

- 08.00 Registration
- 08.30 Welcome **E. Guerado**, Malaga. Spain. Chairman of the 5th ESTROT Congress. President of the Soc.Española de Cirugía Ortopédica y Traumatología (SECOT).
P. Giannoudis (Leeds, UK) President of ESTROT.
- 08.45 **Keynote Lecture:** *“Expanded autologous BM-MSCs to treat non-unions: results of a European Union multicentric trial”* - **E. Gomez-Barrena** (Madrid, Spain)

1st SESSION - BONE REGENERATION

Moderators: **H. Simpson**, *Edinburgh, UK*; **Soucacos P** (*Athens Greece*)

- 09.15 **Keynote Lecture:** *“New Technologies for Bone Regeneration. From Autograft to Genomics”*
E. Jones (*Leeds, UK*)
- 09.45 MSCs for Bone reconstruction
H. Simpson (*Edinburgh, UK*)
- 10.00 MSCs characterization after RIA harvesting. Clinical Relevance
T. Blockhuis (*Maastricht, The Netherlands*)
- 10.15 Bone Marrow Mesenchymal Stromal Cells (BM-MSC) for bone regeneration: experience from REBORNE and ORTHOUNION EU projects (2010-2018) - **Rosa Gonzalo** (*Madrid, Spain*)
- 10:30 Development of a gene therapy-based approach for local bone regeneration
Nuria Vilaboa (*Madrid, Spain*)
- 10.45 Coffee Break

2nd SESSION BONE INFECTION

Moderators: **C. Arts, Maastricht, Netherlands; J Pachon, Seville Spain**

- 11.15 Strategies in the treatment of septic NU and critical size bone defect
Giorgio M. Calori, Milan, Italy
- 11.30 Prosthetic joint infections in Southern Spain: a microbiological view
Alvaro Pascual, Seville, Spain
- 11.45 Development and validation of predictive models for prosthetic joint infections
Maria Dolores Del Toro, Seville, Spain
- 12.00 New approaches for the treatment of multidrug-resistant bacteria
Jeronimo Pachon, Seville, Spain
- 12.15 NUSS and Algorithm of Treatment to validate decision making in reconstructive or prosthetic surgery
Giorgio M. Calori, Milan, Italy
- 12.30 **Keynote Lecture:** antimicrobial therapy. From Antibiotics to Genomics therapy
C. Arts, Maastricht, The Netherlands
- 13.00 Discussion

13.30-14.30: Lunch Break (Sponsor by Depuy- Synthes Johnson & Johnson):

The new 3D visualisation with hexapod 3D fixator

3rd SESSION - BONE REGENERATION - (Free papers - First part)

Moderators: T. Blockhuis, Maastricht, Netherlands, L Santos-Ruiz, Malaga, Spain

- 14.30 Bioactive coatings to promote osseous integration of porous custom-made titanium prostheses
L. Santos-Ruiz, J.F. Granados, J.I. Yanez, F. Ruiz-Delgado, Y. Vida, N. Argarate, I. Izquierdo-Barga, A. Diaz, D. Monopoli, J. Becerra (Malaga)
- 14.40 Treatment of delayed union fractures with minimally invasive administration of allogeneic bone forming cells: a first-in-man clinical trial
W. Sonnet, C. Aznar-Lopez, A. Tury, F. Crokaert, O. Delahaut, A. P. Schulz, M. van Griensven, R. Witvrouw, L. Seefried, M. Jayankura, G. Heynen
- 14.50 Exploiting knowledge of mesenchymal stromal cell biology for improving non-union therapy
J. El-Jawhari, G. Kleftouris, Y. El-Sherbiny, E. Jones, P. Giannoudis
- 15.00 Stimulation of fracture healing using citrulline supplementation in mice
D.M. Meesters, P.F.W. Hannemann, H.M.H. van Eijk, V.T.J. Schriebl, P.R.G. Brink, M. Poeze, K.A.P. Wijnands
- 15.10 An in vivo model of full-thick, critical-size, mandible defect for evaluating tissue-engineered prosthetic implants
J.F. Granados, J.I. Yanez, F. Ruiz-Delgado, B. Mentado, D. Monopoli, J. Becerra, L. Santos-Ruiz
- 15.20 Decidua-derived stem cells as therapeutic agents for bone repair
A.M. Gonzalez-Luque, L. Kazantseva, R.M. Belmonte, D. Amat, A.I. Flores, J. Becerra, L. Santos-Ruiz

- 15.30 Inflammatory profile and osteogenic potential of fracture haematoma in humans
I. Pountos, G. Walters, M. Panteli, P.V. Giannoudis
- 15.40 Discussion
- 15.55 **Coffee Break**

3rd SESSION - BONE REGENERATION (Free papers – 2nd part)

Moderators: ***E. Jones, Leeds, UK, M. Bumbasirevic, Belgrade, Serbia.***

- 16.10 Silk fibroin, a novel material for bone tissue engineering
M. Vandrovцова, G.A. Rico-Llanos, S.D. Aznar-Cervantes, J.L. Cenis, J. Becerra, R. Visser
- 16.20 Design of biomaterials with time-controlled release systems to sequentially deliver growth factors for bone tissue engineering
G.A. Rico-Llanos, R. Visser, G.A., J. Becerra
- 16.30 Peptides for bone tissue engineering
R. Visser, G.A. Rico-Llanos, J. Becerra
- 16.40 Mass spectrometry (imaging) for fracture hematoma analyses
J. Gruisen, S. Nauta, M. Poeze, T. Porta Siegel, T. Blokhuis, M. Eveque, B. Cillero-Pastor, R. Heeren
- 16.50 Nonunions – No union amongst caregivers? An online survey.
M.C. Tanner, A.A. Grimm, R. Heller, P. Haubruck, G. Schmidmaier, M. Miska

17:00 Discussion

17.15 ***Summary - Closure of the day***

17.30 ***Annual General Meeting ESTROT***

1ST SESSION - BONE THERAPY - SURGICAL TECHNIQUES

Moderators: *Giorgio M. Calori, Milan, Italy, G. Zimmermann, Heidelberg, Germany*

- 08.30 **Keynote Lecture:** the combination of Biomechanics and Biology - **G. Schmidmaier**
- 09.00 Masquelet technique in the lower limb - **P. Giannoudis**
- 09.20 Masquelet versus Bone lengthening. When and how? - **T. Begué**
- 09.40 Big bone loss in the upper limb - **M. Bumbasirevic**
- 10.00 Masquelet technique in the upper limb - **A. Galan**
- 10.20 Coffee Break
- 10.45 Bone-xenograft integration for reconstructive surgery. Biological and clinical observations
R. Ferracini
- 11.00 Free fibula - **P. Soucacos**
- 11.15 Bone lengthening in dwarfism. Lessons learnt in more than 100 cases - **A. Leiva**
- 11.30 Biological alternatives for extensive arthrodesis of the spine - **E. Guerado**
- 11.45 Bone tissue engineering. Craniofacial reconstruction - **Ingrid Garzon**
- 12.00 Discussion and Clinical Presentation

13.00-14.00: Lunch Break: Cerapedics. I-factor

2ND SESSION - SOFT TISSUE REGENERATION

Moderator: - **A. Galan**, Malaga, Spain, **R. Ferracini**, Genoa, Italy

- 14.00 **Keynote lecture:** Characterization of ReadiGRAFT BLX Fibers, an Optimal Scaffold for Bone Healing – **K. Kaudela**.
- 14.30 Generation and clinical translation of artificial skin for cutaneous defects – **M. Alaminos**
- 14.45 Biomaterials and cell-based therapies in peripheral nerve repair – **V. Carriel**
- 15.00 **Keynote lecture:** New strategies in the treatment of posttraumatic articular destruction using allografts and 3D printing
C. Krettek
- 15.30 Platelet Rich Plasma Injection. Is it effective? – **M. Liccardo**
- 15.45 Platelet Rich Plasma. Articular applications – **G. Zimmermann**
- 16.00 Discussion
- 16.15 Coffee break

3rd SESSION FREE PAPERS

Moderators: **R. Visser**, Malaga, Spain, **K. Kaudela**, Mistelbach, Austria

- 16.45 Quantity & Quality of Mesenchymal stem cells using a new bone-marrow concentration system
J. El-Jawhari, I. Dragos, E. Jones, P. Giannoudis

- 16.55 Gene expression in multipotential stromal cells resident in medial and lateral condyles of knee osteoarthritis patients indicates their involvement in disease pathogenesis: implications for cell therapies
C. Sanjurjo-Rodriguez, T. Baboolal, A. Burska, F. Pochel, J. El-Jawhari, J. Aderinto, O. Wall, H. Pandit, D. McGonagle, E. Jones
- 17.05 Fibrine and platelet rich plasma: articular applications
J. L. Rodrigo
- 17.15 Mesenchymal stem cells in talar and tibial subchondral bone of Ankle Osteoarthritis patients - Presence, Prevalence, and Tissue Topography
W. Jones, J. El-Jawhari, C. Brockett, H. Fermor, E. Jones
- 17.25 Establishment of human induced pluripotent stem cell-lines (iPSc) as a tool for studying hand osteoarthritis
R. Castro-Vinuelas, C. Sanjurjo-Rodriguez, M. Pineiro-Ramil, S. Rodriguez-Fernandez, T. Hermida-Gomez, I. Fuentes-Boquete, F. J. De Toro-Santos, F. Blanco-Garcia, S. Diaz-Prado
- 17.35 Generation of mesenchymal stromal cell lines from osteoarthritic patients
M. Pineiro-Ramil, R. Castro-Vinuelas, C. Sanjurjo-Rodriguez, S. Rodriguez-Fernandez, T. Hermida Gomez, J. De Toro Santos, F. Blanco-Garcia, I. Fuentes-Boquete, S. Diaz-Prado
- 17.45 Antimicrobial effect of Cerament-G on bacterial isolates, with various levels of gentamicin resistance, found in fracture-related infection; an *in vitro* study
H. Bezstarosti, P.D. Croughs, M.J.B. van den Hurk, K. Kortram, P. Oprel, E.M.M. van Lieshout, M.H.J. Verhofstad
- 17.55 Clinical results following intra-articular injection of autologous micro-fragmented adipose-tissue in patients with osteoarthritis of the knee
F.V. Sciarretta

- 18.05 A new autologous cartilage scaffold: Contemporary approaches in perioperative preparation and application in the treatment of chondral lesions
D. Abazovic, G.Gavrilovic, O. Dulic, T. Palibrk, D. Maric
- 18.15 Discussion
- 18.30 Summary. Closure of the day
- 20.30 Congress dinner

1ST SESSION - BONE METABOLISM

Moderators: **T. Bégué**, Paris, France, **E. Guerado**, Malaga, Spain

- 09.00 **Keynote Lecture:** Strategies of treatment for fractures in osteoporotic bone – **M. Poeze**
- 09.30 **Keynote Lecture:** HRpQCT to study longitudinal bone remodeling in clinical patients.
Are they defying Wolf's law?? - **Ch Arts**
- 09.45 **Closing Lecture:** How I organized basic science research in my department – **P. Giannoudis**
- 10.00 Discussion
- 10.15 Coffee Break

2ND SESSION - FREE PAPERS

Moderators: **G. Schmidmaier** Heidelberg, Germany, **C. Arts**, Maastricht, Netherlands

- 10.35 Use of beta-blockers and risk of aseptic loosening in total hip and knee arthroplasty:
a nested case – control study
P. Carnero- Martín de Soto, I. Tamimi-Marino, D. Bautista-Enrique, M. Bravo-Zurita, A. Gomez- Caceres, F. Tamimi, M.S. Dawid-Milner
- 10.45 A preoperative novel method for anatomical reduction of tibial plateau fracture using 3D patient specific models
A.M. Ozturk, O. Suer, O. Derin, M. A. Ozer, F. Govsa, K. Aktuglu

- 10.55 MSC derived extracellular vesicles – a potential regenerative strategy for cartilage repair?
R. Crossland, M. Reis, C. Sanjurjo-Rodriguez, A. Dickinson, X.N. Wang
- 11.05 Effect of acetylcholinesterase inhibitors on post-surgical complications and mortality following a hip fracture: a cohort study
I. Tamimi, B. Nicolau, H. Eimar, M.S. Arekunnath, A. Kezouh, I. Karp, F. Tamimi
- 11.15 The use of acetylcholinesterase inhibitors and the risk of osteoporotic fractures: a nested case-control study
I. Tamimi, B. Nicolau, H. Eimar, M.S. Arekunnath, A. Kezouh, I. Karp, F. Tamimi
- 11:25 “Smart” titanium plates and scaffolds for preventing post-surgery infections
A.D. Anastasiou¹, T. Zaman¹, P.V. Giannoudis², A. Jha¹
- 11.35 Closing Lecture: The next 2020 ESTROT Congress. What we should discuss about new tissue technology
T. Blockhuis, Maastricht, Netherlands
- 11.45 Prize presentation
- 12:00 CONGRESS END**