis with Deformity	A Gasbarrini
11:45—11:50	Case presentation	U Aydinli
11:50—12:10	Case discussion at group tables	all faculty
12:10—12:25	Case presentation from group results	all faculty
12:25—12:30	Case solution	U Aydinli
12:30—12:40	Expert opinion	P Charles
12:40—12:45	Case evaluation	

AO Foundation—Principles for 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 (www.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**

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) **Venue and personnel**

AO educational events cannot be held on the premises of any industry partner.

Industry staff is not allowed to interfere with the educational content or engage in educational activities during the event.