## JOINT PRESERVING PROCEDURES:
### What can we learn from our orthopaedic colleagues?

### Objectives:
Upon completion of this scientific session, learners should be able to:
- Recognize and assess general principles of periarticular osteotomies, particularly for the foot and ankle
- Compare and contrast techniques of joint-preserving periarticular osteotomies of the ankle and hindfoot,
- Analyze the evidence to support the integration of these techniques into practice

### Moderator:
**Ned Amendola, MD**  
Professor  
Department of Orthopaedics and Rehabilitation  
Director, University of Iowa Sports Medicine  
University of Iowa  
Iowa City, Iowa

### Correcting Supramalleolar Osteotomies after Malunited Ankles
**Beat Hintermann, MD**  
Markus Knupp, MD; Alexej Barg, MD; Joe Wagener, MD

### Principles of Supramalleolar and Calcaneal Osteotomies in Ankle Arthritis
**Beat Hintermann, MD**  
Chairman Orthopaedic Department, Kantonsspital  
Liestal, Switzerland

### Essential Principles of Joint Realignment
**John E. Herzenberg, MD**  
Director  
International Center for Limb Lengthening  
Chief of Pediatric Orthopaedics  
Sinai Hospital  
Baltimore, Maryland

### Will Your Child Live to be 100? Children’s Orthopaedic Methods to Optimize Hip and Lower Limb Function
**Dennis R. Wenger, MD**  
Director, Pediatric Orthopaedic Training Program  
Rady Children’s Hospital  
Clinical Professor of Orthopaedic Surgery  
University of California, San Diego  
San Diego, California

### Why Joint Realignment Works Even in the Face of Arthritis
**Dror Paley, MD**  
Director  
Paley Advanced Limb Lengthening Institute  
West Palm Beach, Florida
Bone and joint malalignment is a frequent underlying etiology for many foot and ankle disorders. Most commonly the malalignment is post traumatic in nature, but can be congenital or developmental in nature. The traumatic causes of malalignment are usually due to fracture, joint instability, or articular injury causing joint irregularity. Congenital or developmental causes may involve growth plate injury, and early treatment may avoid late deformity and arthritis. Sequelae of malalignment, particularly around the foot and ankle and lower extremity, cause focal increases in shear stress and loading of cartilage and soft tissue, that eventually lead to degenerative change and further deformity.

As an integral part of the evaluation of any lower extremity or foot and ankle condition, assessment of alignment clinically and radiographically must be performed and be detailed. Malalignment may occur in many planes, including sagittal, coronal, rotational, and joint orientation. In the foot and ankle there are various joints to consider when looking at the effect of realignment, for example the effect or response of the subtalar joint when a supramalleolar or calcaneal osteotomy, that makes realigning the foot challenging.

Once alignment or malalignment has been demonstrated to be an etiological factor of the underlying arthrosis or cause of pain and dysfunction, the decision to correct or change alignment is a major decision. Many techniques are available to the armamentarium of the surgeon, depending on the need for a single axis or multiaxial correction. In this symposium, various well known surgeons in the art of realignment will share their expertise, approaches, and rationale in correcting alignment.

Cases will be presented demonstrating many of the challenges and techniques presented by the speakers.

The outcome of ankle fractures is not always as good as believed. Beside of injuries to cartilage and soft tissues, persistent incongruency after inappropriate reduction of the fracture may be the main source of late problems. This is in particular true for persisting misalignment and instability that may cause asymmetric load, shear forces and wear of the ankle joint. Our strategy is to use correcting osteotomies of the distal tibia are as a key stone for restoring integrity and physiologic load of the malunited ankle joint.