

# DKOU2017

German Congress of Orthopedic and Trauma Surgery

**Berlin 24 - 27 October**  
International Program

**MOTION  
IS LIFE**



## 103<sup>rd</sup> Meeting of the German Society for Orthopaedics and Orthopaedic Surgery



### DG00C President

**Univ.-Prof. Dr. med. Andrea Meurer**

Orthopedic University Hospital Friedrichsheim gGmbH

Administration Office

Straße des 17. Juni 106 - 108, 10623 Berlin, Germany

☎ +49 30 3406036-30, 📠 +49 30 3406036-31

info@dgooc.de, [www.dgooc.de](http://www.dgooc.de)

## 81<sup>st</sup> Annual Meeting of the German Trauma Society



### DGU President

**Univ.-Prof. Dr. med. Ingo Marzi**

Department of Hand, Trauma, and Reconstructive Surgery  
University Hospital, Goethe-University Frankfurt

Administration Office

Straße des 17. Juni 106 - 108, 10623 Berlin, Germany

☎ +49 30 3406036-20, 📠 +49 30 3406036-21

office@dgu-online.de, [www.dgu-online.de](http://www.dgu-online.de)

## 58<sup>th</sup> Meeting of the Professional Association of Orthopaedics and Orthopaedic Surgeons



### BVou Congress President

**Prof. Dr. med. Alexander Beck**

Hospital Würzburg Mitte gGmbH, Location Juliusspital

Department of Orthopedics, Trauma and Reconstructive Surgery

Administration Office

Straße des 17. Juni 106 - 108, 10623 Berlin, Germany

☎ +49 30 797444-44, 📠 +49 30 797444-45

bvou@bvou.net, [www.bvou.net](http://www.bvou.net)

## Guest Nation



### United States of America

■ AAOS - American Association of Orthopaedic Surgeons  
[www.aaos.org](http://www.aaos.org)

■ AAST - American Association for the Surgery of Trauma  
[www.aast.org](http://www.aast.org)

■ AOA - American Orthopaedic Association  
[www.aoassn.org](http://www.aoassn.org)

■ ORS - Orthopaedic Research Society  
[www.ors.org](http://www.ors.org)

■ OTA - Orthopaedic Trauma Association  
[www.ota.org](http://www.ota.org)

■ POSNA - Pediatric Orthopaedic Society of North America  
[www.posna.org](http://www.posna.org)

## Fiscal Organiser, Congress & Exhibition Management



### Intercongress GmbH

Martin Berndt (Events), Anne Roetsch (Registration),

Carola Schröder (Congress), Kerstin Schwarz-Cloß (Industry)

Wilhelmstr. 7, 65185 Wiesbaden, Germany

☎ +49 611 97716-0, 📠 +49 611 97716-16

dkou@intercongress.de, [www.intercongress.de](http://www.intercongress.de)



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## Motion is Life

is the congress theme of the **German Congress of Orthopedic and Trauma Surgery 2017**. Motion is a fundamental condition for our health – beginning with the various processes occurring every second in our body and finally resulting in the movement of our extremities. The loss of motion leads to functional deficits, to the loss of mobility and to a serious restriction of the quality of life. **Keeping our motion and regaining lost motion** is therefore one of the key goals of orthopedic and trauma surgery.

**Sports and Motion** have manifested themselves in our society as important topics for many years now. Many of us are exercising sport to keep fit and for having fun; many elderly people want to keep up with the younger generation. Topics such as popular and professional sports with their potential risks, the treatment of sport injuries, but also their prevention are essential contents of the congress of orthopedic and trauma surgery.

Regardless of age acute and chronic joint pain results in a restriction of joint motion. **Regaining this lost motion** through conservative treatment methods, by joint-preserving measures but also by joint replacing operations are central parts of the modern orthopedic surgery. Similarly, accidents cause **motion restrictions**, pain and loss of mobility; muscle and soft tissue damage result in functional disturbances and can lead to a compromised circulation. Multiple severe injuries and their acute blood loss can finally result in a life-threatening cardiac arrest. The prevention of these sequela and the restoration of anatomy and function are the central parts of the surgical treatment.

Orthopedic and Trauma surgery incorporate a wide range of conservative treatment options, joint preserving and joint reconstructing procedures including minimal-invasive surgical procedures, optimized implants and joint replacing therapies. This is made possible by understanding the process of soft tissue healing and the origin of acute and chronic illnesses.

The various fields of orthopedic and trauma surgery with the underlying mechanisms as well as differentiated diagnostic tools and therapy and also the prevention and rehabilitation are topics of the DKOU 2017. The participation of the **United States of America** as this year's guest nation will be a valuable enrichment for the congress, which has become more and more international each year.

Aside from the scientific topics, contemporary issues such as economical problems and the increasing regulation of education and working conditions will be discussed. The various societies, sections and working groups will get the possibility to present their achievements and are invited for inter-collegial exchange.

You all are warmly welcome to participate by attending our meeting. Join the **German Congress of Orthopedic and Trauma Surgery 2017** in Berlin, we are looking forward to discussing with you the fascinating diagnostic and therapeutic options in orthopedics and traumatology with the goal of **maintaining motion**.

Univ.-Prof. Dr. med. Andrea Meurer  
President DG00C

Univ.-Prof. Dr. med. Ingo Marzi  
President DGOU, DGU

Prof. Dr. med. Alexander Beck  
Congress President BVOU



For admission to the congress program a valid congress ticket is required. Please confer the web program for current changes ([www.dkou.de](http://www.dkou.de)).

09:00 - 10:30

New York 1

International: in English

## IN11 Stem cells in osteonecrosis (Annual ARCO meeting 2017)

In cooperation with ARCO



Chair Drescher W. (Schwarzenbruck), Goodman S. (Redwood City),  
Hernigou P. (Creteil), Jones Lynne C. (Baltimore)

46 Modulating crosstalk between macrophages and mesenchymal stem cells to enhance bone formation

5'+3' Goodman S. (Redwood City), Lu L., Pajarinen J., Lin T., Gibon E., Nabeshima A., Nathan K., Yao Z.

173 Stem cell therapy in osteonecrosis occurring after therapy for malignancy: Risks of tumor occurrence and transplantation at the site of stem cell treatment?

5'+3' Hernigou P. (Creteil)

1425 The influence of stem cells, osteogenic pre-differentiation of stem cells and platelet lysate on bone regeneration and vascularization

5'+3' Zwingenberger S. (Dresden), Bolte Julia, Goodman S., Stiehler M., Gelinsky M., Vater Corina

851 Mid-term results of autologous concentrated bone marrow grafting for steroid-associated femoral head osteonecrosis with systemic lupus erythematosus

5'+3' Tomaru Y. (Tsukuba, Ibaraki), Sugaya H., Yoshioka T., Sakai S., Akaogi H., Ochiai N., Yamazaki M., Mishima H.

862 The BioCue concentrated bone marrow aspirate system in femoral head necrosis

5'+3' Drescher W. (Schwarzenbruck), Häne R., Mersch D., Pufe T.

861 EGFL8, a novel angiogenesis factor overexpresses in osteonecrosis of femoral head and promotes angiogenesis via MAPK/ERK signaling pathway

5'+3' Hong G. (Perth), Wei Q., Chen P., Wang H., Han Xiaorui, He W.

115 Decreased CD44/Ankyrin expression is associated with repressed AKT/eNOS signaling in osteonecrotic bone marrow cells

5'+3' Lin Ling-Chun (Kaohsiung), Huang T., Sung P., Wu C., Yip H., Lee M.

- 965 Bajjiasu suppresses osteonclerosis of femoral head and abrogates osteoclast formation via RANKL-Induced pathways through NF-κB and NFAT  
5'+3' *Hong G. (Perth), Wang H., Han Xiaorui, He W.*
- 1289 Cultured mesenchymal stem cells in the treatment of osteonecrosis of the femoral head  
5'+3' *Hernandez A. (Barcelona), Velez R., Coll Ruth, García J., López Alba, Aguirre M.*
- 277 Restoration of the collapsed femoral head in subchondral fatigue fracture of the femoral head  
5'+3' *Kim H. (Seoul), Yoo J.*

09:00 - 10:30

New York 3

International: in English

**IN15 EFORT Forum: Fast track surgery - opportunity or threat?**  
In cooperation with EFORT



**Chair** Günther K. (Dresden), Verhaar J. (Rotterdam), Wirtz D. (Bonn)

2000 Opening

5' *Günther K. (Dresden), Verhaar J. (Rotterdam)*

2001 Fast track for everyone - how important are patient selection and clinical pathways?

10' *Günther K. (Dresden)*

2002 Regional and general anaesthesia - what is the evidence of pain management?

10' *Wirtz D. (Bonn)*

2003 Experiences in total hip arthroplasty

10' *Kjaersgaard-Andersen P. (Vejele)*

2004 Experiences in total knee arthroplasty

10' *Verhaar J. (Rotterdam)*

2005 Perspectives of fast track surgery in trauma care

10' *Schmal H. (Odense C)*

2006 Socioeconomic impact of fast track surgery

10' *Dreinhöfer K. (Berlin)*

20' Roundtable

2007 Summary

5' *Günther K. (Dresden)*

11:00 - 12:30

Dublin

International: in English

**IN41 Chinese-German trauma update**

In cooperation with CAOS



Chair Gebhard F. (Ulm), Nerlich M. (Regensburg)

3964 Articular cartilage repair with bionic tissue engineering cartilage  
12' Guo Q. (Beijing)

3965 Olecranon osteotomy approach for distal humeral fracture:  
Where and how should we go?  
12' Yu B. (Shanghai)

3966 Reconstruction of huge soft tissue defects of limbs by combined  
transplantation of perforator flaps  
12' Tang J. (Changsha)

3967 Skin stretching technique in soft tissue closure  
12' Tang X. (Dalian)

3968 Treatment of femoral head fracture by surgical hip dislocation approach  
12' Chen X. (Shanghai)

3967 Surgical treatment of geriatric fractures in mainland China  
12' Liu F. (Nantong)

18' Discussion

11:00 - 12:30

New York 1

International: in English

**IN12 New diagnostics in osteonecrosis  
(Annual ARCO meeting 2017)**

In cooperation with ARCO



Chair Drescher W. (Schwarzenbruck), Kim H. (Seoul),  
Steinberg M. (Philadelphia), Sugano N. (Osaka)

659 Comparison of classification systems for osteonecrosis of the femoral  
head by evaluating necrotic lesion and prognosis  
5'+3' Takashima K. (Osaka, Suita), Sakai T., Hamada H., Takao M., Sugano N.

648 The impact of anterior necrotic lesion on the femoral head collapse  
5'+3' Kubo Y. (Fukuoka), Motomura G., Ikemura S., Sonoda K., Fukushi J.,  
Hamai S., Nakashima Y.

- 969 The utility of contrast-enhanced MR imaging for precise assessment of necrotic area in patients with osteonecrosis of the femoral head  
5'+3' *Ikemura S. (Fukuoka), Utsunomiya T., Motomura G., Fukushi J., Hamai S., Yamamoto T., Nakashima Y.*
- 1169 Evaluation parameters of microcirculation and fat quality in osteonecrosis of femoral head by using intra-voxel incoherent motion and etry/the least-squares estimation: A prospective pilot study  
5'+3' *Han Xiaorui (Guangzhou), Hong G., Zhao Man, Liu Yu, He W., Leng X.*
- 1194 T1rho/T2 mapping in MRI: A novel radiographic technology for determination of articular cartilage denaturalization with osteonecrosis of femoral head  
5'+3' *Han Xiaorui (Guangzhou), Hong G., Zhao Man, Chen L., Leng X.*
- 569 Clinical and radiological factors associated with bone resorption in patients with osteonecrosis of the femoral head  
5'+3' *Baba S. (Fukuoka City), Motomura G., Ikemura S., Sonoda K., Kubo Y., Utsunomiya T., Hatanaka H., Nakashima Y.*
- 1162 T1rho/T2 mapping MRI and 3D intraoperative micro-CT for investigating relationship between cartilage degeneration and trabecular structure in osteonecrosis of femoral head  
5'+3' *Han Xiaorui (Guangzhou), Hong G., Chen L., Zhao Man, Liu Yu, Leng X.*
- 408 An X-ray based evaluation approach to assess the efficacy of joint-preserving treatment for ONFH  
5'+3' *Chen W. (Beijing)*
- 1420 The natural history and treatment of osteonecrosis due to sickle cell disease  
5'+3' *Reichert Ines (London)*
- 1112 Hip osteonecrosis evaluation and management  
5'+3' *Jones Lynne (Baltimore, MD), Goodman S., Cui Q., Kuwabara Anne, Mont M.*

11:00 - 12:30

New York 3

Basic Research

**GR12 Joint physiology and biomechanics**  **AO Foundation**  
In cooperation with AO Research Institute Davos

**Chair** Bader R. (Rostock), Burgkart R. (München), Peroglio Marianna (Davos)

**2008** AO KEYNOTE: BIOBONE - Bioceramics for bone regeneration  
**18'+3'** *Peroglio Marianna (Davos)*

**653** Development and validation of a micro finite element model for the investigation of the pedicle screw-bone interface under different loading conditions

**6'+3'** *Chevalier Y. (München), Fertmann-Matsuura Maiko, Krüger S., Fleege C., Rauschmann M., Schilling C.*

**534** Locked intraosseous nailing in transverse patella fractures - a biomechanical comparison to tension band wiring through cannulated screws

**6'+3'** *Gueorguiev B. (Davos), Nienhaus M., Stoffel K., Zderic I., Wahl D., Sommer C., Rommens P.*

**721** Micro finite element analysis of the effect of bone density and anisotropy in periprosthetic bone and cement stresses after anatomical glenoid replacement

**6'+3'** *Santos Inês (München), Müller P., Pietschmann M., Chevalier Y.*

**256** Effect of capsule repair on rotational and varus stability in PLRI reconstruction

**6'+3'** *Künzler M. (Bern), Akeda M., Ihn H., McGarry Michelle, Zumstein M., Lee T.*

**542** Augmented LISS plating is biomechanically advantageous over conventional LISS plating

**6'+3'** *Gueorguiev B. (Davos), Todorov D., Zderic I., Stoffel K., Lenz M., Richards G., Enchev D.*

**179** MR-based 3D PAO planning and simulation of hip impingement is as accurate as CT-based 3D models

**6'+3'** *Lerch T. (Bern), Degonda Celia, Zheng G., Todorski Inga, Schmaranzer F., Ecker T., Siebenrock K., Tannast M.*

**807** Transmission ultrasound: A novel technique to quantify post-surgical recovery of the achilles tendon after rupture

**6'+3'** *Wulf M. (Brisbane), Shanker M., Lutz M., Hooper Sue L., Dlaska C., Brauner T., Wearing S., Schütz M.*



**IN13 Current treatment concepts in osteonecrosis  
(Annual ARCO meeting 2017)**

In cooperation with ARCO



- Chair** Drescher W. (Schwarzenbruck), Koo K. (Sungnam),  
Mont M. (Cleveland), Tingart M. (Aachen)
- 404** Midterm results of delta ceramic-on-ceramic total hip arthroplasty in  
patients with osteonecrosis of femoral head  
**5'+3'** Lee Y. (Seongnam), Jo W., Yoo J., Yoon B., Ha Y., Koo K.
- 809** Treatment of osteonecrosis of the femoral head with pedicled vascular-  
ized Iliac bone graft transfer: A multicenter study of 2190 cases  
**5'+3'** Zhao D. (Dalian), Xie H., Zhao D.
- 72** Treatment of osteonecrosis of femoral head with modified lightbulb  
operation: A 10-year follow-up study  
**5'+3'** Sun W. (Beijing), Li Z.
- 531** Medium-term outcomes of core decompression combined implantation  
of biomaterial-loaded allograft threaded cage for femoral head necrosis  
**5'+3'** Cheng C. (Wuhan), Wang J., Yang S., Liu X., Huang Z.
- 515** Porous tantalum rods in osteonecrosis of femoral head: A glass half  
full or half empty? 40 hips followed for at least of 5 years  
**5'+3'** He M. (Guangzhou), He W., Wei Q.
- 1203** Klinischer und MR-tomografischer Verlauf nach Hüftkopfanbohrung  
und Ilomedin-Therapie bei der Hüftkopfnekrose im Stadium I - III  
nach ARCO - eine Case Serie  
**5'+3'** Hiegel T. (Leipzig), Spiegl U., Josten C., Bohndorf K., Roth A.
- 1071** Behandlung von Osteonekrosen des Hüftkopfes mit Einbruch der  
subchondralen Lamelle und darüberliegendem Knorpelschaden  
**5'+3'** Landgraeber S. (Essen), Warwas S., Lazik-Palm Andrea, Haubold J.,  
Theysohn J., Jäger M.
- 1073** Total hip arthroplasty in patients with failed fibular grafting for the  
osteonecrosis of femoral head  
**5'+3'** Baek S. (Daegu), Min S., Yoon S., Kim S.

- 1242 Long-term outcomes of core decompression with free vascularize fibular graft in the treatment of osteonecrosis of the femoral head: A retrospective study  
5'+3' He W. (Guangzhou), Chen L., Hong G., Hong Z., Chen Z., Fang B., Zhang Q., Han Xiaorui
- 292 Five-year follow-up study of a kidney-tonifying and activating-blood herbal fufang for osteonecrosis of the femoral head  
5'+3' Wei Q. (Guangzhou), He W.
- 382 Outcome of a mini-resurfacing implant as an alternative treatment for local cartilage defects of the femoral head  
5'+3' Flörkemeier T. (Hannover), Wirries N., Budde S., von Lewinski Gabriela, Windhagen H., Ezechieli M.

14:30 - 16:00

New York 3

International: in English

**IN16 Strategies in treating (traumatic) femoral bone defects**  
In cooperation with AOTrauma

 **AO Foundation**

**Chair** Frey C. (Johannesburg), Schmidmaier G. (Heidelberg),  
Simmermacher R. (Utrecht)

- 3969 Introduction  
5' Simmermacher R. (Utrecht)
- 3970 Principles in the treatment of bone defects  
15' McFadyen I. (Cheshire)
- 3971 Contaminated traumatic bone defects  
15' Frey C. (Johannesburg)
- 3972 Femur defects treated with Ilizarov  
15' Tyllianakis M. (Patras)
- 3973 Femur defects: One or two-step repair?  
15' Schmidmaier G. (Heidelberg)
- 20' Discussion
- 3974 Summary  
5' Simmermacher R. (Utrecht)

16:30 - 18:00

Großer Saal

Section, Work Group

**SK14 Flatfoot Reconstruction**

Sektion Deutsche Assoziation für Fuß und Sprunggelenk (D.A.F.)

Chair Dohle J. (Wuppertal), Rammelt S. (Dresden),  
Stukenborg-Colsman Christina (Hannover)

3602 Effect of Cotton osteotomy or TMT arthrodesis on supination  
10'+5' *Plaaß C. (Hannover)*

3603 Effect of NC-arthrodesis on supination or medial column instability  
10'+5' *Hamel J. (München)*

3607 Sinus tarsi implants in adults?  
10'+5' *N.N.*

3604 Effect of soft tissue procedures on pes plano-valgus correction  
10'+5' *Richter M. (Schwarzenbruck)*

3606 Implants, Allografts or Autografts for calcaneal osteotomies?  
10'+5' *Stukenborg-Colsman Christina (Hannover)*

3605 Calcaneal osteotomies - where, when and how?  
10'+5' *Rammelt S. (Dresden)*

16:30 - 18:00

New York 1

International: in English

**IN14 Basic research in osteonecrosis  
(Annual ARCO meeting 2017)**  
In cooperation with ARCO



Chair Cheng E. (Minneapolis, Minnesota), Drescher W. (Schwarzenbruck),  
Pufe T. (Aachen), Yamamoto T. (Fukuoka)

869 Quality of life assessment for patients with osteonecrosis of the  
femoral head - multicenter study  
5'+3' *Sakai T. (Suita), Uesugi Yuko, Seki T., Hayashi S., Sugano N.*

201 Role of growth factors in osteonecrosis of the femoral head  
5'+3' *Pufe T. (Aachen), Beckmann R., Tohidnezhad Mersedeh, Fragoulis A.,  
Jahr H., Drescher W.*

- 270 Discovery of Glycan biomarkers in serum of osteonecrosis of the femoral head  
5'+3' *Chen P. (Guangzhou), Song Ting, Wang H., He W., Lebrilla C.*
- 174 Symptomatic hip osteonecrosis and oral corticosteroids for one week or less  
5'+3' *Hernigou P. (Creteil)*
- 183 Link between non-traumatic osteonecrosis of femoral head and major adverse cardiovascular and cerebrovascular events: A nationwide population-based cohort study  
5'+3' *Sung P. (Kaohsiung), Yang Y., Yip H., Lee M.*
- 832 Association between vascular endothelial growth factor gene polymorphisms and the risk of osteonecrosis of the femoral head: Systematic review  
5'+3' *Hong G. (Perth), Chen L., Chen X., He W.*
- 209 Nationwide study on the risk of venous thromboembolism in non-traumatic osteonecrosis of femoral head  
5'+3' *Sung P. (Kaohsiung), Yang Y., Yip H., Lee M.*
- 1465 Early cartilage denaturalization with bone marrow edema in osteonecrosis of femoral head: Evaluation by T1rho and T2 mapping MRI imaging-a pilot study  
5'+3' *Han Xiaorui (Guangzhou), Hong G., Zhao Man, Liu Yu, Leng X.*
- 162 Free vascularized fibular grafting improves the vascularity of osteonecrosis of the femoral head: A randomized, self-controlled clinical trial  
5'+3' *Cao L. (Shanghai), Guo C., Chen J., Zhang J., Hua B., Li C., Chen Z., Yan Z.*
- 1078 Imbalanced bone turnover markers and low bone mineral density in patients with osteonecrosis of femoral head  
5'+3' *Tian Lulu (Daegu), Baek S., Kim T., Kim S.*
- 340 Alcohol intake and the risk of osteonecrosis of the femoral head: A dose-response meta-analysis of case-control studies  
5'+3' *Yoon B. (Seoul), Jo W., Yoo J., Lee Y., Ha Y., Koo K.*


**GR14 ORS travel award session**

In cooperation with ORS


**Chair** Blunk T. (Würzburg), Englund M. (Lund), Henrich D. (Frankfurt)

**2009** ORS KEYNOTE: The tale of the meniscus and osteoarthritis  
**18'+3'** *Englund M. (Lund)*
**359** Complement receptors C5aR1 and C5aR2 differentially influence  
 bone metabolism  
**6'+3'** *Hägele Yvonne (Ulm), Bergdolt Stephanie, Matthes Rebecca,  
 Kovtun Anna, Ignatius Anita*
**143** Chronic psychosocial stress disturbs the immune response and  
 endochondral ossification after fracture  
**6'+3'** *Haffner-Luntzer Melanie (Ulm), Förtsch Sandra, Fischer Verena,  
 Prystaz Katja, Kovtun Anna, Hägele Yvonne, Ignatius Anita, Reber S.*
**710** Comparison of osteoblasts from patients with osteoporosis and  
 patients with coxarthrosis combined with osteoporosis  
**6'+3'** *Niedermair Tanja (Regensburg), Craiovan B., Grifka J.,  
 Grässel Susanne*
**850** Platelet-rich plasma as an autologous and pro-angiogenic  
 cell delivery system  
**6'+3'** *Zahn Jessica (Davos), Loibl M., Sprecher C., Nerlich M., Alini M.,  
 Verrier Sophie, Herrmann Marietta*
**1204** Hyaluronic acid facilitates chondrogenesis and matrix deposition  
 of human adipose derived mesenchymal stem cells and human  
 chondrocytes co-cultures  
**6'+3'** *Rosado Balmayor Elizabeth (München), Amann Elisabeth, Wolff P.,  
 Breel E., van Griensven M.*
**990** Specific patterns of the spatial organization of joint surface chondro-  
 cytes predict the extend of injury-induced chondrocyte death  
**6'+3'** *Saager Laura Victoria (Tübingen), Ochs B., Kurz B., Südkamp N.,  
 Rolauffs B.*
**443** Longitudinal analysis of early healing events after human Achilles  
 tendon tear  
**6'+3'** *Klatte-Schulz Franka (Berlin), Minkwitz Susann, Schmock Aysha,  
 Kurtoglu A., Tsitsilonis S., Manegold S., Wildemann Britt*

09:00 - 10:30

New York 1

International: in English



**IN17 Thoracic trauma**  
In cooperation with AAST



Chair Fabian T. (Memphis), Leenen L. (Utrecht), Peitzman A. (Pittsburgh)

2090 Current management of blunt thoracic aortic injury  
15' *Fabian T. (Memphis)*

2091 Esophageal injuries  
15' *Peitzman A. (Pittsburgh)*

2092 Thoracic wall - important for the success of blunt thoracic trauma  
15' *Leenen L. (Utrecht)*

2093 Pneumonia in severely injured, critically ill patients with thoracic trauma  
15' *Wutzler S. (Frankfurt)*

30' Discussion

09:00 - 10:30

New York 3

International: in English



**IN29 DKOU meets AAOS – Total knee replacement up-date**  
In cooperation with AAOS



Chair Krauspe R. (Düsseldorf), Maloney W. (Stanford)

3015 AAOS KEYNOTE: Why do TKR fail?  
20' *Maloney W. (Stanford)*

3016 How to analyse and revise failed TKR  
15' *Windhagen H. (Hannover)*

3017 Individual implants - improvement of outcome in TKR  
15' *Rudert M. (Würzburg)*

3018 Management of large defects and periprosthetic fractures in TKR revisions  
15' *Wirtz D. (Bonn)*

25' Discussion

11:00 - 12:30

Paris 1

Forum

**F012 Clinical Scientist - the future at the universities**  
Ausschuss Junges Forum

Chair Gebhard F. (Ulm), Hofmann Valeska (Tübingen), Loibl M. (Regensburg)

2160 Key factors to successfully conduct clinical research - an overview  
15'+3' *Joeris A. (Düßeldorf)*

- 2161 Get started in basic research: Do not procrastinate, plan ahead  
15'+3' *Docheva Denitsa (Regensburg)*
- 2162 How to get your research published  
15'+3' *Reider B. (Chicago, Illinois)*
- 2163 Career as young clinical scientist  
15'+3' *Kalbitz Miriam (Ulm)*
- 2164 Emmy Noether - the perfect career start  
15'+3' *Huber-Lang M. (Ulm)*

11:00 - 12:30

New York 1

International: in English



IN18

**Abdominal trauma**

In cooperation with AAST and ESTES



- Chair Fabian T. (Memphis), Leppäniemi A. (Helsinki), Peitzman A. (Pittsburgh)
- 2086 Pathophysiology of damage control surgery  
15' *Zago M. (Bergamo)*
- 2087 Abdomial wall reconstruction for the uncusable damage control laparotomy  
15' *Fabian T. (Memphis)*
- 2088 Major liver injuries  
15' *Peitzman A. (Pittsburgh)*
- 2089 Pancreatic and duodenal injuries  
15' *Leppäniemi A. (Helsinki)*
- 3921 Colo-rectal injuries  
15' *Tilsed J. (Hull)*
- 15' Discussion

11:00 - 12:30

New York 3

International: in English



IN30

**DKOU meets AOA - Ligaments and meniscus treatment**

In cooperation with AOA



- Chair Angele P. (Regensburg), Wirtz D. (Bonn), Wright R. (Chesterfield)
- 2604 AOA KEYNOTE: Multi-center based outcomes of primary and revision  
ACL-reconstruction  
30' *Wright R. (Chesterfield)*
- 2600 PCL-reconstruction: Indications, techniques, outcomes and pitfalls  
10'+5' *Imhoff A. (München)*
- 2601 Treatment concepts of infection after ACL/PCL reconstruction  
10'+5' *Petersen W. (Berlin)*

2602 Meniscus tear treatment: Outcomes of different repair techniques  
10'+5' *Pagenstert G. (Basel)*

2603 Meniscus replacement: When, how, for whom?  
10'+5' *Angele P. (Regensburg)*

11:00 - 12:30

London 2

Basic Research



**GR16 Osteoarthritis and cartilage**  
In cooperation with ORS



Chair Grässel Susanne (Regensburg), Mason Deborah (Cardiff),  
Zaucke F. (Frankfurt)

2010 ORS KEYNOTE: Repurposing glutamate receptor antagonists to prevent  
and treat osteoarthritis  
18'+3' *Mason Deborah (Cardiff)*

307 Establishment of a proinflammatory and degenerative intervertebral  
disc ex vivo system to investigate anti-inflammatory therapies for  
degenerative disc disease  
6'+3' *Lang G. (New York), Liu Yishan, Gerjes Janna, Kubosch D., Südkamp N.,  
Alini M., Grad Sibylle, Li Zhen*

607 Extracellular matrix development and cell invasion at the defect site  
in an in vitro model for cartilage integration  
6'+3' *Berberich O. (Würzburg), Kiepe F., Kossmann A., Böck T., Meffert R.,  
Hölscher-Doht Stefanie, Richter Wiltrud, Blunk T.*

735 An animal study for evaluating the best cell source for regenerative  
autologous meniscus treatment in an early osteoarthritis situation -  
a comparison between mesenchymal stem cells and meniscal cells  
6'+3' *Zellner J. (Regensburg), Pattappa G., Koch M., Pfeifer C., Müller M.,  
Kujat R., Nerlich M., Angele P.*

527 Development of an in vitro model mimicking early osteoarthritis using  
mesenchymal stem cells undergoing chondrogenic differentiation  
6'+3' *Hofmeister Isabelle (Regensburg), Pattappa G., Seja Jennifer,  
Zellner J., Nerlich M., Docheva Denitsa, Angele P.*

505 Absence of substance P ameliorates cartilage and bone phenotypes in  
surgery-induced and age-related osteoarthritis  
6'+3' *Muschter Dominique (Regensburg), Späth Tanja, Grifka J.,  
Grässel Susanne*

441 The influence of substance P and alphaCGRP on articular chondrocytes  
from osteoarthritic patients  
6'+3' *Stöckl Sabine (Regensburg), Pasoldt Anja, Grifka J., Grässel Susanne*



- 587 Modulation of injury-induced chondrocyte death by CCN2, a novel master regulator of cartilage homeostasis  
 6'+3' *Holweg M. (Tübingen), Meder A., Südkamp N., Ochs B., Böhme Karen A., Kurz B., Rolauuffs B.*

14:30 - 16:00

New York 1

International: in English

**IN19 New insights in treatment of pelvic trauma**  
 In cooperation with ESTES



Chair Keel M. (Bern), Fabian T. (Memphis), Rommens P. (Mainz)

3054 Total body CT with contrast followed by angio-embolization  
 10'+5' *Lustenberger T. (Frankfurt)*

3055 The role of pelvic packing in USA  
 10'+5' *Fabian T. (Memphis)*

3056 Antishok iliosacral screw  
 10'+5' *Varga E. (Szeged)*

3057 Morelle-Lavallee lesions - when and how to treat?  
 10'+5' *Keel M. (Bern)*

3058 Iliolumbar fixation - when and how?  
 10'+5' *Josten C. (Leipzig)*

3059 Minimal-invasive treatment of FFP  
 10'+5' *Rommens P. (Mainz)*

14:30 - 16:00

New York 3

International: in English

**IN31 Management of complications in hip arthroplasty**  **AO Foundation**  
 In cooperation with AORecon

Chair Günther K. (Dresden), Jiranek W. (Richmond)

2578 The problem of bilateral hip arthritis – single or staged procedure  
 10' *Windhager R. (Wien)*

2579 Total hip in patients with prior spine surgery: How to adjust the surgery  
 10' *Böttner F. (New York)*

2564 Can modern technologies help to prevent dislocation?  
 10' *Sculco P. (New York)*

2570 Osteopenic bone – handle the challenge!  
 10' *Thornhill T. (Boston)*

2569 How to prevent the "taper problem"?  
 10' *Günther K. (Dresden)*

- 2562 Acetabular osteolysis – when to retain, when to replace?  
10' *Perka C. (Berlin)*
- 2561 My algorithm for the painful hip  
10' *Jiranek W. (Richmond)*
- 20' Discussion

**16:30 - 18:00**

**New York 1**

**International: in English**

**IN20 Polytrauma and severe TBI - co-management**  
In cooperation with ESTES



- Chair Lustenberger T. (Frankfurt), Maegele M. (Köln), Steudel W. (Homburg)
- 2095 Intracranial pressure monitoring and Brain Trauma Foundation Guidelines  
15' *Talving P. (Tartu)*
- 2098 CT in Trauma (subgroup analysis TBI)  
15' *Goslings C. (Amsterdam)*
- 2094 EU-TACTIC: Data-driven protocols to treat TIC  
15' *Brohi K. (London)*
- 2096 CENTER-TBI: Novel strategies and technologies for enhanced brain monitoring after TBI  
15' *Sakowitz Ö. (Ludwigsburg)*
- 2097 "Ziel" Project  
15' *Maegele M. (Köln)*
- 15' Discussion

**16:30 - 18:00**

**New York 3**

**International: in English**

**IN32 Management of complications in knee arthroplasty**  **AO Foundation**  
In cooperation with AORecon

- Chair Perka C. (Berlin), Thornhill T. (Boston)
- 2572 Recurrent effusion after TKA  
10' *Windhager R. (Wien)*
- 2577 The persistence of axial deformity - really an issue?  
10' *Böttner F. (New York)*
- 2575 The moderate unstable knee  
10' *von Eisenhart-Rothe R. (München)*
- 2576 The persistence of anterior knee pain  
10' *Jiranek W. (Richmond)*

- 2574 The damaged extensor mechanism  
10' *von Roth P. (Berlin)*
- 2571 Quad atrophy after TKA – is it a problem and how to avoid?  
10' *Thornhill T. (Boston)*
- 2565 Case discussion  
30' *Hube R. (München)*

16:30 - 18:00

London 2

Basic Research

**GR18 Bone biology and repair**



In cooperation with AO Research Institute Davos

- Chair** Henrich D. (Frankfurt), Ignatius Anita (Ulm), Zeiter S. (Davos)
- 2011 AO KEYNOTE: First class science can't be done with second class  
18'+3' preclinical surgical practice and models  
*Zeiter S. (Davos)*
- 1224 NADPH-oxidase 4 might represent a pivotal molecular target in improving  
6'+3' the osteogenic differentiation potential of regular as well as osteo-  
genically dysfunctional human bone marrow mesenchymal stem cells  
*Strangmann Dana (Düsseldorf), Suschek C., Windolf J.*
- 239 Calca signaling controls the osteoanabolic effect of intermittent PTH  
6'+3' *Keller J. (Berlin), Jeschke Anke, Schwabe P., Amling M., Schinke T.*
- 706 Absence of the sensory neuropeptide substance P alters osteoblast and  
6'+3' osteoclast metabolism  
*Niedermair Tanja (Regensburg), Schirner S., Seebröcker R., Straub R.,  
Grifka J., Grässel Susanne*
- 810 Differential expression of mitochondrial and ribosomal genes during  
6'+3' fracture healing in mouse  
*Malhan Deeksha (Gießen), Schmidt-Bleek Katharina, Duda G., Heiß C.,  
El Khassawna T.*
- 1088 A skeletally matured osteoporotic ovine model for studying meta-  
6'+3' physeal fracture healing and testing of new biomaterials  
*Alagboso Francisca (Gießen), Ray Seemun, Thormann U.,  
Sommer Ursula, Budak M., Kaiser A., Kampschulte M., Alt V.*
- 519 Autologous bone marrow aspirate enhanced microfracture counteracts  
6'+3' the early loss of subchondral bone in a translational model of osteo-  
chondral repair  
*Gao L. (Homburg), Müller-Brandt Kathrin, Orth P., Goebel L.,  
Cucchiariini Madry Magali, Madry H.*
- 1441 Treatment of bone marrow lesions of the foot and ankle in complex  
6'+3' regional pain syndrome type I with ibandronate - a randomized trial  
*Bartl C. (München), Bartl R.*

09:00 - 10:30

New York 1

International: in English



**IN21 VKO meets POSNA: Spine**

Sektion Vereinigung Kinderorthopädie (VKO);  
in cooperation with POSNA



Chair Hasler C. (Basel), Karol Lori (Dallas)

2582 Differential rod contouring for 3D correction of AIS  
12'+3' Schwend R. (Kansas City)

2583 Early onset scoliosis and pulmonary function  
12'+3' Karol Lori (Dallas)

2584 Flexible tethering  
12'+3' Newton P. (San Diego)

2585 Posterior hemivertebrae resection – indications, technique and results  
12'+3' Mladenov K. (Sankt Augustin)

2586 Early onset spine deformities – remaining challenges  
12'+3' Hasler C. (Basel)

2587 Management of early onset hyperkyphosis  
12'+3' Stücker R. (Hamburg)

09:00 - 10:30

New York 3

International: in English

**IN33 Arthroplasty - the young patient**

Chair Delank K.-S. (Halle), Kirschner S. (Karlsruhe), Kohn D. (Homburg)

976 Total hip arthroplasty for developmental dysplasia: Mid-term results  
6'+3' Gómez J. (San Salvador), Gómez R.

650 Anatomic vs. High Rotation Center in total hip arthroplasty for high  
developmental dysplasia  
6'+3' Gómez J. (San Salvador), Gómez R.

973 Results of the total hip replacement in patients with dysplasia who  
were operated in childhood  
6'+3' Markov D. (Saratov), Zvereva Ksenya

1216 Total hip arthroplasty in Crowe type III and IV developmental dysplasia  
of the hip  
6'+3' Taheriazam A. (Tehran), Safdari F.

- 1212 Total hip arthroplasty for fused hip  
6'+3' *Taheriazam A. (Tehran), Safdari F.*
- 1063 Iliopsoas impingement after THR  
6'+3' *Caviglia H. (Cuidad Autónoma de Buenos Aires), Gomez L., Bugallo F., Cambiaggi G., del Soldato G., Galatro G.*
- 561 Is AVN due to systemic lupus erythematosus associated with increased risk of complications following THA?  
6'+3' *Cui Q. (Charlottesville, VA), Cancienne J., Werner B.*
- 296 Analysis and treatment strategy of intra-operative acetabular fractures during total hip arthroplasty  
6'+3' *Sun Y. (Guangzhou), Shao M., Wang Q., He T., Chen L., Liu Y., Zou X., He W.*
- 387 Analysis of influencing factors on the migration pattern of short stem arthroplasty - a prospective RSA-analysis  
6'+3' *Flörkemeier T. (Hannover), Schwarze M., von Lewinski Gabriela, Hurschler C., Windhagen H., Budde S.*

11:00 - 12:30

Paris 2

International: in English



**IN38 Complex tibia fractures**

In cooperation with OTA



Chair Marzi I. (Frankfurt), Miclau T. (San Francisco)

- 2012 The Orthopaedic Trauma Association (OTA): An introduction and update  
10' *Ricci M. (New York)*
- 2013 Tibia fractures and compartment syndrome: Recommendations on the timing and type of fixation  
15' *Pape C. (Zürich)*
- 2014 Intraarticular tibia fractures with extensive diaphyseal extension: Tips and tricks of management  
15' *Krettek C. (Hannover)*
- 2015 Tibia fractures with extensive segmental bone loss: What is the best approach?  
15' *Norris B. (Oklahoma)*
- 2016 How do I know when a fracture has healed?  
15' *Miclau T. (San Francisco)*
- 20' Discussion

11:00 - 12:30

New York 1

International: in English



## IN22 VKO meets POSNA: Hip

Sektion Vereinigung Kinderorthopädie (VKO);  
in cooperation with POSNA



Chair Rödl R. (Münster), Schwend R. (Kansas City), Wirth T. (Stuttgart)

2595 Early diagnoses of DDH: The AAP and POSNA approach  
12'+3' Schwend R. (Kansas City)

2594 Early diagnoses of DDH: The VKO approach  
12'+3' Krauspe R. (Düsseldorf)

2596 Medial approach open reduction of the hip in DDH  
12'+3' Karol Lori (Dallas)

2597 Biomechanical effects of prox. femoral osteotomies  
12'+3' Rödl R. (Münster)

2598 Hip reconstruction in Perthes disease  
12'+3' Dreher T. (Heidelberg)

2599 Hip stability during femoral lengthening  
12'+3' Herzenberg J. (Baltimore)

11:00 - 12:30

New York 3

International: in English

## IN34 Tribocorrosion

In cooperation with EHS



Chair Siebert W. (Kassel), Thorey F. (Heidelberg)

2127 Tribocorrosion: Concepts and clinical ramifications  
18'+4' Jacobs J. (Chicago)

2128 Tribocorrosion of metal junctions  
18'+4' Wimmer M. (Chicago)

3976 What do retrieval studies tell us?  
18'+4' Morlock M. (Hamburg)

3975 Material influence on fretting corrosion of head/stem connections?  
18'+4' Streicher R. (Feusisberg)

14:30 - 16:00

New York 1

International: in English

**IN23 Cutting-edge musculoskeletal tumour surgery**

Chair Rudert M. (Würzburg), Yaszemski M. (Rochester)

2518 Chordoma: This is the way to deal with it  
15'+5' *Yaszemski M. (Rochester)*

2542 Bone defects in tumor surgery - the clinical aspect  
15'+5' *Benevenia J. (New Jersey)*

2991 Surface-modified megaprotheses for the treatment of osseous defects  
after sarcoma resection  
12'+3' *Hardes J. (Münster)*

2992 Novel sarcoma models to accelerate the translation of new therapeutic  
strategies from bench to bedside  
12'+3' *Leithner A. (Graz)*

2543 Tissue engineering in bone tumour surgery  
12'+3' *Holzapfel B. (Würzburg)*

2993 Summary  
5' *Rudert M. (Würzburg)*

14:30 - 16:00

New York 3

International: in English

**IN35 Fractures and joint injuries - upper extremity**

Chair Nijs S. (Leuven), Marzi I. (Frankfurt), Wendt K. (Groningen)

1356 Surgery not superior to non-operative therapy in the treatment of  
anterolateral shoulder pain. A randomised controlled study with  
12-year follow-up  
6'+3' *Ketola Saara (Tampere)*

1363 Decreasing range of external rotation in abduction with overhaed  
sportsmen after arthroscopic shoulder stabilisation  
6'+3' *Medenica I. (Belgrade)*

707 Slap lesions in high level sport climbers: Outcome after primary  
surgical long biceps tenodesis  
6'+3' *Schöffl V. (Bamberg), Popp D., Lutter C., Küpper T., Benedikt O.*

1125 Surgical treatment of 4-part fractures of the proximal humerus in the  
elderly: Plate fixation or reversed shoulder arthroplasty?  
6'+3' *Kirchhoff C. (München), Deeb A., Abuljadail S., Biberthaler P., Beirer M.*

- 1408 Plate fixation of proximal humeral fractures: A comparative study of postoperative complications in two European countries  
6'+3' *Quaile O. (Luzern), Link B., Babst R., Beeres F.*
- 161 The influence of local bone quality on fracture pattern in proximal humerus fractures  
6'+3' *Mazzucchelli R. (St. Gallen), Jenny Katharina, Zdravkovic V., Jost B., Spross C.*
- 14 Silver-coated endoprosthesis replacement of the proximal humerus in case of tumour - is there an increased risk of periprosthetic infection by using a trevira tube?  
6'+3' *Schmolders J. (Bonn), Koob S., Kehrer M., Wirtz D., Pennekamp P., Strauß A.*
- 1343 Long-term follow-up after implantation of a bipolar radial head prosthesis vs. osteosynthesis to treat complex radial head fractures - a matched pair retrospective study  
6'+3' *Steimer D. (Hannover), Badura Samantha, Meier R., Omar M., Krettek C., Panzica M.*
- 753 The ACJ dislocation due to its ligaments avulsion fracture: Their clinical presentations and the results of surgical treatments  
6'+3' *Wu X. (Shanghai)*

16:30 - 18:00

New York 1

International: in English



IN24

**VKO meets POSNA: Foot**

Sektion Vereinigung Kinderorthopädie (VKO);  
in cooperation with POSNA



- Chair Eberhardt O. (Stuttgart), Herzenberg J. (Baltimore)
- 2588 Considerations on flatfoot – differential diagnosis and therapy  
12'+3' *Döderlein L. (Aschau)*
- 2589 Pes cavus: What to do when you see it?  
12'+3' *Schwend R. (Kansas City)*
- 2590 Ponseti and the French functional (physical therapy) method  
12'+3' *Karol Lori (Dallas)*
- 2591 Atypical clubfoot acquired or genuine?  
12'+3' *Eberhardt O. (Stuttgart)*
- 2592 Foot and Frame – Ponsetaylor and more  
12'+3' *Herzenberg J. (Baltimore)*
- 2593 Astragalectomy an obsolete technique?  
12'+3' *Rödl R. (Münster)*



**IN36 Fractures and joint injuries - lower extremity**

Chair Begue T. (Bobigny Cedex), Rose S. (Ettelbruck), Trentz O. (Zürich)

1462 Comparison of the outcome between conventional open technique and minimally invasive technique using dynamic hip screw fixation for inter-trochanteric fracture of femur

6'+3' *Maharjan R. (Dharan), Shrestha B., Khanal G., Chaudhary P., Rijal R.*

926 Analysis of risk factors for failure of proximal femoral nailing (PFN-A) in intertrochanteric fractures

6'+3' *Börnert Katja (Luzern), Beeres F., Jiamton C., Babst R., Link B.*

93 Development of a new CT based classification system for tibial plateau fractures. Introducing the "GT System"

6'+3' *Tryzna M. (Visp), Gebel P.*

1025 Extracorporeal shockwave therapy (ESWT) for femur neck pseudarthrosis - an alternative to surgery?

6'+3' *Bätje F. (Hannover)*

272 A novel minimally invasive local osteo-enhancement procedure (LOEP) to treat osteoporotic femurs

6'+3' *Howe J. (Rockville), Huber B.*

424 Improved early weight bearing by increased vertical loads after distal tibial fracture with an angle stable locking system compared to conventional intramedullary nailing

6'+3' *Agres Alison (Berlin), Höntzsch D., El Attal R., Schaser K., Pohlemann T., Joeris A., Hess Denise, Duda G.*

618 Distal tibial fractures treated with the "one-stage" external fixation and minimal osteosynthesis

6'+3' *Milenkovic S. (Nis), Mitkovic M., Mitkovic M.*

182 Functional medium term results after autologous matrix-induced chondrogenesis (AMIC) for osteochondral lesions of the talus - a 5 years prospective cohort study

6'+3' *Gottschalk O. (München), Altenberger S., Baumbach S., Walther M.*

368 The efficacy of multiple drilling and alendronate compared with multiple drilling alone in the treatment of osteonecrosis of the femoral head

6'+3' *Wu C. (Kaohsiung), Chen Y., Huang K., Peng K., Wang J., Lee M.*

09:00 - 10:30

New York 1

International: in English

## IN25 Arthroplasty and revision arthroplasty - hip cup/stem

Chair Decking R. (Leverkusen), Grifka J. (Bad Abbach), Zilkens C. (Düsseldorf)

231 Quality assurance in primary hip arthroplasty  
6'+3' Koutras C. (Ratingen), Becker Isabel, Heep H.

233 Economic analysis of a health system for hip and knee arthroplasty  
6'+3' Koutras C. (Ratingen), Bitsaki Marina, Koutras G., Heep H.

464 The RM Pressfit vitamys: 5-year Swiss experience of the first 100 cups  
6'+3' Weidner J. (Luzern 16), Wyatt M., Beck M.

806 In vitro data suggest reversibility of MoM wear induced decrease in  
6'+3' osteogenic capacity of mesenchymal stromal cells  
Rakow Anastasia (Berlin), Duda G., Perka C., Schoon J.

730 Bone preserving short stem: Mid-term results with special regard to  
6'+3' AVN of the hip  
Drescher W. (Schwarzenbruck), Häne R., Pufe T., Merschin D.

1042 Clinical and radiographic results with a new short stem at minimum  
6'+3' 6 years of follow-up  
Grappiolo G. (Milano), Loppini M., Della Rocca A., Ruggeri R., Santoro G., Mazziotta G., Astore F.

954 SMF stem in total hip arthroplasty - three-year follow-up  
6'+3' Lachowicz W. (Torrevieja/Alicante), Berg K., Cobo Clara, Vargas Maritere

1188 Third decade clinical and radiographic results of a grit-blasted  
6'+3' straight press-fit stem  
Grappiolo G. (Milano), Loppini M., Della Rocca A., Ruggeri R., Traverso F., Della Rocca F., Astore F., Ricci D.

377 Intra- and postoperative fractures and femoral shortened stem -  
6'+3' about a prospective series of 735 cases  
Puch J. (Nice), Descamps L., Dehri G.

09:00 - 10:30

New York 3

International: in English

## IN37 Future strategies for bone regeneration

In cooperation with ESTROT



Chair Alt V. (Gießen), Giannoudis P. (Leeds), Masquelet A. (Bobigny)

2155 Update Diamond Concept – what are we doing now and what will be the  
10'+5' perspective for the future?  
Giannoudis P. (Leeds)

- 2156 Megaprotheses for treatment of segmental bone defects versus reconstruction  
10'+5' *Calori G. (Milano)*
- 2157 Masquelet Technique – can we improve the biological chamber?  
10'+5' *Masquelet A. (Bobigny)*
- 2158 Antibiotica coated implants – a usefull tool to improve the outcome in infected non unions  
10'+5' *Raschke M. (Münster)*
- 2159 RIA – A meta-analysis of clinical outcome  
10'+5' *Pape H. (Zürich)*
- 2247 BMPs – do we really need them?  
10'+5' *Begue T. (Bobigny Cedex)*

11:00 - 12:30

New York 1

International: in English

## IN26 Arthroplasty and revision arthroplasty - hip revision

Chair Decking J. (Sursee), Jansson V. (München), Reichel H. (Ulm)

1263 Is dual mobility total hip arthroplasty associated with an increased risk of revision for infection? Matched cohort of 231 dual mobility cups and 231 fixed cups

6'+3' *Prudhon J. (Grenoble), Desmarchelier R., Hamadouche M., Delaunay C., Verdier R.*

1257 Low friction arthroplasty and dual mobility cup: A new gold standard  
6'+3' *Prudhon J. (Grenoble), Verdier R., Caton J.*

1199 Revision total hip arthroplasty using acetabular reconstruction cage  
6'+3' *Taheriazam A. (Tehran), Safdari F.*

1072 Femoral hip revision arthroplasty using a modular hexagonal uncemented stem in femoral Paprosky type 3 defects - clinical and radiographic results of 51 cases

6'+3' *Acker V. (Berlin), Ebeling A., Reichert J., von Rottkay E., Nöth U., Rackwitz L.*

452 Total femur replacement in no tumoral patients. Follow-up of five patients  
6'+3' *Caviglia H. (Cuidad Autónoma de Buenos Aires), Douglas Price Ana, Cambiaggi G., Vatani N., Galatro G.*

1389 Patient outcome after total femur replacement - a single center retrospective analysis of indication, complication and outcome  
6'+3' *Graulich T. (Hannover), Omar M., Weber-Spickschen S., Krettek C., Panzica M.*

207 Positive culture during reimplantation negatively affects the outcome in two-stage exchange arthroplasty

6'+3' *Winkler T. (Berlin), Müller M., Garbe Anja, Perka C., Trampuz A., Akgün D.*

- 194 Primary foci of hematogenous periprosthetic joint infections: An analysis of 70 consecutive episodes  
 6'+3' *Rakow Anastasia (Berlin), Akgün D., Schütz M., Perka C., Trampuz A., Renz Nora*
- 16 Lower limb reconstruction in tumor patients using modular silver-coated megaprotheses with regard to perimegaprosthetic joint infection - a case series including 100 patients and review of the literature  
 6'+3' *Schmolders J. (Bonn), Koob S., Pennekamp P., Wirtz D., Placzek R., Strauß A.*

**11:00 - 12:30**

**New York 3**

**International: in English**

**IN42 Future developments and role of Reamer Irrigator Aspirator (RIA) concept**  
 In cooperation with AO RIA TF



- Chair Müller C. (Karlsruhe), Norris B. (Tulsa), Pape H. (Zürich)
- 2099 Current indications and complications for the RIA System  
 20' *Müller C. (Karlsruhe)*
- 2100 Metabolic alterations of RIA  
 10' *Poeze M. (Maastricht)*
- 2101 How I use RIA in my daily practice: Bone defects and nonunions  
 10' *Norris B. (Tulsa)*
- 2102 Dead or alive - what`s in this graft material?  
 10' *Hak D. (Denver)*
- 2153 Experimental background to combine RIA with other stimulants of bone healing  
 10' *Giannoudis P. (Leeds)*
- 2154 RIA in special situations - intramedullary grafting, fusion surgery and bone infections  
 10' *Pape H. (Zürich)*
- 20' Discussion

**14:30 - 16:00**

**New York 1**

**International: in English**

**IN27 Varia - research**

- Chair Kalbitz Miriam (Ulm), Köller M. (Bochum), Sckell A. (Greifswald)
- 450 Comparing dGEMRIC and clinical outcome 6 years after FAI surgery with versus without microfracturing: A prospective, controlled pilot study  
 6'+3' *Schmaranzer F. (Bern), Haefeli P., Hanke M., Werlen S., Siebenrock K., Tannast M., Buechler L.*

- 442 Do dGEMRIC and T2 imaging correlate with histologic cartilage degeneration? An experimental ovine FAI model  
6'+3' Schmaranzer F. (Bern), Arendt Larissa, Zurmühle Corinne, Lerch T., Nuss Katja, Kircher P., von Rechenberg Brigitte, Tannast M.
- 1050 Antibiotic prophylaxis with cefuroxime: Influence of duration on infection rate with Staphylococcus aureus in an open fracture model  
6'+3' Pützler J. (Davos), Arens D., Metsemakers W., Zeiter S., Kuehl R., Richards G., Raschke M., Moriarty T.
- 518 Overexpression of human DKK1 via rAAV stimulates the chondrogenic differentiation processes  
6'+3' Venkatesan J. (Homburg), Rey-Rico Ana, Frisch Janina, Madry H., Cucchiariini Madry Magali
- 351 Ex vivo evaluation of cartilage regeneration strategies: Effect of cell type and oxygen concentration in full-thickness defects  
6'+3' Ehlicke F. (Würzburg), Buß Alexa, Schwab Andrea, Walles Heike
- 1135 Autologous matrix-induced chondrogenesis combined with autologous adipose stem cells (LIPO-AMIC): Surgical technique and an eighteen pilot patients report  
6'+3' Sciarretta F. (Rome)
- 824 MR imaging after cartilage reconstruction with autologous matrix induced chondrogenesis (AMIC)  
6'+3' Walther M. (München), Gottschalk O., Baumbach S., Röser Anke
- 415 Electrical stimulation improves bone tissue engineering treatment  
6'+3' Leppik Liudmila (Frankfurt), Han Z., Pindur L., Slavici A., Henrich D., Barker J.
- 3592 Local fixation of antibiotics by fibrin spraying after debridement of musculo-skeletal infections  
6'+3' Janko Maren (Frankfurt), Frank J., Nau C., Marzi I.

14:30 - 16:00

New York 3

International: in English



**IN39 Controversies in the treatment of challenging ankle injuries**  
In cooperation with OTA



Chair Gebhardt F. (Ulm), Ricci W. (New York)

- 2017 Ankle fracture management: When and how do timing and type of fixation matter?  
15' Giannoudis P. (Leeds)
- 2085 How and when to fix the Volkmann Triangle  
15' Verhofstad M. (Rotterdam)

- 2018 Syndesmosis injuries: When is surgery needed and what is the best fixation method?  
15' Ricci W. (New York)
- 2019 Fracture fixation in osteoporotic bone: Technique considerations  
15' Gebhard F. (Ulm)
- 2020 Ankle fractures in diabetic patients: Treatment protocols for optimal outcomes  
15' Hak D. (Denver)
- 15' Discussion

**16:30 - 18:00**

**New York 1**

**International: in English**

## **IN28 Varia - spine and lower extremity**

- Chair Arand M. (Ludwigsburg), Bock-Lamberlin P. (Hamburg), Rueger J. (Hamburg)
- 91 Intraoperative evaluation of neural decompression via MIS-TLIF and MIS-ELIF using a novel intraoperative CT. A retrospective single center study of 34 patients  
6'+3' Lang G. (New York), Janssen Insa, Navarro-Ramirez R., Jada A., Berlin C., Zubkov Micaella, Gandevia Lena, Hartl R.
- 82 90-day readmission after lumbar spinal fusion surgery in New York State between 2005 and 2014. A 10-year analysis of a statewide cohort  
6'+3' Lang G. (New York), Baaj A., Hsu Wei-Chun, Avila M., Mao Jialin, Sedrakyan A.
- 1412 Contemporary dual mobility cup: A regional and private register - methodology and results  
6'+3' Prudhon J. (Grenoble), Ferreira A., Caton J., Verdier R.
- 151 Is acetabular labrum size and tear pattern associated with femoral retrotorsion or increased femoral torsion in patients with FAI?  
6'+3' Todorski Inga (Bern), Lerch T., Schmaranzer F., Siebenrock K., Steppacher S., Tannast M.
- 428 The Femoro-Epiphyseal Acetabular Roof (FEAR) index: A new measurement associated with instability in borderline hip dysplasia?  
6'+3' Weidner J. (Luzern 16), Wyatt M., Beck M.
- 797 Labral augmentation with ligamentum capitis femoris - presentation of a new technique and preliminary results  
6'+3' Weidner J. (Luzern 16), Beck M.
- 472 Healed achilles tendon ruptures show decreased elastic properties in shear wave elastography  
6'+3' Frankewycz B. (Regensburg), Weber J., Platz-Batista-da-Silva Natascha, Penz Andrea, Freimoser F., Jung E., Docheva Denitsa, Pfeifer C.

1210 Multiligament knee injuries in high energy traumatism  
6'+3' *Godino M. (Marbella), Pascual F., Vides M., Guerado E.*

972 The effect of swimming as a conservative measure for early stage ONFH  
6'+3' *Dong X. (Wuhan), Qi L.*

16:30 - 18:00

New York 3

International: in English

**IN40 The challenge of complex elbow fracture**



In cooperation with AOTrauma

Chair Bonnaire F. (Dresden), Lambert S. (Stanmore)

3019 Introduction  
5' *Bonnaire F. (Dresden)*

3020 Distal humerus fractures: AO advices and my technique  
12'+4' *Nijs S. (Leuven)*

3021 The importance of ligamentous co-injuries in Monteggia-like lesions  
12'+4' *Lambert S. (Stanmore)*

3022 My technique and AO suggestions in the treatment of proximal ulna fractures  
12'+4' *Bonnaire F. (Dresden)*

3023 Challenges of osteosynthesis and reconstruction and alternative treatments  
12'+4' *Müller L. (Köln)*

3024 Reoperations after elbow fractures: Why and how?  
12'+4' *Jäger M. (Freiburg)*

3025 Summary  
5' *Bonnaire F. (Dresden), Lambert S. (Stanmore)*

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



Abstracts for scientific lectures and posters are available from October 2017 at [www.egms.en](http://www.egms.en).



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The poster area in Hall 6.2 may be visited during the opening hours with a valid congress ticket. The individual contributions incl. abstracts are available in the web program ([www.dkou.de](http://www.dkou.de)).

## Poster Exhibition

All posters will be presented classically at poster walls, ordered by topics.

### Set-up:

■ Tuesday 24.10.2017 09:00 - 12:30 h

### Opening hours:

■ Tuesday 24.10.2017 12:30 - 18:00 h

■ Wednesday 25.10.2017 09:00 - 18:00 h

■ Thursday 26.10.2017 09:00 - 18:00 h

■ Friday 27.10.2017 09:00 - 14:30 h

### Dismantling:

■ Friday 27.10.2017 14:30 - 18:00 h

## Poster Presentation

NEW!

The poster presentation takes place on **Wednesday, 25.10.2017** during the times stated below. After a short oral presentation, the posters will be discussed and evaluated by the award commission.

## Poster Topics

■ P011 Best clinical papers (poster awards)	09:00 h
■ P012 Best experimental papers (poster awards)	11:00 h
■ P013 Arthroplasty and revision arthroplasty I	14:30 h
■ P014 Arthroplasty and revision arthroplasty II	16:30 h
■ P015 Fractures and joint injuries I	09:00 h
■ P016 Fractures and joint injuries II	11:00 h
■ P017 Pediatric orthopedics and traumatology	14:30 h
■ P018 Polytrauma, organ injury and emergencies	16:30 h
■ P019 Traumatology and orthopedics in the elderly	09:00 h
■ P020 Treatment of the spine	11:00 h
■ P021 Hand and foot surgery	14:30 h
■ P022 Regenerative and conservative therapy	16:30 h
■ P023 Septic surgery	09:00 h
■ P024 Tumor surgery	11:00 h
■ P025 Biomaterials and implants	14:30 h
■ P026 Biomechanics and movement analysis	16:30 h
■ P027 Fracture healing and bone metabolism	09:00 h
■ P028 Musculoskeletal regeneration	11:00 h
■ P029 Arthritis	14:30 h
■ P030 Annual ARCO meeting 2017	16:30 h

## Poster Reception



The Prizes for 3 clinical and experimental contributions will be awarded on **Wednesday, 25.10.2017, 18:15 - 19:00 h** during the poster reception with beer & pretzels. A member of the respective working group needs to be present. Accompanying persons with a valid entrance ticket are welcome to join the event. Afterwards, there will be time for an informal exchange at the poster walls!





For admission to the satellite program an entrance ticket is sufficient. Available contents may be found in the web program ([www.dkou.de](http://www.dkou.de)).

## AAOT

Actual concepts in knee osteoarthritis

## AOSpine

Deformity and trauma of the spine in children

## ARCO

Symposium I+II

## CAEL, AGOUE

Kick-off Meeting  
"Primary surgery Vol. II"

## German-Japanese Society

Symposium

## DLAOT

Concepts in Germany and South America: Similarities and Differences

## EBSQ Trauma Surgery

European Board Examination I-VII

## ESMA

Back to Sports

## ESTES

Board Meeting

## POTA

Difficulties of fracture diagnosis & management in developing countries

## Sektion Prävention

Management of severely injured patients in IRAN and Germany – case discussions

Session	Day	Time	Room
VE40	Wednesday	16:30 - 18:00	Weimar 5
VE50	Wednesday	14:30 - 16:00	Ulm
VE25a VE25b	Wednesday Wednesday	09:00 - 12:30 14:30 - 16:00	Lindau 6 Lindau 6
VE88	Thursday	11:00 - 12:30	Dessau 1
VE42	Friday	09:00 - 12:30	Weimar 5
VE70	Wednesday	14:30 - 16:00	Lindau 3
VE24a VE24b-g	Friday Friday	08:15 - 09:00 09:00 - 11:00	Dessau 3 Dessau 1-6
VE86	Friday	14:30 - 16:00	Weimar 5
VE37	Thursday	09:00 - 12:30	Dessau 2
VE43	Tuesday	14:30 - 16:00	Weimar 5
VE54	Wednesday	14:30 - 16:00	411



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## Opening Reception

### "Snacks & drinks"

- Schedule: Tuesday, 24.10.2017, 20:30 - 22:30 h
- Location: Messe Berlin, Foyer South Entrance
- Admission: Valid congress or entrance ticket required
- Registration: [www.dkou.de](http://www.dkou.de)



## Poster Reception

### "Beer & pretzels"

- Schedule: Wednesday, 25.10.2017, 18:15 - 19:00 h
- Location: Messe Berlin, Hall 6.2
- Admission: Valid congress or entrance ticket required
- Registration: [www.dkou.de](http://www.dkou.de)



## Rookie Night

### "A night for the next generation"

- Schedule: Wednesday, 25.10.2017, from 21:00 h
- Location: Puro Sky Lounge Berlin (Europa Center), Tauentzienstr. 9-12, 10789 Berlin
- Public transport: S5, S7, S75 Zoologischer Garten U1/U2 Wittenbergplatz, U9 Zoologischer Garten Bus X9, X34, M45, M49, 100, 200 Zoologischer Garten, Bus N1, N10, N26 (nightliners)
- Admission: Free, registration required!
- Registration: [www.dkou.de](http://www.dkou.de)



## Congress Party

### "In the land of milk and honey"

- Schedule: Thursday, 26.10.2017, from 20:30 h
- Location: KaDeWe, Tauentzienstr. 21-24, 10789 Berlin
- Public transport: U1, U2, U3 Wittenbergplatz S5, S7, S75 Zoologischer Garten Bus M19, M29, M46; Bus N1, N2, N3 (nightliners)
- Costs per person: EUR 80.00 (medical specialists), EUR 60.00 (resident in training, students and medical assistance staff, on presentation of a confirmation)
- Registration: [www.dkou.de](http://www.dkou.de)



## Farewell

### "Cheese & wine"

- Schedule: Friday, 27.10.2017, 18:00 - 18:30 h
- Location: Messe Berlin, Festsaal
- Admission: Valid congress or entrance ticket required
- Registration: [www.dkou.de](http://www.dkou.de)

The technical exhibition is open from 08:30 - 18:30 h on all four congress days (Tuesday - Friday, 24 - 27 October 2017). A congress or entrance ticket is required for admittance. Registration can be carried out online before the congress ([www.dkou.de](http://www.dkou.de)) or on-site in Berlin.

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A	<b>aap Biomaterials GmbH</b>   64807 Dieburg	2.2/95
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## P

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<b>Pixformance Sports GmbH</b>   10587 Berlin	2.2/63
<b>Plasmaconcept AG</b>   50667 Köln	2.2/64
<b>PROXOMED Medizintechnik GmbH</b>   63755 Alzenau	4.2/60
<b>PVS berlin-brandenburg GmbH &amp; Co. KG</b>   10115 Berlin	2.2/105
<b>PVS HAG GmbH</b>   70597 Stuttgart	4.2/11

## R

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<b>REGEN LAB SA</b>   1052 Le-Mont-sur-Lausanne, Switzerland	2.2/27
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<b>REMA Medizintechnik GmbH</b>   78589 Dürbheim	4.2/53a
<b>RESORBA Medical GmbH</b>   90475 Nürnberg	4.2/75
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<b>S</b>	<b>S &amp; U Medizintechnik GmbH</b>   55576 Zotzenheim	4.2/77
	<b>Sanatmetal Deutschland GmbH</b>   10557 Berlin	2.2/21
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	<b>SCS MedSeries® 3D Imaging &amp; PreOp Solutions</b>   63739 Aschaffenburg	2.2/49
	<b>SECTRA AB</b>   583 30 Linköping, Sweden	2.2/49
	<b>Shanghai Bojin Electric Instrument &amp; Device Co Ltd.</b>   Shanghai, China	2.2/51
	<b>SI-BONE Deutschland GmbH</b>   68219 Mannheim	2.2/34
	<b>Siemens Healthcare GmbH</b>   91052 Erlangen	4.2/82
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	<b>Stratec Medizintechnik GmbH</b>   75172 Pforzheim	2.2/120
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	<b>Symbios Deutschland GmbH</b>   55129 Mainz	4.2/43
<b>Syntellix AG</b>   30159 Hannover	2.2/76	

<b>T</b>	<b>tantum AG</b>   24537 Neumünster	4.2/58
	<b>TBF Tissue Engineering</b>   69780 Mions, France	2.2/04
	<b>Telos GmbH</b>   35037 Marburg	2.2/06
	<b>Thieme &amp; Froberg GmbH</b>   10829 Berlin	4.2/51
	<b>Thieme Compliance GmbH</b>   91058 Erlangen	4.2/32
	<b>THUASNE DEUTSCHLAND GmbH</b>   30938 Burgwedel	4.2/40
	<b>TRB Chemedica AG</b>   85622 Feldkirchen	2.2/41
	<b>Trimedicales GmbH</b>   63303 Dreieich-Götzenhain	2.2/73
	<b>Trommsdorff GmbH &amp; Co. KG</b>   52477 Alsdorf	4.2/12
	<b>TRUMPF Medizin Systeme GmbH &amp; Co. KG</b>   82178 Puchheim	2.2/57

<b>U</b>	<b>Unbescheiden GmbH</b>   76532 Baden-Baden	2.2/56
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<b>V</b>	<b>VLOU - Verband leitender Orthopäden und Unfallchirurgen Deutschlands e.V.</b>   10623 Berlin	2.2/54
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<b>W</b>	<b>Waldburg-Zeil Kliniken, Argentalklinik</b>   88316 Isny-Neutrauchburg	2.2/83
	<b>Waldemar Link GmbH &amp; Co. KG</b>   22339 Hamburg	2.2/13
	<b>Wellsystem GmbH</b>   53578 Windhagen	2.2/66
	<b>Wright Medical Deutschland GmbH</b>   86899 Landsberg	4.2/89

<b>Z</b>	<b>ZEISS</b>   73447 Oberkochen	4.2/91
	<b>Ziehm Imaging GmbH</b>   90451 Nürnberg	4.2/38
	<b>Zimmer Biomet Deutschland GmbH</b>   79100 Freiburg	4.2/86
	<b>Zipline Medical, Inc.</b>   95008 Campbell, CA, USA	4.2/61

Status as at time of printing



Vote for the best 3 out of 16 innovative products in Hall 4.2!



Pre-registration is operated online until 15.10.2017 ([www.dkou.de](http://www.dkou.de)). Inside Europe, tickets and vouchers will be posted previously to the congress to prevent queueing on-site. The congress office opens for on-site registration on Monday, 23.10.2017, 18:00 - 20:00 h and Tuesday - Friday, 24. - 27.10.2017, 08:00 - 18:00 h. Please calculate waiting at peak times!

Early bird

## Congress tickets

Congress program, industrial exhibition, satellite program

Faculty  
(in the congress program)

Students<sup>1</sup>

Medical assistance<sup>1</sup>  
(orthopaedic technicians, physiotherapists, nurses, rescue service providers)

Reduced persons<sup>1</sup>  
(unemployed, parental leave, retired, handicapped, part-time employees, residents in training)

Physicians/Medical specialists, other professionals  
(in full-time)

	Registration until 15.08.2017	Registration until 15.10.2017	Registration from 23.10.2017
<b>Congress ticket (4 days)</b>	<b>Congress ticket (4 days)</b>	<b>Day ticket (per day)/ Congress ticket (4 days)</b>	<b>Day ticket (per day)/ Congress ticket (4 days)</b>
Faculty (in the congress program)	free	free	free
Students <sup>1</sup>	free	free	free
Medical assistance <sup>1</sup> (orthopaedic technicians, physiotherapists, nurses, rescue service providers)	Members <sup>2</sup> EUR 30 Non-memb. EUR 60	Day/Congress ticket: Members <sup>2</sup> EUR 35/70 Non-memb. EUR 50/100	Day/Congress ticket: Members <sup>2</sup> EUR 60/120 Non-memb. EUR 75/150
Reduced persons <sup>1</sup> (unemployed, parental leave, retired, handicapped, part-time employees, residents in training)	Members <sup>2</sup> EUR 30 Non-memb. EUR 60	Day/Congress ticket: Members <sup>2</sup> EUR 35/70 Non-memb. EUR 50/100	Day/Congress ticket: Members <sup>2</sup> EUR 60/120 Non-memb. EUR 75/150
Physicians/Medical specialists, other professionals (in full-time)	Members <sup>2</sup> EUR 50 Non-memb. EUR 100	Day/Congress ticket: Members <sup>2</sup> EUR 50/100 Non-memb. EUR 75/150	Day/Congress ticket: Members <sup>2</sup> EUR 75/150 Non-memb. EUR 100/200

<sup>1</sup> granted at official confirmation (certificate, enrolment)

<sup>2</sup> in BVOU, DGOOC, DGOU, DGU

## Seminar tickets<sup>3</sup>

in combination with congress ticket

SE11 a-d	EUR 120	SE11 a-d	EUR 120	SE11 a-d	EUR 120
SE12 a-c	EUR 90	SE12 a-c	EUR 90	SE12 a-c	EUR 90
SE13 a+b	EUR 60	SE13 a+b	EUR 60	SE13 a+b	EUR 60
SE14	EUR 60	SE14	EUR 60	SE14	EUR 60
SE15 a-d	EUR 120	SE15 a-d	EUR 120	SE15 a-d	EUR 120

<sup>3</sup> with guaranteed seating and certification

## Entrance tickets<sup>4</sup>

Industrial exhibition, satellite program

per day	EUR 20	per day	EUR 20	per day	EUR 20
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<sup>4</sup> Including official ceremonies, excluding certification



No matter where your journey to Berlin starts – with the discounts below you will have a good trip to and around the city:



## By plane

- Tegel Airport: national/international line operation (8 km)
- Schönefeld Airport: low-cost-carrier (25 km)
- [www.berlin-airport.de/en](http://www.berlin-airport.de/en)

## Official airline

Fly with Lufthansa Group and get up to 10% off!

- <http://dkou.org/en/official-airline/>
- code DEZZXRJ



## By train

- Station Zoologischer Garten (5 km)
- Main Station (9 km)
- Station Friedrichstraße (10 km)
- [www.bahn.de/en](http://www.bahn.de/en)

## German railways

Deutsche Bahn offers flat rates for round trips:

- 2nd class EUR 99
- 1st class EUR 159
- <http://dkou.org/en/german-railways>



## Public transport

- S5 Messe Süd
- Bus 349 Jafféstraße
- [www.bvg.de/en](http://www.bvg.de/en)

## Welcome card

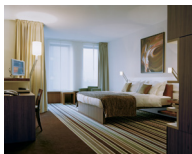
All in one: Berlin public transport as well as discounts for sight seeing, boat trips, museums, souvenirs, restaurants...

- 48 h EUR 19.90
- 72 h EUR 27.90
- <http://dkou.org/en/welcome-card/>



## By car

- A10 Berliner Ring, guidance system "Messegelände"
- Parking area P18, Jafféstraße (to be paid)

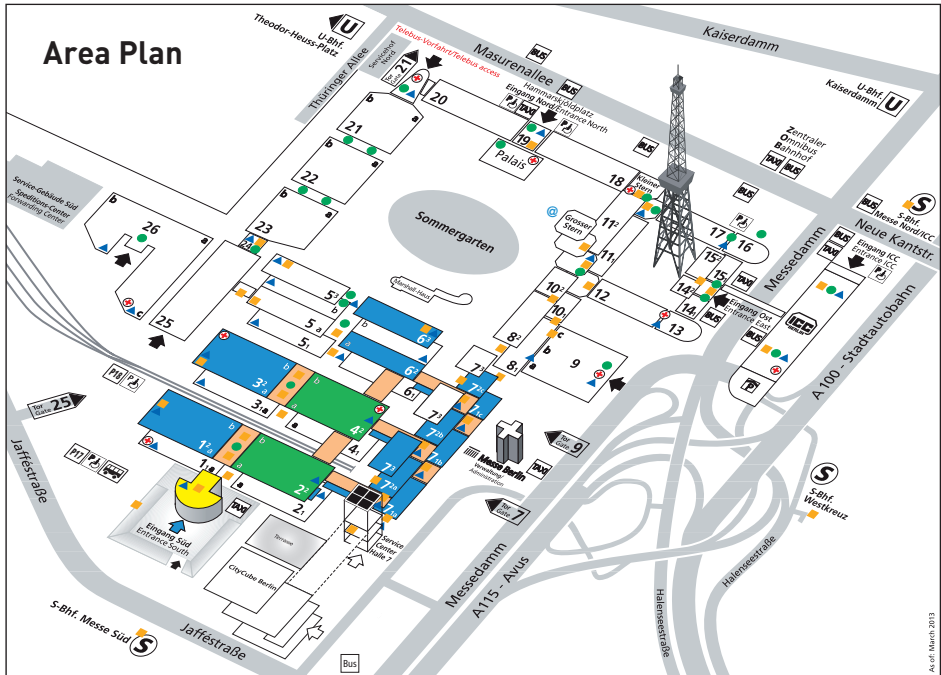





## Accommodation







Book your room directly in one of the surrounding hotels at special rates!








- deadline 25.09.2017
- keyword "Intercongress DKOU"
- <http://dkou.org/en/accommodation/>

The venue is centrally located in the city of Berlin and has its own suburban train station. An urban motorway connects it with the two airports. Parking spaces are limited, please use public transport!



-  Entrance for the handicapped
-  Toilets for the handicapped
-  Lift for the handicapped
-  Telephone for the handicapped

-  First aid
-  +49 30 3038-2222
-  Business Center
-  +49 30 3038-4123
-  Car park for the handicapped
-  Car park

-  Taxi rank
-  +49 30 443322
-  Bus stop
-  BVG line 349 Jaffestraße
-  Shuttle bus
-  Suburban railway station
-  S5 Messe Süd



Messe Berlin, South Entrance

Hildegard Coronini  
 Jafféstraße, 14055 Berlin, Germany  
 ☎ 030 3038-3067, 📠 030 3038-3032  
[coronini@messe-berlin.de](mailto:coronini@messe-berlin.de), [www.messe-berlin.de](http://www.messe-berlin.de)

Wardrobe opening hours

- Tuesday 24.10.2017 08:00 - 23:00 h
- Wednesday 25.10.2017 08:00 - 20:00 h
- Thursday 26.10.2017 08:00 - 21:00 h
- Friday 27.10.2017 08:00 - 19:30 h

↑ South Entrance

- Opening reception  
Entrance foyer
- Congress & satellite program  
Halls 1.2, 3.2, 6.2, 6.3, 7.1, 7.2, 7.3
- Industrial exhibition  
Halls 2.2, 4.2
- Corridors
- Press center  
Hall 6.3



- 1 Congress office  
Entrance foyer
- 2 Wardrobe, lost & found  
Entrance foyer
- 3 Info market  
Entrance foyer
- 4 Media check  
Entrance foyer
- 5 KIDS care  
Courtyard Hall 2.1
- 6 Students' day  
Hall 7.1 (Paris 1)

- ☕ Cafés  
Entrance foyer, Hall 2.2
- 🍴 Restaurants  
Halls 2.2, 4.2
- 🔌 Charging stations & working spaces, Hall 4.2
- 🔌 BVOU, DGOOC, DGOU, DGU  
Hall 2.2
- NEW BrandNew & Orthopaedic  
Video Theater, Hall 4.2
- 🐾 Relax lounge  
Hall 4.2

- 📍 Meeting point & picture spot  
Foyer Hall 2.2
- 🏠 Cashpoint  
Foyer Hall 2.2
- ℹ Information  
Halls 2.2, 4.2, 6.2, 7.2
- 🚬 Smoking areas  
South entrance, hall passages
- 🏥 Medical service  
Hall 4.2
- 🙏 Prayer room  
Outside Hall 6.2



# The World's Only **PRECISION ALIGNMENT TECHNOLOGY**

For TKA in the Palm of Your Hand

95.7%

Tibial component coronal alignment within 2° of neutral vs. 68.1% using EM guided TKAs.<sup>1</sup>

95.0%

Tibial component posterior slope within 2° of target slope vs. 72.1% using EM guided TKAs.<sup>1</sup>

92.5%

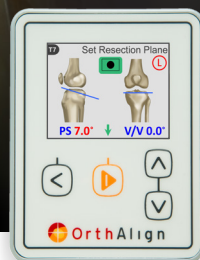
Overall limb alignment within 3° of neutral vs. 86.3% for CAS navigated TKAs.<sup>2</sup>

94.9%

Femoral component coronal alignment within 2° of neutral vs. 92.5% for CAS navigated TKAs.<sup>2</sup>

KneeAlign® was developed with some of the world's leading orthopaedic surgeons to enhance clinical benefits, providing surgeons the control and confidence to align knee prostheses correctly, for every patient.

To date, KneeAlign has been used in over 65,000 successful surgeries, in over 40 countries, and peer-reviewed in over 15 published clinical studies.



For more information on OrthoAlign technology, please visit [www.orthoalign.com](http://www.orthoalign.com) or visit our DKOU 2017 stand in Berlin: 4.2/18c in Halle 4.2.



<sup>1</sup> Nam, et al., "Extramedullary Guides versus Portable, Accelerometer-Based Navigation for Tibial Alignment in Total Knee Arthroplasty: A Randomized Controlled Study", The Journal of Arthroplasty, June 5, 2013.

<sup>2</sup> Nam, et al., "Accelerometer-Based, Portable Navigation vs Imageless, Large Console Computer-Assisted Navigation in Total Knee Arthroplasty", The Journal of Arthroplasty, April 17, 2012.