2019 OARSI
WORLD CONGRESS ON OSTEOARTHRITIS
TORONTO ONTARIO CANADA
Promoting Clinical and Basic Research in Osteoarthritis
DEAR COLLEAGUES,

We are pleased to welcome you to the 2019 Osteoarthritis Research Society International (OARSI) World Congress in Toronto, Canada.

The annual OARSI Congress is the pre-eminent multidisciplinary global forum for all those interested in cutting edge OA research from academia and industry around the world, including basic and clinical research scientists, rheumatologists, orthopedic surgeons, radiologists, physiatrists, physical therapists and other allied health professionals, methodologists, and policy makers.

Highlights of the 2019 program include interdisciplinary plenary sessions on Machine Learning, Mechanotransduction Pathways, and the Transition from Acute to Chronic Pain. Dr. Clifford Rosen will deliver the opening night Keynote Lecture on Pathogenic Mechanisms of Obesity-Induced Osteoarthritis: New Clues from Old Joints. OA of joints other than the knee and hip will be highlighted in a Concurrent session on the foot and ankle, as well as a Pre-Congress Workshop on the spine. Another Pre-Congress workshop will highlight prevention of post-traumatic OA in sport and the military. Interact with experts in specific areas of basic and clinical science through ticketed breakfast workshops. Topics include “Joint-on-a-chip” technologies, Patient preferences, Imaging, Gait Analysis, Network Meta-Analysis, and OA Pathogenesis for Beginners. We will also present highlights from the upcoming OARSI Treatment Guidelines. As in previous years, there will be sessions featuring the highest rated young investigator abstracts, the great debate, and the year-in-review, as well as poster tours led by experts in the field. The Young Investigator Committee will again host the popular Mentorship Session.

NEW! New this year, we are adding to our existing Congress awards programs that include travel scholarships, Young Investigator highest rated abstracts, Clinical Science Award, Basic Science Award, and Lifetime Achievement Award. We are launching a new awards program to recognize the highest rated abstracts in 12 broad categories, regardless of stage of career.

By attending this meeting, you will join a global network of individuals from a broad range of disciplines, all working toward a better understanding of OA with the goals of preventing, managing and curing the disease through state-of-the-art research to improve the lives of the >300 million worldwide with OA! We hope you enjoy your experience at the 2019 OARSI World Congress!
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Frank Zaucke, PhD
Germany

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OARSI 2019 FINAL PROGRAM • WWW.OARSI.ORG
All events will take place at the Sheraton Toronto City Centre, in Toronto, Canada from May 2-5th, 2019.

REGISTRATION HOURS
The registration desk will be open during the following hours:

Hours are subject to change
- Thursday, May 2nd 7:00 AM – 7:00 PM
- Friday, May 3rd 7:00 AM – 6:00 PM
- Saturday, May 4th 7:00 AM – 6:00 PM
- Sunday, May 5th 7:00 AM – 12:00 PM

TICKETED EVENTS

BREAKFAST WORKSHOPS
Two concurrent breakfast workshops will take place Friday, Saturday and Sunday morning. These workshops are ticketed events and there is an additional registration fee to attend these workshops, and space is limited. Please see the registration desk for more information and availability.

BREAKFAST POSTER TOURS
Four concurrent breakfast poster tours will take place Friday and Saturday morning. These tours are ticketed events and there is an additional fee to attend the tour. Each tour only accommodates 20 people. Please see the registration desk for more information and availability.

CME ACCREDITATION

Accreditation Statement
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Amedco and the Osteoarthritis Research Society International. Amedco is accredited by the ACCME to provide continuing medical education for physicians.

Satisfactory Completion
Learners must complete an evaluation form to receive a certificate of completion. Your chosen sessions must be attended in their entirety. Partial credit of individual sessions is not available. If you are seeking continuing education credit for a specialty not listed below, it is your responsibility to contact your licensing/certification board to determine course eligibility for your licensing/certification requirement.

Physicians
In support of improving patient care, this activity has been planned and implemented by Amedco LLC and Osteoarthritis Research Society International. Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Credit Designation Statement-Amedco LLC designates this live activity for a maximum of 30.75 AMA PRA Category 1 Credits™ (4.75 for the Clinical Trial Symposium and 26 for the Congress). Physicians should claim only the credit commensurate with the extent of their participation in the activity.

European Union Credit
ACCME carries reciprocity with EACCME which is for the European Union and covers most European countries, along with most international ones.

EVALUATION & REGISTERING FOR CREDITS ONLINE
Upon completion of the congress, physicians that wish to apply for CME credits can do so online. An e-mail will be sent to all registrants after the congress with a link to the site.
USE OF OARSI SCIENTIFIC PROGRAM CONTENT

Information presented during the 2019 World Congress is the property of OARSI and the presenter. Information may not be recorded, photographed, copied, photocopied, transferred to electronic format, reproduced, or distributed without the written permission of OARSI and the presenter. Any use of the program content, which includes, but is not limited to oral presentations, audiovisual materials used by speakers, and program handouts, without the written consent of OARSI is prohibited.

ABSTRACT EMBARGO POLICY

Accepted abstracts are made available to the public on the OARSI website and are published in a special supplement of Osteoarthritis and Cartilage.

SPEAKER READY ROOM

SPEAKER READY ROOM HOURS:

- Thursday, May 2\textsuperscript{nd} .................. 7:00 AM-6:30 PM
- Friday, May 3\textsuperscript{rd} .................. 7:00 AM-5:30 PM
- Saturday, May 4\textsuperscript{th} .................. 7:00 AM-5:30 PM
- Sunday, May 5\textsuperscript{th} .................. 7:00 AM-11:00 AM

The Speaker Ready Room is located in Planner Office on the Concourse Level. The Speaker Ready Room is provided for presenters to prepare for their presentations and to ensure a seamless integration of a wide variety of audiovisual technologies in the various meeting rooms. By checking in at the Speaker Ready Room and following these simple guidelines, speakers will greatly contribute to the success of the meeting.

OARSI requests all presenters to use PowerPoint™ Presentations. All meeting rooms will have presentation computers and will be networked from a central computer located in the Speaker Ready Room. Presentations will be downloaded from the Speaker Ready Room and sent to the respective meeting room on a secured intranet circuit approximately 45 minutes prior to the start of each session.

Speakers are encouraged and expected to bring their presentation to the Speaker Ready Room where they will have the opportunity to review their presentations or make any last minute changes. All speakers must check into the Speaker Ready Room.

ABSTRACTS ON USB

Each registrant will receive a USB with their registration packet that contains all of the abstracts presented at the congress.

EXHIBITS

The exhibits are an integral part of the complete education experience and will feature the latest in research products in the field of osteoarthritis. Please make time during the meeting to visit the exhibits during their open hours. They are located in Sheraton Hall/Osgoode and Foyers.

EXHIBIT HOURS

- Thursday, May 2\textsuperscript{nd} ................. 7:30 PM-9:00 PM
- Friday, May 3\textsuperscript{rd} .................. 10:15 AM-5:00 PM
- Saturday, May 4\textsuperscript{th} ............... 10:15 AM-5:00 PM

POSTER SESSIONS

The Posters Sessions are an important educational part of this meeting. We hope you support and attend these scientific presentations.

Posters may be viewed during the following times:

POSTER SESSION 1

Friday, May 3, 2019 • 3:30 PM to 5:00 PM

- Odd Posters .................. 3:30 PM-4:15 PM
- Even Posters .................. 4:15 PM-5:00 PM

POSTER SESSION 2

Saturday, May 4, 2019 • 3:30 PM to 5:00 PM

- Odd Posters .................. 3:30 PM-4:15 PM
- Even Posters .................. 4:15 PM-5:00 PM

Any posters left on the boards after 5:00 PM on Saturday, May 4\textsuperscript{th} will be removed and discarded.
The Osteoarthritis Research Society International would like to thank the corporate supporters of OARSI Initiatives, Meetings and Congress. It is with the support of industry that OARSI can continue its mission to prevent and treat osteoarthritis through the promotion and presentation of research, education and the world-wide dissemination of new knowledge.
Exhibitor Directory

- Avanos Medical.......................... Booth 1
- Biomomentum............................ Booth 2
- Biocyteco.................................Booth 11
- Biosolution Co., Ltd......................Booth 7
- Bolder BioPath.............................Booth 5
- EMD Serono................................Booth 11
- Flexion Therapeutics.....................Booths 3 & 4
- InterVivo Solutions.......................Booth 9
- Pfizer and Lilly............................Booth 14
- Samumed, LLC.............................Booths 12 & 13
- The Journal of Rheumatology...........Booth 10
- Thuasne.....................................Booth 8
- TLC Taiwan Liposome Co................Booth 6

Discussion Group Meetings

THURSDAY, MAY 2

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<tr>
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<tr>
<td>11:30 AM-1:00 PM</td>
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Sport, Exercise, Physical Activity and Osteoarthritis Prevention Discussion Group

SATURDAY, MAY 4

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<th>Time</th>
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<tbody>
<tr>
<td>6:30 PM-8:00 PM</td>
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Pain Mechanisms in OA: Basic and Clinical Research

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Imaging Discussion Group

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OA Phenotype Research Discussion Group

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International Foot & Ankle Consortium Discussion Group

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<td>6:30 PM-8:00 PM</td>
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Rehabilitation Discussion Group

SUNDAY, MAY 5

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Bridging Disciplines: A Pathway to Finding Solutions for Osteoarthritis Discussion Group

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International Osteoarthritis Management Programs a.k.a. “Joint Effort” Discussion Group

OARSI Board & Committee Meetings

All committee meetings will take place within the Sheraton Toronto City Centre.

WEDNESDAY, MAY 1

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OARSI Board Meeting

FRIDAY, MAY 3

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Publications Committee Meeting

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Research & Training Committee Meeting

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Young Investigator Committee Meeting

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O & C Editorial Board Meeting

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FNHI BC Progress OA F2F Meeting

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Communications Committee Meeting

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Early OA Task Force Meeting

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O & C Associated Editors Meeting

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Corporate Council Meeting

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SATURDAY, MAY 4

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Asian Alliances Committee

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O & C Associated Editors Meeting

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2020 Program Planning Meeting

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Strategic Alliance Meeting

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Finance Committee Meeting

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Ethics Committee Meeting
Booth 1
Avanos Medical is committed to creating the next generation of innovative healthcare solutions which will address our most important healthcare needs, such as reducing the use of opioids while helping patients move from surgery to recovery.

Booth 2
Biomomentum provides GLP-compliant mechanical testing services and manufactures mechanical testers for biomaterials and cartilage. The Mach-1™ multiaxial mechanical tester is the only all-in-one device designed for compression, tension, shear, friction, torsion and 3D indentation mapping. Our tester is used in multiple research labs and is deemed an excellent educational tool for students.

Booths 15 & 16
With more than 20 years of experience, Bioseb is designing equipment for Pre-Clinical Research, with a focus on Pain. With facilities in Europe & USA, our expertise is renown internationally: our innovative developments have been successfully engineered into reliable instruments. Our proven systems are used by the most advanced teams in prestigious Universities and laboratories all over the world.

Booth 7
Biosolution Co., Ltd is manufacturing cell-based therapeutics with their background in somatic, and stem cell technology. We have received product approval for KeraHeal and KeraHeal-Allo, which are autologous and allogenic keratinocyte medications. We have also completed clinical trials for CartiLife, autologous chondrocyte therapy product used to cure osteoarthritis, and preparing for conditional marketing authorization in 2018.

Booth 5
Bolder BioPATH, Inc. is an AALAC accredited preclinical CRO specializing in In Vivo models of Rheumatoid Arthritis, Osteoarthritis, Inflammatory Bowel Disease, and many other models of Inflammation and autoimmunity. Our goal is to provide preclinical efficacy and toxicity data that advances novel compounds to the IND/NDA stage.

Booth 11
EMD Serono is part of the biopharmaceutical business of Merck KGaA, Darmstadt, Germany, in the United States and Canada. EMD Serono has proven expertise in neurology, fertility and endocrinology, as well as a strong pipeline in oncology, immuno-oncology and neurology/immunology.

Booths 3 & 4
Flexion Therapeutics is a biopharmaceutical company focused on the development and commercialization of novel, local therapies for the treatment of patients with musculoskeletal conditions, beginning with osteoarthritis (OA), a type of degenerative arthritis.
Booth 9
InterVivo Solutions is a preclinical in vivo CRO providing research services to the pharmaceutical and animal health industries using translational animal models for efficacy, pharmacokinetics, safety and toxicology. InterVivo’s natural Aged Beagle model of osteoarthritis provides a uniquely translational tool for pre-clinical testing of therapeutics. Studies evaluating the efficacy of therapeutics in Aged Beagles are able to provide clinically relevant readouts of both symptomatic and disease-modifying effects of therapeutic agents. As a progressive disease model, the Aged Beagle also allows longitudinal studies across various stages of disease. InterVivo specializes in neuroscience drug discovery and is unique in its offering of translational models and multi-domain services to improve the clinical success of NCEs.

Booth 10
The Journal of Rheumatology is an independent, international medical journal founded by Dr. Metro Ogryzlo in 1974. The Journal publishes timely, original, peer-reviewed research articles on clinical subjects in rheumatology and related fields. Accessible in print and online, The Journal of Rheumatology is dedicated to impacting practicing physicians worldwide.

Booth 12 & 13
Samumed is a leader in medical research and development for tissue-level regeneration. With our platform’s origins in small molecule-based Wnt pathway modulation, we develop therapeutics to address a range of degenerative diseases, regenerative medicine and oncology.

Booth 14
Pfizer and Lilly: Working together to advance the understanding of chronic pain. The collaboration between Pfizer and Lilly reflects the commitment of both organizations to scientific innovation in pain. Pfizer and Lilly colleagues around the world are devoting their passion and scientific expertise to advancing the understanding of chronic pain with the goal of improving patient treatment, care, and outcomes.

Booth 8
Founded in France in 1847, The Thuasne Group is one of Europe’s oldest, largest and most respected orthopaedic companies, specialising in wearable medical devices. Thuasne has over 1,800, employees and subsidiary companies throughout Europe. The Action Reliever osteoarthritis knee brace is the latest in a long line of premium, innovative new products which Thuasne are famed for.

Booth 6
TLC is a clinical-stage specialty pharmaceutical company dedicated to the development and commercialization of novel nanomedicines designed to target areas of unmet medical need. TLC’s lead program, TLC599, is a proprietary BioSeizer™ sustained release formulation of dexamethasone sodium phosphate intended for the treatment of osteoarthritis (OA) pain. Current intraarticular sustained release anti-inflammatory treatments for OA have potentially toxic side effects and may lead to the destruction of cartilage filler proteins. An in vivo toxicity study by staining of the cartilage showed TLC599 to be cartilage sparing compared to current treatments. In its Phase II clinical trial, TLC599 was well-tolerated and demonstrated statistically significant improvements over placebo, both through 12, 16, 20, and 24 weeks and at every scheduled visit on week 1, 4, 8, 12, 16, 20, and 24. Over half of the patients treated with TLC599 maintained at least a 30% reduction in pain – over twice as many as placebo – throughout the study.
Wednesday, May 1, 2019

11:00 AM – 3:30 PM  Clinical Trial Symposium*

**Birchwood Ballroom**

**Speakers:**

- **Review of the Updated FDA Guidelines and Discussion of their Implications**  
  Jeymi Tambiah, MD

- **The Patient Perspective**  
  Angie Botto-van Bemden

- **Clinical Trial Design in the Era Subpart H and the FDA-OARSI Initiative**
  - Accelerated Approval Accepted  
    Virginia Byers Kraus, MD, PhD
  - Accelerated Approval Rejected  
    Jeffrey Kraines, MD

- **Imaging in OA**  
  Felix Eckstein, MD

- **Endotypes in OA that may Help Guide Clinical Trial Design – APPROACH**  
  Chris Ladel, PhD  
  Anne-Christine Bay-Jensen, MSc, PhD

- **FINH sSage 2: An Initiative to Support Clinical Trial Design**  
  David Hunter, MBBS, PhD, MSc, FRACP

- **The Aggrecanase OA Research Transitioning into Clinical Data – Where are We and What May We Expect?**  
  Ellen van der Aar, PhD

* Additional ticketed fee required

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Thursday, May 2, 2019

**PRE-CONGRESS WORKSHOPS**

**8:00 AM – 11:30 AM  Harnessing the OA White Paper to Accelerate Development and Translation of New OA Therapies**

**Grand Ballroom West**

- **Overview of FDA/EMA Regulatory Requirements**  
  Lee Simon, MD

- **Understanding the Accelerated Approval Pathway**  
  Virginia Byers Kraus, MD, PhD and Morten Karsdal, MSc, PhD

- **Building a Translational Team**  
  Tim McAlindon, MD, MPH  
  Chris Ladel, PhD  
  David Hunter, MBBS, PhD, MSc, FRACP

- **Partnering with Other Disease Communities to Accelerate Translation**  
  Gillian Hawker, MD, MSc
### Approaches to Preventing Post-Traumatic OA In Sport and the Military

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<td>8:00 AM–11:30 AM</td>
<td>Primary Prevention of Joint Injury in Sport</td>
<td>Grand Ballroom East</td>
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<td>Primary and Secondary Prevention of Joint Injury in the Military</td>
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<td>Structural Targets for Prevention of PTOA</td>
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<td>Physical Targets for Prevention of PTOA (Secondary Prevention)</td>
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<td>Biological Targets for Prevention of PTOA</td>
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<td>8:30 AM – 11:30 AM</td>
<td>Update on Spinal OA and Its Phenotyping</td>
<td>Grand Ballroom Centre</td>
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<td>Burden and Management of Spinal OA Phenotypes</td>
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<td>Identifying Symptomatic Spinal OA and its Trajectories—Main Similarities and Differences with OA in Other Joints</td>
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<td>Impact of Coexisting Spinal, Knee and/or Hip OA on Symptoms and Management</td>
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<td>What Do We Know About the Spinal OA Phenotypes</td>
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<td>11:30 AM – 1:00 PM</td>
<td>Discussion Group Meeting</td>
<td>Birchwood Room</td>
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<td>Sport, Exercise, Physical Activity and Osteoarthritis Prevention Discussion Group</td>
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<td>11:30 AM – 1:00 PM</td>
<td>Considerations in the Chronic Management of Osteoarthritis</td>
<td>Grand Ballroom East</td>
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<td>Satellite Lunchtime Symposia</td>
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<td>1:00 PM – 1:30 PM</td>
<td>OARSI Treatment Guidelines Update</td>
<td>Grand Ballroom West/Centre</td>
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<td>Moderated by Ingrid Meulenbelt, PhD and Tuhina Neogi, MD, PhD</td>
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<td>Moving Towards Patient-Centered Treatment Guidelines for Knee and Hip OA</td>
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<td>1:30 PM – 3:00 PM</td>
<td>Plenary Session 1: Machine Learning Approaches in Medicine and Applications to OA</td>
<td>Grand Ballroom West/Centre</td>
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<td>Moderated by: Valentina Pedoia, PhD and Simo Saarakkala, PhD, Professor</td>
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<tr>
<td>1:30 PM – 2:00 PM</td>
<td>Harnessing Artificial Intelligence in Patient Care</td>
<td>Wei Fan, PhD</td>
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<tr>
<td>2:00 PM – 2:30 PM</td>
<td>An “APPROACH” to Machine Learning in OA</td>
<td>Paweł Widera, PhD</td>
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<tr>
<td>Time</td>
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<td>Abstract</td>
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| 2:30 PM–2:40 PM | DETECTION OF ENZYMATICALLY AND MECHANICALLY INDUCED DEGRADATION OF BOVINE ARTICULAR CARTILAGE TISSUE WITH MID-INFRARED SPECTROSCOPY  
V. K. Virtanen¹, E. Nippolainen², R. Shaikh², I. Afara², J. Töyräs², S. Saarakkala¹, L. Rieppo¹  
¹Univ. of Oulu, Oulu, Finland, ²Univ. of Eastern Finland, Kuopio, Finland, ³Univ. of Queensland, Brisbane, Australia |
| 2:40 PM–2:50 PM | HIGHEST RATED ABSTRACT AWARD WINNER  
CAN AI PREDICT PAIN PROGRESSION IN KNEE OSTEOARTHRITIS SUBJECTS FROM STRUCTURAL MRI  
J. J. Lee, F. Liu, S. Majumdar, V. Pedoia  
Univ. of California, San Francisco, San Francisco, CA |
| 2:50 PM–3:00 PM | DEEPKNEE: TOWARDS OPEN SOURCE FULLY-AUTOMATIC KELLGREN-LAWRENCE GRADING  
Tiulpin¹, E. Panfilov¹, E. Vaattovaara², J. Niinimäki², M. Nevalainen², S. Saarakkala¹  
¹Res. Unit of Med. Imaging, Physics and Technology, Univ. of Oulu, Oulu, Finland, ²Dept. of Radiology, Oulu Univ. Hosp., Oulu, Finland |
| 3:00 PM–3:30 PM | Break                                                                                       | Plenary Session 2: Highest Rated Abstracts  
Nine Highest Rated Abstracts by Young Investigators  
Moderated by: Jamie Collins, PhD and Joanna Sherwood, PhD |
| 3:45 PM–4:05 PM | A CRUCIAL ROLE OF ARGINASE-2 IN OSTEOARTHRITIS PATHOGENESIS  
GIST, Gwangju, Korea, Republic of |
| 3:55 PM–4:05 PM | SEVERITY OF STRUCTURAL AND INFLAMMATORY FEATURES ARE ASSOCIATED WITH LOWER PRESSURE PAIN THRESHOLDS IN HAND OSTEOARTHRITIS  
P. Steen Pettersen¹, T. Neogi², K. Magnusson³, H. B. Hammer⁴, T. K. Kvien⁴, T. Uhlig⁴, I. K. Haugen¹  
¹Diakonhjemmet Hosp., Dept. of Rheumatology, Oslo, Norway, ²Clinical Epidemiology Res. and Training Unit, Boston Univ. Sch. of Med., Boston, MA, ³Lund Univ., Dept. of Clinical Sci. Lund, Orthopaedics, Clinical Epidemiology Unit, Lund, Sweden |
| 4:05 PM–4:15 PM | GUT MICROBIOME COMPOSITION AND ITS RELATION TO JOINT PAIN AND INFLAMMATION  
C. G. Boer¹, D. Radjabzadeh¹, C. Medina-Gomez¹, S. Garmaeva², D. Schiphof³, P. Arp³, T. Koet³, A. Kurilshikov³, J. Fu³, A. M. Ikram³, S. Bierma-Zeinstra³, A. G. Uitterlinden³, R. Kraaij³, A. Zhernakova³, J. B. van Meurs¹  
¹Erasmus Med. Ctr., Rotterdam, Netherlands, ²Univ. of Groningen, Groningen, Netherlands |
IMPLEMENTING INTERNATIONAL OSTEOARTHRITIS GUIDELINES IN PRIMARY CARE: RESULTS ON SYMPTOM-RELATED OUTCOMES IN SECONDARY ANALYSES FROM A RANDOMIZED CONTROLLED STUDY

T. Moseng1, H. Dagfinrud1, Ø. Andreassen1, K. Dziedzic2, K. Hagen1, J. Hansen1, I. Mdala3, B. Natvig3, J. Røtterud4, U. Schjervheim5, L. van Bodegom-Vos6, T. Vliet Vlieland6, N. Østerås1 • 1Diakonhjemmet Hosp., Oslo, Norway, 2Keele Univ., Keele, United Kingdom, 3Univ. of Oslo, Oslo, Norway, 4Akershus Univ. Hosp., Lørenskog, Norway, 5Nes Municipality, Nes, Norway, 6Leiden Univ., Leiden, Netherlands

PROFILING HUMAN CHONDROCYTES AND SYNOVIOCYTES USING SINGLE CELL RNA SEQUENCING IDENTIFIES CELL DIVERSITY IN THE PATHOGENESIS OF OSTEOARTHRITIS IN THE JOINT ORGAN

C-H. Chou1, J. Gibson1, D. E. Attarian1, C. Haraden1, C. B. Yohn2, R-M. Laberge2, S. Gregory1, V. B. Kraus1 • 1Duke Univ., Durham, NC, 2Unity Biotechnology, Brisbane, CA

SIX WEEKS OF PERSONALIZED GAIT RETRAINING TO OFFLOAD THE MEDIAL COMPARTMENT OF THE KNEE REDUCES PAIN MORE THAN SHAM GAIT RETRAINING

S. D. Uhlrich1,2, J. A. Kolesar1,2, A. Silder1, M. Z. Berkson1,2, B. Presten1, H. A. Montague-Alamin1, N. Edouard1, D. Willoughby1, A. K. Finlay2, G. E. Gold1, S. L. Delp1, G. S. Beaupre1,2 • 1Stanford University, Stanford, CA, 2VA Palo Alto HLth.care System, Palo Alto, CA

ELUCIDATING THE FUNCTIONAL ROLE OF MIR-34A IN OSTEOARTHRITIS PATHOGENESIS – INVOLVEMENT IN OBESITY AND OSTEOARTHRITIS

H. Endisha1,2, P. Datta1, A. Sharma1, S. Nakamura1, E. Rossomacha1, C. Younan1, G. Tavallaee1,2, R. Gandhi3, M. Kapoor1,2 • 1Krembil Res. Inst., Toronto, ON, Canada, 2Univ. of Toronto, Toronto, ON, Canada, 3Toronto Western Hosp., Toronto, ON, Canada

THE EFFECT OF WEIGHT LOSS ON THE PROGRESSION OF MENISCAL EXTRUSION AND SIZE IN KNEE OSTEOARTHRITIS: A POST-HOC ANALYSIS OF THE INTENSIVE DIET AND EXERCISE FOR ARTHRITIS (IDEA) TRIAL


BIOMARKERS OF BONE AND CARTILAGE TURNOVER CTX-I AND CTX-II PREDICT TOTAL JOINT REPLACEMENTS IN OSTEOARTHRITIS

5:15 PM–5:45 PM  
Grand Ballroom Foyer  
**Break**

5:45 PM–6:35 PM  
Grand Ballroom  
West/ Centre  
**Opening Ceremony & Awards Presentations**  
Presidential Address & Business Meeting  
› Recognition of Lifetime Achievement Award Winner  
  Virginia Byers Kraus, MD, PhD  
› Recognition of Basic Science Award Winner  
  Frank Beier, PhD  
› Recognition of Clinical Science Award Winner  
  David Hunter, MBBS, PhD, MSc, FRACP

6:35 PM–7:20 PM  
Grand Ballroom  
West/Centre  
**Keynote Address**  
Moderated by: Jeff Katz, MD, MSc and Ali Mobasheri, DPhil(Oxon)  
I-2  
Pathogenic Mechanisms of Obesity-Induced Osteoarthritis: New Clues from Old Joints  
Clifford Rosen, MD

7:30 PM–9:00 PM  
**Opening Reception With Exhibitors**

**Friday, May 3**

7:30 AM–8:30 AM  
Sheraton Hall/ Osgoode & Foyers  
**Breakfast Poster Tours***  
› **Tour 1:** Osteoarthritis Therapies – Guide: Margreet Kloppenburg  
› **Tour 2:** Bone and Cartilage – Guide: Frank Beier  
› **Tour 3:** Imaging and Biomarkers – Guide: Flavia Cicuttini  
› **Tour 4:** Biomechanics – Guide: Katherine Boyer  
*Additional ticketed fee required

7:30 AM–8.30 AM  
Provincial North  
**Breakfast Workshops***  
› Breakfast Workshop A  
  I-3  
  Human OA Model Technologies: “Joint-on-a-Chip”  
  • Marcel Karperien, PhD

  Provincial South  
  › Breakfast Workshop B  
  I-4  
  What Are Patient Preferences, How Do You Measure Patient Preferences and How Do I Use Them?  
  • Deborah Marshall, PhD  
*Additional ticketed fee required

8:45 AM–10:15 AM  
Grand Ballroom  
West / Centre  
**Concurrent Session 1: Rehabilitation**  
Moderated by: Martin Van der Esch, PhD and Jackie Whittaker, BScPT, PhD  
I-5  
Optimizing Adherence in OA Rehabilitation Trials  
Rana Hinman, PhD
CORTICOSTEROID INJECTION VERSUS A PHYSICAL THERAPY APPROACH FOR THE MANAGEMENT OF KNEE OSTEOARTHRITIS: A RANDOMIZED CLINICAL TRIAL
D. I. Rhon1,2, C. S. Allen1, N. W. Gill, III1, B. R. Hando3, E. Petersen4, G. Deyle1 • 1Brooke Army Med. Ctr., San Antonio, TX, 2Office of the Army Surgeon Gen., Falls Church, VA, 3Wilford Hall Ambulatory Surgical Ctr., San Antonio, TX, 4Univ. of Incarnate Word, San Antonio, TX

EFFECT OF COMBINED CONSERVATIVE THERAPIES ON CLINICAL OUTCOMES IN PATIENTS WITH THUMB BASE OSTEOARTHRITIS (COMBO): A RANDOMISED CONTROLLED TRIAL
S. R. Robbins1, V. Duong1, L. Deveza1, K. Fu1, W. Oo1, E. A. Riordan1, A. Wajon2, R. Jong2, K. L. Bennell1, B. Vicenzino5, P. Hodges5, J. P. Eyles1, R. O’Connell1, D. J. Hunter1 • 1Rheumatology Dept., Royal North Shore Hosp. and Inst. of Bone and Joint Res., Kolling Inst, The Univ. of Sydney, Sydney, Australia, 2Macquarie Univ. Clinic, Macquarie Hand Therapy, Macquarie Univ., Sydney, Australia, 3Physiotherapy Dept., Royal North Shore Hosp., Sydney, Australia, 4Dept. of Physiotherapy, Ctr. for Hlth., Exercise and Sports Med., Sch. of Hlth.Sci., The Univ. of Melbourne, Melbourne, Australia, 5Sch. of Hlth.and Rehabilitation Sci.: Physiotherapy, The Univ. of Queensland, Brisbane, Australia, 6Natl. Hlth.and Med. Res. Council (NHMRC) Clinical Trial Ctr., The Univ. of Sydney, Sydney, Australia

EFFECTS OF CANE USE ON BONE MARROW LESION VOLUMES IN MEDIAL TIBIOFEMORAL KNEE OSTEOARTHRITIS: RANDOMIZED CLINICAL TRIAL
A. Van Ginckel1, R. Hinman2, T. Wrigley3, D. Hunter3, C. Marshall7, J. Duryea4, L. Melo5, M. Simic6, J. Kasza5, S. Robbins1, J. Wallis4, K. Bennell8, P. Hodges5, J. P. Eyles1 • 1Ghent Univ., Ghent, Belgium, 2The Univ. of Melbourne, Melbourne, Australia, 3The Univ. of Sydney, Sydney, Australia, 4Harvard Med. Sch., Boston, MA, 5Monash Univ., Melbourne, Australia, 6La Trobe Univ., Eastern Hlth., Melbourne, Australia

UNPLANNED READMISSIONS AND EMERGENCY DEPARTMENT VISITS FOLLOWING ORTHOPEDIC SURGERY FOR OSTEOARTHRITIS FROM 2004 TO 2016 IN ONTARIO, CANADA: THE IMPACT OF THE CHANGING PROFILES OF PATIENTS AND CLINICAL CARE

IMPACT OF A PERSONALIZED HOME EXERCISE PROGRAM FOR KNEE OSTEOARTHRITIS PATIENTS ON 3D KINEMATICS: A CLUSTER RANDOMIZED CONTROLLED TRIAL
A. Cagnin1,2, M. Choinière1,3, N. J Bureau1,3, M. Durand1,3, N. Mezghani1,2, N. Gaudreault1,5, N. Hagemeister1,2 • 1Res. Ctr. of the Ctr. Hosp.ier de l’Université de Montréal, Montreal, QC, Canada, 2Laboratoire imagerie et orthopédie de l’École de technologie supérieure, Montreal, QC, Canada, 3Faculty of Med., Université de Montréal, Montreal, QC, Canada, 4Res. Ctr. of the Ctr. Hosp.ier universitaire de Sherbrooke, Sherbrooke, QC, Canada, 5Faculty of Med., Université de Sherbrooke, Sherbrooke, QC, Canada

LONG-TERM COST-EFFECTIVENESS OF EXERCISE THERAPY AND/OR MANUAL THERAPY FOR HIP OR KNEE OSTEOARTHRITIS: RANDOMIZED CONTROLLED TRIAL AND COMPUTER SIMULATION MODELLING
J. H. Abbott1, R. Wilson1, D. Pinto2, The MOA Trial Team • 1Univ. of Otago, Dunedin, New Zealand, 2Marquette Univ., Milwaukee, WI
<table>
<thead>
<tr>
<th>Time</th>
<th>Concurrent Session 2: Cell and Gene Therapy</th>
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<tr>
<td>8:45 AM-10:15 AM</td>
<td>Moderated by: Danny Chan, PhD and April Craft, PhD</td>
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<td>8:45 AM-9:15 AM</td>
<td>Fail-safe Cell and Gene Therapy Combination: Are We There Yet (in OA)?</td>
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<td>Andras Nagy, PhD, HonD, FRSC</td>
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<td>9:15 AM-9:25 AM</td>
<td>SM04690, A POTENTIAL DISEASE-MODIFYING TREATMENT FOR KNEE OSTEOARTHRITIS, FUNCTIONS</td>
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<td>THROUGH INHIBITION OF CLK2 AND DYRK1A, NOVEL MOLECULAR REGULATORS OF WNT</td>
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<td>SIGNALING, CHONDROGENESIS, AND INFLAMMATION</td>
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<td>Cahiwat, K. Chiu, M. Pedraza, Y. Yazici • Samumed, San Diego, CA</td>
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<td>9:25 AM-9:35 AM</td>
<td>ACTIVATING THE CHOLINERGIC SYSTEM A NOVEL OPPORTUNITY FOR TREATING OSTEOARTHRITIS</td>
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<td>A. Courties¹, A. Do¹, S. Leite¹, S. Senay², A. Pigenet¹, M. Belle², G. Nourissat³, A. Sautet³, A. Chedotal³,</td>
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<td>U. Maskos⁵, F. Berenbaum⁴, J. Sellami⁴ • Service de Rhumatologie, Hôpital Saint-Antoine, Assistance Publique-Hôpitaux de</td>
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<td>Paris, 75012, Sorbonne Université, Ctr. de Recherche Saint-Antoine, INSERM UMR_S 938, Paris, France, Sorbonne</td>
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<td>Univ.’s, UPMC Univ Paris 06, INSERM, CNRS, Inst. de la Vision, Paris, France, Orthopédie, Clinique Maussins-Nollet,</td>
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<td>Paris, France, Chirurgie orthopédique, Hôpital Saint-Antoine, AP-HP, Paris, France, Unité de neurobiologie</td>
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<td>intégrative des systèmes cholinergiques, CNRS UMR 3571, Inst. Pasteur, Paris, France</td>
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<td>9:35 AM-9:45 AM</td>
<td>EXPRESSION OF MICRORNA-892B IN HUMAN MESENCHYMAL STEM CELLS PROMOTES CARTILAGE</td>
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<td>REGENERATION IN ATHYMIC NUDE RAT OSTEOCONDROAL DEFECT MODEL</td>
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<td>J. Lee, J-y. Ko, E. Lee, G-i. Im • Dept. of Orthopedics, Dongguk Univ., Goyang, Gyeonggi-do Province, Korea,</td>
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<td>Republic of</td>
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<td>9:45 AM-9:55 AM</td>
<td>DONOR-MATCHED COMPARISON OF CHONDROGENIC PROGENITORS RESIDENT IN HUMAN</td>
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<td>INFRAPATELLAR FAT PAD, SYNOVIIUM AND PERIOSTEUM-IMPLICATIONS FOR CARTILAGE REPAIR</td>
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<td>V. R. Mantripragada, N. Piuzzi, W. Bova, C. Boehm, N. Obuchowski, N. Obuchowski, V. Lefebvre, R. Midura, G.</td>
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<td>Muschler • Cleveland Clinic, Cleveland, OH</td>
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<td>9:55 AM-10:05 AM</td>
<td>EXPRESSION OF ENDOGLIN, A TGFβ CO-RECEPTOR, NOT ALKS CORRELATES WITH THE ABILITY OF</td>
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<td>PASSED HUMAN ARTICULAR CHONDROCYTES TO FORM CARTILAGE TISSUE IN VITRO.</td>
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<td>V. J. Bianchi¹, M. Parsons¹, D. Backstein², R. Kandel² • Lunenfeld-Tanenbaum Res. Inst., Mount Sinai</td>
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<td>Hosp., Toronto, ON, Canada, Div. of Orthopaedics, Mount Sinai Hosp., Toronto, ON, Canada</td>
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<td>10:05 AM-10:15 AM</td>
<td>DEVELOPMENT AND CHARACTERIZATION OF A HUMANIZED MOUSE MODEL OF OSTEOARTHRITIS</td>
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<td>B. Métayer, Jr.¹, M. Masson¹, C. Vignes¹, J. Lesoeur¹, J. Veziers¹, B. Bodic¹, Y. Maugars, Sr.¹, J. Guicheux,</td>
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<td>Sr.¹ • Inserrm, UMR ‘22’, RMeS, Regenerative Med. and Skeleton, Université de Nantes, ONIRIS, Nantes, F-4404¹,</td>
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<td>France, Nantes, France, CHU Nantes, Service rhumatologie, PHU4 OTHONN, Nantes, F-4409³, France, Nantes, France,</td>
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<td>CHU Nantes, PHU4 OTHONN, Nantes, F-4409³, France, Nantes, France, Université de Nantes, UFR Odontologie,</td>
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<td>Nantes, F-4404², France, Nantes, France</td>
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**Notes:**
- OARSI 2019 Final Program • www.oarsi.org
10:45 AM-12:15 PM  Plenary Session 3: Mechanobiology
Grand Ballroom
Moderated by: Katherine Boyer, PhD

10:45 AM–11:15 AM  I-7
Mechanotransduction Pathways and Relevance to Human OA
Kate Poole, PhD

11:15 AM–11:25 AM  25  HIGHEST RATED ABSTRACT AWARD WINNER
EFFECT OF VARUS ANGEL ON PROGRESSION OF OSTEOARTHRITIS AND CHANG OF SUBCHONDRAL BONE MICROSTRUCTURE
X. Han, L. Wang, Z. He, L. Chu, K. Xie, X. Jiang, Q. Sun, S. Ai, H. Wu, T. Tang, Z. Yu, M. Yan • Shanghai Ninth People’s Hosp., Shanghai Jiao Tong Univ. Sch. of Med., Shanghai, China

11:25 AM–11:35 AM  26
IDENTIFICATION OF SIGNALING PATHWAYS MEDIATING HUMAN CHONDROCYTE DEGENERATION INDUCED BY THE CHEMOKINE CCL-2
H. H. Willcockson, A. Estereellas, C. Jowdy, H. Ozkan, R. F. Loeser, L. Longobardi • Univ. of North Carolina at Chapel Hill, Chapel Hill, NC

11:35 AM–11:45 AM  27
LONG TERM INTERMITTENT COMPRESSION OF ARTICULAR CARTILAGE ATTENUATES CARTILAGE DEGRADATION
A. Engstrøm1,2, A-C. Bay-Jensen1, M. Karsdal1, C. Thudium1 • 1Nordic BioSci., Herlev, Denmark, 2Univ. of Copenhagen, Copenhagen, Denmark

11:45 AM–11:55 AM  28  HIGHEST RATED ABSTRACT AWARD WINNER
FOXO TRANSCRIPTION FACTORS IN MENISCUS DEVELOPMENT, AGING AND OSTEOARTHRITIS
K-i. Lee1, S. Choi2, T. Matsuzaki1, O. Alvarez-Garcia1, M. Olmer1, S. P. Grogan1, D. D. D’Lima1, M. K. Lotz1 • 1The Scripps Res. Inst., La Jolla, CA, 2Jeju Natl. Univ., Jeju, Korea, Republic of

11:55 AM–12:05 PM  29
DYNAMIC MEDIAL KNEE OVERLOADING INFLUENCES INFLAMMATION AND BONE REMODELING IN THE DEGENERATIVE KNEE
N. Khatib1, P. Biggs1, C. Wilson2, R. Williams2, D. J. Mason1, C. A. Holt1 • 1Cardiff Univ., Cardiff, United Kingdom, 2Cardiff and Vale Orthopaedic Ctr., Cardiff, United Kingdom

12:05 PM–12:15 PM  30
SENSORY NERVOUS SYSTEM IMPACT ON SUBCHONDRAL BONE PATHOLOGY IN A MURINE OA MODEL

12:30 PM-2:00 PM  Lunch on Own

12:30 PM-2:00 PM  Satellite Lunchtime Symposia
Satellite lunchtime symposia: Novel Targets, New Data, and Late-Phase Plans

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<th>Time</th>
<th>Concurrent Session 3: Update on OA Beyond the Knee</th>
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<tr>
<td>2:00 PM–2:30 PM</td>
<td>OA of the Foot and Ankle</td>
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<td>2:30 PM–2:40 PM</td>
<td>ASSOCIATIONS BETWEEN METACARPAL CORTICAL THICKNESS AND EROSIVE HAND OSTEOARTHRITIS</td>
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<td>2:40 PM–2:50 PM</td>
<td>THE ASSOCIATION OF BMI AND PHYSICAL ACTIVITY WITH ACETABULAR DYSPLASIA IN CHILDREN.</td>
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<td>2:50 PM–3:00 PM</td>
<td>THE MATERNAL AND PATERNAL EFFECTS ON CLINICAL AND SURGICAL DEFINITIONS OF OSTEOARTHRITIS</td>
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<td>3:00 PM–3:10 PM</td>
<td>HIGHEST RATED ABSTRACT AWARD WINNER</td>
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<td>3:10 PM–3:20 PM</td>
<td>THE ODDS OF HAND PAIN AND OSTEOARTHRITIS IN INDIVIDUALS WITH A HISTORY OF CRICKET-RELATED HAND INJURY</td>
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</table>
HIGH INAPPROPRIATE USE OF PRESCRIBED OPIOIDS IN PATIENTS WITH INCIDENT KNEE OR HIP OSTEOARTHRITIS

J. B. Thorlund1,2, A. Turkiewicz2, D. Prieto-Alhambra3,4, M. Englund2 • 1Dept. of Sports Sci. and Clinical Biomechanics, Univ. of Southern Denmark, Odense M, Denmark, 2Lund Univ., Faculty of Med., Dept. of Clinical Sci. Lund, Orthopedics, Clinical Epidemiology Unit, Lund, Sweden, 3GREMPAL (Grup de Recerca en Epidemiologia de les Malalties Prevalents de l’Aparell Locomotor), Idiap Jordi Gol Primary Care Res. Inst. and CIBERFes, Univ.t Autònoma de Barcelona and Inst. de Salud Carlos III, Barcelona, Spain, 4Pharmaco- and Device Epidemiology, Ctr. for Statistics in Med.-Nuffield Dept. of Orthopaedics, Rheumatology, and Musculoskeletal Sci., Univ. of Oxford, Oxford, United Kingdom

Concurrent Session 4: Joint Biology

Moderated by: Frank Beier, PhD and Miguel Otero

2:00 PM–3:30 PM

2:00 PM–2:30 PM

Development of the Articular Joint: A Still Evolving Model and Implications for OA
April Craft, PhD

2:30 PM–2:40 PM

OSTEOARTHRITIS INDUCED BY MENISCAL/LIGAMENTOUS INJURY IS AGGRAVATED AFTER METABOLIC SYNDROME FECAL SAMPLE TRANSPLANTATION IN GERM-FREE MICE
Z. Huang1, J. Chen2, B. Li2, J. Xie1, L. Cheng3, F. Pei1 • 1West China Hosp., SiChuan Univ., ChengDu, China, 2State Key Lab. of Oral Diseases & Natl. Clinical Res. Ctr. for Oral Diseases, SiChuan Univ., ChengDu, China

2:40 PM–2:50 PM

RETRO-INVERSO TAT-BECLIN-1 INDUCES SYNOVIAL FIBROSIS AND DOES NOT PROTECT CARTILAGE FROM DEGENERATION IN A MOUSE MODEL OF OA
J. S. Rockel1, B. Wu1, S. Nakamura1, E. Rossomach1, M. Kapoor1,2 • 1Univ. Hlth.Network, Toronto, ON, Canada, 2Univ. of Toronto, Toronto, ON, Canada

2:50 PM–3:00 PM

SIRTUIN 6 (SIRT6) OVEREXPRESSION REGULATES ANTIOXIDANT STATUS AND REDOX SIGNALING IN HUMAN CHONDROCYTES
J. A. Collins1, J. F. Pike1,2, W. Leonard1, S. Chubinskaya1, R. F. Loeser1 • 1Univ. of North Carolina at Chapel Hill, Chapel Hill, NC, 2Univ. of South Carolina Greenville, Greenville, SC, 3Rush Univ. Med. Ctr., Chicago, IL

3:00 PM–3:10 PM

INTERCELLULAR MITOCHONDRIAL TRANSFER FROM MESENCHYMAL STEM CELLS TO STRESSED CHONDROCYTES

3:10 PM–3:20 PM

ROLE OF SYNOVIAL PERLECAN IN OSTEOEDEMY FORMATION IN EARLY STAGE KNEE OSTEOARTHRITIS
H. Arita1, H. Kaneko1, M. Kinoshita1, S. Hada1, R. Sadatsuki1, I. Futami1, Y. Negishi1, M. Momoeda1, L. Liu1,2, T. Aoki1,2, E. Arikawa-Hirasawa1, K. Kaneko1,2, M. Ishijima1,2 • 1Dept. of Med. for Orthopaedics and Motor Organ, Juntendo Univ. Graduate Sch. of Med., Tokyo, Japan, 2Sportology Ctr., Juntendo Univ. Graduate Sch. of Med., Tokyo, Japan, 3Res. Inst. for Disease of Old Age, Juntendo Univ. Graduate Sch. of Med., Tokyo, Japan
TGFβ SIGNALING MAINTAINS ARTICULAR CHONDROCYTE HOMEOSTASIS BY REPROGRAMMING GLUCOSE METABOLISM

C. Wang, J. Shen, R. O’Keefe • Washington Univ. in St Louis, St Louis, MO

PROGRESSOR RATES OF FEMOROTIBIAL CARTILAGE LOSS STRATIFIED BY RADIOGRAPHIC DISEASE STAGE, 1 TO 4-YEAR OBSERVATION INTERVALS, AND MRI PROTOCOLS—DATA FROM THE OSTEOARTHRITIS INITIATIVE

W. Wirth1,2, S. Maschek1,2, C. Ladel3, H. Guehring3, M. Michaelis3, F. Eckstein1,2 • 1Paracelsus Med. Univ., Salzburg, Austria, 2Chondrometrics GmbH, Ainring, Germany, 3Merck KGaA, Darmstadt, Germany

CAN WE USE SYNOVITIS-RELATED CLINICAL QUESTIONS INSTEAD OF SYNOVITIS ON MRI TO PREDICT INCIDENT KNEE OA?

M. L. Landsmeer1, J. Runhaar1, M. van Middelkoop1, P. van der Plas2, D. Vroeginawicz3, E. H. Oei1, P. J. Bindels1, S. M. Bierma-Zeinstra1 • 1Erasmus Med. Ctr. Rotterdam, Rotterdam, Netherlands, 2Maasstad Hosp., Rotterdam, Netherlands

SPATIAL DISTRIBUTION OF LONGITUDINAL CARTILAGE THICKNESS CHANGE IN ANTERIOR AND POSTERIOR CRUCIATE LIGAMENT INJURY COMPARED TO HEALTHY ATHLETIC CONTROLS

A. Culvenor1,2, W. Wirth1,3, R. Frobell4, S. Lohmander4, G. Duda5, H. Boeth5, F. Eckstein1,3 • 1Paracelsus Med. Univ., Salzburg, Austria, 2La Trobe Univ., Melbourne, Australia, 3Chondrometrics GmbH, Ainring, Germany, 4Lund Univ., Lund, Sweden, 5Charité-Universmedizin, Berlin, Germany

THE RELATIONSHIP BETWEEN MRI FEATURES AND KNEE PAIN OVER 6 YEARS IN EARLY KNEE OSTEOARTHRITIS

K. Magnusson1,2, A. Turkiewicz1, J. Kumm3, F. Zhang4, M. Englund1,4 • 1Lund Univ., Faculty of Med., Dept. of Clinical Sci. Lund, Orthopaedics, Clinical Epidemiology Unit, Lund, Sweden, 2Diakonhjemmet Hosp., Dept. of Rheumatology, Oslo, Norway, 3Dept. of Radiology, Univ. of Tartu, Tartu, Estonia, 4Clinical Epidemiology Res. and Training Unit, Boston Univ. Sch. of Med., Boston, MA
**FEMOROACETABULAR IMPINGEMENT SYNDROME IS ASSOCIATED WITH DEVELOPMENT OF HIP OSTEOARTHRITIS WITHIN 10-YEARS FOLLOW-UP: DATA FROM THE CHECK COHORT**

R. Agricola\(^1\), J. Kemp\(^2\), J. Waarsing\(^1\), H. Weinans\(^3\), J. Verhaar\(^1\), J. Runhaar\(^1\), S. M. Bierma-Zeinstra\(^1\)

\(^1\)Erasmus Med. Ctr., Rotterdam, Netherlands, \(^2\)La Trobe Sport and Exercise Med. Res. Ctr., Melbourne, Australia, \(^3\)Univeristy Med. Ctr. Utrecht, Utrecht, Netherlands

**LONGITUDINAL ASSOCIATIONS BETWEEN MRI-DEFINED INFLAMMATION AND PAIN IN THUMB BASE OSTEOARTHRITIS**


**GENOME-WIDE ANALYSES USING UK BIOBANK DATA PROVIDE NEW THERAPEUTIC TARGETS FOR OSTEOARTHRITIS**

K. Hatzikotoulas\(^1\)\(^2\), I. Tachmazidou\(^2\), L. Southam\(^1\)\(^4\), J. Esparza-Gordillo\(^2\), V. Haberland\(^3\), J. Zheng\(^4\), T. Johnson\(^3\), M. Kopru\(^\text{lu}^5\), E. Zengini\(^7\)\(^8\), J. Steinberg\(^9\), J. Wilkinson\(^4\), S. Batnagar\(^10\), J. Hoffman\(^11\), N. Buchan\(^3\), D. Süveges\(^12\), arcOGEN Consortium, L. Yerges-Armstrong\(^1\), G. Davey-Smith\(^5\), T. Gaunt\(^3\), R. Scott\(^1\), L. McCarthy\(^3\), E. Zeggini\(^1\)\(^2\)

\(^1\)Inst. of Translational Genomics, Helmholtz Zentrum München–German Res. Ctr. for Environmental Hlth., Neuherberg, Munich, Germany, \(^2\)Human Genetics, Wellcome Sanger Inst., Wellcome Genome Campus, Hinxton, CB10 1SA, United Kingdom, \(^3\)Target Sci.–R&D, GSK Med.s Res. Ctr., Gunnels Wood Road, Stevenage, Hertfordshire, SG1 2NY, United Kingdom, \(^4\)Wellcome Ctr. for Human Genetics, Univ. of Oxford, Oxford, OX3 7BN, United Kingdom, \(^5\)MRC Integrative Epidemiology Unit, Bristol Med. Sch., Univ. of Bristol, Oakfield Grove Clifton, Bristol, BS8 2BN, United Kingdom, \(^6\)Dept. of Med. Genetics, Univ. of Cambridge, Cambridge BioMed. Campus, Cambridge, CB2 0QQ, United Kingdom, \(^7\)Dept. of Oncology and Metabolism, Univ. of Sheffield, Western Bank, Sheffield, S10 2TN, United Kingdom, \(^8\)5th Psychiatric Dept., Dromokaitieio Psychiatric Hosp., Haidari, Athens, TK 12461, Greece, \(^9\)Cancer Res. Div., Cancer Council NSW, Woolloomooloo, New South Wales, Australia, \(^10\)Dept. of Epidemiology, Biostatistics and Occupational Hlth., McGill Univ., Montreal, QC H3A 1A2, QC, Canada, \(^11\)Target Sci.–R&D, GSK, 709 Swedeland Road, King of Prussia, PA 19406, PA, \(^12\)European Molecular Biology Lab., European Bioinformatics Inst., Wellcome Genome Campus, Hinxton, Cambridge, CB10 1SD, United Kingdom

**MICRORNAS AND CARTILAGE MATRIX PROTEIN TURNOVER RESPONDED COLLECTIVELY TO THE STRESS OF OSTEOARTHRITIS**

M-F. Hsueh\(^1\)\(^2\), P. Onnerfjord\(^3\)\(^4\), M. P. Bolognesi\(^5\), M. E. Easley\(^1\)\(^5\), V. B. Kraus\(^1\)\(^2\)

\(^1\)Duke Univ., Durham, NC, \(^2\)Duke Molecular Physiology Inst., Durham, NC, \(^3\)Lund Univ., Lund, Sweden, \(^4\)Dept. of Clinical Sci., Lund, Sweden, \(^5\)Dept. of Orthopaedic Surgery, Durham, NC
5:50 PM–6:00 PM

Identification and Analysis of Novel Methylation Quantitative Trait Loci (mQTLs) in Osteoarthritis

S. J. Rice, K. Cheung, L. N. Reynard, J. Loughlin • Newcastle Univ., Newcastle upon Tyne, United Kingdom

6:00 PM–6:10 PM

Osteoarthritic Mesenchymal Stem Cells Undergoing Chondrogenesis Have Altered the Glucuronic Acid Synthesis Pathway

B. Rocha1, B. Cillero-Pastor2, G. Eijkel2, V. Calamia1, P. Fernández-Puente1, M. Paine2, C. Ruiz-Romero1, R. Heeren2, F. Blanco1,4 • 1Proteomics Group-ProteoRed/ISCIII, Grupo de Investigación de Reumatología (GIR), INIBIC-Hosp. Univ rio de A Coruña, A Coruña, Spain, A Coruña, Spain, 2The Maastricht Multimodal Molecular Imaging Inst. (M4I), Div. of Imaging Mass Spectrometry, Maastricht Univ., The Netherlands., Maastricht, Netherlands, 3CIBER-BBN Inst. de Salud Carlos III, INIBIC-CHUAC, A Coruña, Spain., A Coruña, Spain, 4RIER-RED de Inflamación y Enfermedades Reumáticas, INIBIC-CHUAC, A Coruña, Spain., A Coruña, Spain

6:10 PM–6:20 PM

Genetic Correlations in Recombinant Inbred Mouse Strains Suggest That Cartilage Repair Is Positively Correlated with Protection from Osteoarthritis

M. F. Rai1, N. Chinzei2, S. Hashimoto2, K. Takebe3, J. M. Cheverud4, L. J. Sandell1 • 1Washington Univ., St. Louis, MO, 2Kobe Univ., Kobe, Japan, 3Konan Kakogawa Hosp., Kakagowa, Japan, 4Univ. of Thessaly, Faculty of Med., Lab. of Cytogenetics and Molecular Genetics, Larissa, Greece, 2Univ. of Thessaly, Faculty of Med., Dept. of Orthopaedics, Larissa, Greece

6:20 PM–6:30 PM

DNA Methylation Regulates miR-140 Expression in Primary Osteoarthritic Chondrocytes by Altering Smad-3 Binding Affinity

I. Papathanasiou1, E. Mourmoura1, K. Malizos2, A. Tsezou1 • 1Univ. of Thessaly, Faculty of Med., Lab. of Cytogenetics and Molecular Genetics, Larissa, Greece, 2Univ. of Thessaly, Faculty of Med., Dept. of Orthopaedics, Larissa, Greece

6:45 PM–8:30 PM

Meet the Professor Mentorship Session for Young Investigators (Followed by reception)

Saturday, May 4

7:30 AM–8:30 AM

Breakfast Poster Tours*

Tour 5: Osteoarthritis Therapies – Guide: Phillip Conaghan
Tour 6: Bone and Cartilage – Guide: Peter van der Kraan
Tour 7: Imaging and Biomarkers – Guide: Thomas Link
Tour 8: Biomechanics – Guide: Kim Bennell
*Additional ticketed fee required

7:30 AM–8:30 AM

Breakfast Workshops*

Breakfast Workshop C
I-12 OA Pathogenesis for Beginners: Lineage Tracing in Skeletal Pathophysiology • Kathy Cheah, PhD

Breakfast Workshop D
I-13 ABCs of Gait and Running Gait Analysis • Rich Souza, PhD
*Additional ticketed fee required
8:45 AM–10:15 AM Concurrent Session 7: Biomechanics

Grand Ballroom West

8:45 AM–9:15 AM

I-14 Biomechanical Factors Related to Clinical vs. Structural Progression of Knee OA
Cheryl Hubley-Kozey, PhD

9:15 AM–9:25 AM

55 INDIVIDUALS WITH MILD-TO-MODERATE HIP OSTEOARTHRITIS WALK WITH LOWER HIP JOINT CONTACT FORCES DESPITE HIGHER LEVELS OF MUSCLE CO-CONTRACTION COMPARED TO HEALTHY CONTROLS
L. E. Diamond¹, H. X. Hoang¹,², C. Pizzolato¹, A. Loureiro³, M. Constantinou⁴, R. S. Barrett¹, D. G. Lloyd¹
• ¹Griffith Univ., Gold Coast, Australia, ²KU Leuven, Leuven, Belgium, ³UNISINOS, Sao Leopoldo, Brazil, ⁴Australian Catholic Univ., Brisbane, Australia

9:25 AM–9:35 AM

56 ACTIVATING THE SOMATOSENSORY SYSTEM ENHANCES KNEE FLEXION AND QUADRICEPS ACTIVITY DURING GAIT AND STAIR CLIMBING
A. G. Fischer¹,², J. C. Erhart-Hledik¹,², J. L. Asay¹,², C. R. Chu¹,², T. P. Andriacchi¹
• ¹Stanford Univ., Stanford, CA, ²Palo Alto Veterans Hosp., Palo Alto, CA

9:35 AM–9:45 AM

57 PRELIMINARY TEST OF A SMART SHOE FOR TRAINING FOOT PROGRESSION ANGLE DURING WALKING
H. Xia¹, J. M. Charlton², M. A. Hunt³, P. B. Shull⁴
• ¹Shanghai Jiao Tong Univ., Shanghai, China, ²Univ. of British Columbia, Vancouver, BC, Canada

9:45 AM–9:55 AM

58 DETERMINING MULTI-JOINT BIOMECHANICS SIGNATURES FOR YOUTH WITH AN INTRA-ARTICULAR KNEE INJURY: TOWARDS EARLY MARKERS OF POST-TRAUMATIC OSTEOARTHRITIS
G. Kuntze¹, K. Lorenzen¹, J. Ronsky¹, J. Whittaker², C. Emery¹
• ¹Univ. of Calgary, Calgary, AB, Canada, ²Univ. of Alberta, Edmonton, AB, Canada

9:55 AM–9:05 AM

59 HIGHEST RATED ABSTRACT AWARD WINNER PATELLOFEMORAL JOINT KINEMATICS IN INDIVIDUALS SIX-MONTH AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION
T-C. Liao¹, A. G. Morales Martinez¹, V. Pedeia¹, B. C. Ma¹, X. Li², S. Majumdar¹, R. B. Souza³
• ¹Univ. of California, San Francisco, San Francisco, CA, ²Cleveland Clinic, Cleveland, OH

8:45 AM–10:15 AM Concurrent Session 8: Biomarkers

Grand Ballroom Centre

8:45 AM–9:15 AM

I-15 Personalized Therapies for OA: Can Biomarkers Get Us There?
Anne-Christine Bay-Jensen, mMBA, MSc, PhD
IDENTIFICATION OF SUPERIOR RESPONDERS TO A BONE AND CARTILAGE CENTRIC TREATMENT IN OSTEOARTHRITIS: LOW LEVELS OF CARTILAGE FORMATION MAY PROVIDE AN OPPORTUNITY TO STIMULATE FORMATION

Y. Luo, N. Higgins, Y. He, I. Byrjalsen, J. R. Andersen, A. Bihlet, M. Karsdal, A. Bay-Jensen • Nordic BioSci. A/S, Herlev, Denmark

HSP90AA1, A CHAPERONE-MEDIATED AUTOPHAGY MEDIATOR, IS A BIOMARKER OF JOINT DAMAGE IN OA

I. Lorenzo-Gomez¹, J. Pinto-Tasende², N. Oreiro², F. J. Blanco¹,², B. Carames¹ • Cartilage Biology Group, Rheumatology Div., INIBIC-Complejo Hosp.ario A Coruña, Spain, A Coruña, Spain, Clinical Rheumatology Div., Complejo Hosp.ario A Coruña, Spain, A Coruña, Spain

CIRCULATING MICRO RNAs REFLECTING ONGOING OSTEOARTHRITIS PATHOPHYSIOLOGY IN CARTILAGE AS APPLICABLE BIOMARKERS.


ITIH1 (INTER-ALPHA TRYSIN INHIBITOR HEAVY CHAIN 1) IS A POTENTIAL PROTEOMIC BIOMARKER TO PREDICT EARLY KNEE OSTEOARTHRITIS. A QUALIFICATION PHASE STUDY USING DATA FROM THE OSTEOARTHRITIS INICIATIVE (OAI)

L. Lourido¹,², C. Ruiz-Romero¹,², M. Camacho¹, I. Rego-Pérez¹, N. Oreiro¹, C. Fernández-López¹, P. Nilsson⁴, F. Blanco¹,² • Rheumatology Div., ProteoRed/ISCIII Proteomics Group, INIBIC-Hosp. Univ. rio de A Coruña, A Coruña, Spain, A Coruña, Spain, ¹CIBER-BBN Inst. de Salud Carlos III, INIBIC-CHUAC, A Coruña, Spain, ⁴Affinity Proteomics, SciLifeLab, Sch. of Biotechnology, KTH-Royal Inst. of Technology, Stockholm, Sweden

NO ASSOCIATION BETWEEN LOCAL LEVELS OF MOLECULAR BIOMARKERS AND KNEE CARTILAGE VOLUMES EARLY AFTER ANTERIOR CRUCIATE LIGAMENT INJURY

A. Struglics¹, S. Larsson¹, F. Eckstein², W. Wirth², L. S. Lohmander¹, R. Frobell² • Lund Univ., Faculty of Med., Dept. of Clinical Sci. Lund, Orthopaedics, Lund, Sweden, ²Inst. of Anatomy, Paracelsus Med. Univ. Salzburg and Nuremberg, Salzburg, Austria

INTRA-ARTICULAR LEVELS OF FIVE BIOMARKERS ASSESSED VIA MAGNETIC CAPTURE IN A RAT KNEE MODEL OF OSTEOARTHRITIS

E. Yarmola, B. D. Partain, Y. Y. Shah, J. Figueras, J. Dobson, K. Allen • Univ. of Florida, Gainesville, FL
<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Activity</th>
<th>Details</th>
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<tbody>
<tr>
<td>10:15 AM–10:45 AM</td>
<td>Break</td>
<td>Sheraton Hall/Osgoode &amp; Foyers</td>
</tr>
<tr>
<td>10:45 AM–12:15 PM</td>
<td>Plenary Session 4: Pain</td>
<td>Moderated by: Rachel Miller, PhD and Tuhina Neogi, MD, PhD</td>
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<tr>
<td>10:45 AM–11:15 AM</td>
<td>I-16</td>
<td>The Point of No Return—Mechanisms Driving the Transition from Acute to Chronic Pain</td>
</tr>
<tr>
<td>11:15 AM–11:25 AM</td>
<td>67</td>
<td>IS THERE OBJECTIVE EVIDENCE OF NEUROPATHY IN KNEE OSTEOARTHRITIS IN NATIVE OR REPLACED KNEES BASED ON CLINICAL EVALUATION? THE MULTICENTER OSTEOARTHRITIS STUDY</td>
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<tr>
<td>11:25 AM–11:35 AM</td>
<td>68</td>
<td>CONTRIBUTION OF SENSORY NERVES WITHIN OSTEOCONDRAURAL CHANNELS TO PAIN IN HUMAN AND RAT KNEE OSTEOARTHROPATHY</td>
</tr>
<tr>
<td>11:35 AM–11:45 AM</td>
<td>69</td>
<td>GUT MICROBIOME ASSOCIATIONS WITH CHRONIC MUSCULOSKELETAL PAIN IN OLDER MEN</td>
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<tr>
<td>11:45 AM–12:05 PM</td>
<td>70</td>
<td>THE ION CHANNEL PIEZO2 PLAYS A ROLE IN EARLY PAIN BEHAVIORS FOLLOWING DMM SURGERY IN MICE</td>
</tr>
<tr>
<td>12:05 PM–12:15 PM</td>
<td>71</td>
<td>S100A9 INDUCES NOCICEPTIVE PAIN BUT IS NOT INVOLVED IN ALLODYNIA IN ACUTE EXPERIMENTAL SYNOVITIS</td>
</tr>
</tbody>
</table>

**SPEAKERS AND INSTITUTIONS:**

- John Levine, MD, PhD
- K. Aso, S. Shahtaheri, R. Hill, D. Wilson, D. McWilliams, D. Walsh, Kochi Univ., Nankoku, Japan, Arthritis Res. UK Pain Ctr. & NIHR Nottingham BioMed. Res. Ctr., Univ. of Nottingham, Nottingham, United Kingdom, Sherwood Forest Hosp. NHS Fndn. Trust, Nottingham, United Kingdom
- A. Shmagel, L. Langsetmo, R. Demmer, D. Knights, N. E. Lane, K. Ensrud, Paracelsus Med. Univ., Salzburg, Austria, Chondrometrics GmbH, Ainring, Germany, La Trobe Univ., Sch. of Allied Hlth., Melbourne, Australia
- A. B. Blom, M. H. van den Bosch, E. J. Geven, E. N. Blaney Davidson, J. Roth, T. Vogl, P. M. van der Kraan, P. L. van Lent, Radboud Univ. Med. center, Nijmegen, Netherlands, Inst. of Immunology, Univ. of Muenster, Muenster, Germany
### Lunch on Own

12:30 PM–2:00 PM

**Grand Ballroom East**

### Chronic Pain Management: Marking The Path Toward Meeting Patient Goals

**Satellite Lunchtime Symposia**

12:30 PM–2:00 PM

**Provincial North**

### So You Want to be a Reviewer? Tips for Writing an Effective Review for Peer-Reviewed Journals

- **Overview of the Editorial Process** • Joel Block, MD, OaC Editor-in-Chief
- **How to Write an Effective Review** • Rik Lories, MD, PhD, OaC Associate Editor
- **Real-Life Examples** • Aileen Davis, PhD, OaC Associate Editor
- **Addressing Area-Specific Concerns**
  - **Clinical Research** • Ewa Roos, PT, PhD, OaC Deputy Editor
  - **Statistics** • Aleksandra Turkiewicz, PhD, OaC Associate Editor
- **Basic and Translational Research** • Frank Beier, PhD, OaC Deputy Editor

### Concurrent Session 9: OA Outcomes

**Moderated by:** Margreet Kloppenburg, MD, PhD and Martin Thomas, PhD

#### 2:00 PM–2:30 PM

**I-17 Early OA Outcomes: What Should the Targets Be?**

Sita Bierma-Zeinstra, PhD

#### 2:30 PM–2:40 PM

**73 CHARACTERISTICS ASSOCIATED WITH INCIDENCE OF HIP OSTEOARTHRITIS WITHIN 10 YEARS IN PEOPLE WITH EARLY HIP COMPLAINTS IN THE CHECK STUDY**

A. C. Berkel van D. Schiphof, J. Waarsing, J. Runhaar, J. van Ochten, P. Bindels, S. Bierma-Zeinstra • Erasmus Med. Ctr., Rotterdam, Netherlands

#### 2:40 PM–2:50 PM

**74 IS OBESITY RELATED TO INCIDENCE OF PATELLOFEMORAL AND TIBIOFEMORAL OSTEOARTHRITIS? THE COHORT HIP AND COHORT KNEE STUDY**

H. F. Hart¹, M. van Middelkoop², J. J. Stefanik³, K. M. Crossley⁴, S. M. Bierma-Zeinstra² • ¹The Univ. of Western Ontario, London, ON, Canada, ²Erasmus MC, Rotterdam, Netherlands, ³Northeastern Univ., Boston, MA, ⁴La Trobe Univ., Melbourne, Australia

#### 2:50 PM–3:00 PM

**75 MAGNETIC RESONANCE IMAGING MARKERS IMPROVE THE PREDICTION MODEL FOR TOTAL KNEE REPLACEMENT OVER 3 YEARS IN OLDER ADULTS**

B. Eathakkattu Antony¹, I. Munugoda¹, D. Aitken¹, P. Otahal¹, M. Lorimer², S. Grave³, J-P. Pelletier⁴, J. Martel-Pelletier¹, G. Jones¹ • ¹Menzies Inst. for Med. Res., Univ. of Tasmania, Hobart, Australia, ²Australian Orthopaedic Association Natl. Joint Replacement Registry (AOANJRR), Adelaide, Australia, ³South Australian Hlth.and Med. Res. Inst. (SAHMRI), Adelaide, Australia, ⁴Osteoarthritis Res. Unit, Univ. of Montreal Hosp. Res. Ctr., Montreal, QC, Canada
### Concurrent Session 9: OA Outcomes (cont’d.)

**Grand Ballroom West**

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<tr>
<th>Time</th>
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<tr>
<td>3:00 PM–3:10 PM</td>
<td><strong>76</strong> PREDICTION MODELS FOR INCIDENT SLOW GAIT SPEED OVER '0 YEARS IN PERSONS AT HIGH RISK FOR KNEE OSTEOARTHRITIS</td>
<td>L. Sharma¹, K. Kwoh², J. Lee¹, A. H. Chang¹, M. C. Nevitt¹, M. C. Hochberg⁴, J. Song¹, O. Almagor¹, J. A. Cauley⁵, C. B. Eaton⁶, R. D. Jackson⁷, J. Szymbaser¹, J. S. Chmielewski¹ • ¹Northwestern Univ., Chicago, IL, ²Univ. of Arizona, Tucson, AZ, ³Univ. of California, San Francisco, San Francisco, CA, ⁴Univ. of Maryland, Baltimore, MD, ⁵Univ. of Pittsburgh, Pittsburgh, PA, ⁶Brown Univ., Providence, RI, ⁷Ohio State Univ., Columbus, OH</td>
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<td>3:10 PM–3:20 PM</td>
<td><strong>77</strong> STATIN USE AND RISK OF JOINT REPLACEMENT: A PROPENSITY SCORE MATCHED COHORT STUDY</td>
<td>A. Sarmanova¹, M. Doherty², C. Kuö³, J. Wei⁴, A. Abhishek², C. Mallen⁴, C. Zeng⁴, Y. Wang⁷, G. Lei⁶, W. Zhang⁷ • ¹MRC Integrative Epidemiology Unit, Bristol Med. Sch. (PHS), Univ. of Bristol, Bristol, United Kingdom, ²Academic Rheumatology Dept., Div. of Rheumatology, Orthopaedics and Dermatology, Sch. of Med., Univ. of Nottingham, Nottingham, United Kingdom, ³Div. of Rheumatology, Allergy and Immunology, Chang Gung Mem. Hosp., Taoyuan, Taiwan, ⁴Div. of Rheumatology, Allergy, and Immunology, Dept. of Med., Massachusetts Gen. Hosp., Harvard Med. Sch., Boston, MA, ⁵Hlth.Management Ctr., Xiangya Hosp., Changsha, China, ⁶Arthritis Res. UK Primary Care Ctr., Res. Inst. for Primary Care and Hlth.Sci., Keele Univ., Keele, United Kingdom, ⁷Dept. of Orthopaedics, Xiangya Hosp., Central South Univ., Changsha, China, ⁸Hunan Key Lab. of Joint Degeneration and Injury, Changsha, China</td>
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<td>3:20 PM–3:30 PM</td>
<td><strong>78</strong> PREDICTORS OF TOTAL HIP REPLACEMENT IN COMMUNITY BASED OLDER ADULTS: A COHORT STUDY</td>
<td>V. Mezhov¹, <strong>L. L. Laslett</strong>², H. Ahedi³, C. Blizzard³, R. M. Aspden³, J. S. Gregory³, F. R. Saunders³, S. Graves⁴, I. P. Munogoda⁵, G. Cai³, F. M. Cicuttini⁶, G. Jones⁷ • ¹Royal Hobart Hosp., Hobart, Australia, ²Univ. of Tasmania, Hobart, Australia, ³Univ. of Aberdeen, Aberdeen, United Kingdom, ⁴Australian Orthopaedic Association Natl. Joint Replacement Registry, Adelaide, Australia, ⁵South Australian Hlth.and Med. Res. Inst., Adelaide, Australia, ⁶Monash Univ., Melbourne, Australia</td>
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### Concurrent Session 10: Cartilage Repair & Regenerative Medicine

**Grand Ballroom Centre**

Moderated by: Cosimo De Bari, MD, PhD, FRCP

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<td>2:00 PM–3:30 PM</td>
<td><strong>I-18</strong> Intra-articular Drug Delivery in OA</td>
<td>Laura Creemers, PhD</td>
</tr>
<tr>
<td>2:00 PM–2:30 PM</td>
<td><strong>79</strong> THE EFFECT OF IN VIVO CHONDROCYTE DEPLETION ON THE STRUCTURAL AND FUNCTIONAL PROPERTIES OF MURINE ARTICULAR CARTILAGE</td>
<td>A. O. Masson, J. M. Corpuz, W. B. Edwards, R. J. Krawetz • Univ. of Calgary, Calgary, AB, Canada</td>
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<td>2:30 PM–2:40 PM</td>
<td><strong>80</strong> SETTING UP A PRE-CLINICAL HUMAN MODEL FOR MECHANICAL INDUCED OSTEOARTHRITIS TO INVESTIGATE POTENTIAL PHARMACOLOGICAL AGENTS</td>
<td>E. Houtman, M. van Hoolwerff, R. Coutinho De Almeida, A. Rodriguez Ruiz, N. Lakenberg, H. E. Suchiman, M. Tuerlings, R. G. Timmermans, R. G. Nelissen, Y. F. Ramos, I. Meulenchief • LUMC, Leiden, Netherlands</td>
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MANGANESE DIOXIDE NANOPARTICLES MODULATE OXIDATIVE STRESS AND PROTECT CARTILAGE FROM INTERLEUKIN-1β INDUCED DEGRADATION
S. Kumar, I. M. Adjei, S. Brown, O. Liseth, B. Sharma • Univ. of Florida, Gainesville, FL

INJECTABLE NANOHYDROXYAPATITE-CHITOSAN-GELATIN MICROSCAFFOLDS INDUCE REGENERATION OF KNEE SUBCHONDRAL BONE CYST-LIKE LESIONS
B. Wang, Sr., 1 W. Liu, D. Xing, Y. Du, J. Lin • 1Shanxi Med. Univ. Second Affiliated Hosp., TAIYUAN, China, 2Tsinghua Univ., BEIJING, China, 3Peking Univ. People’s Hosp., BEIJING, China

ROLE OF STEM CELLS AND BIOACTIVE SCAFFOLD IN CHRONIC JOINT INJURY: WORKING TOWARDS A REGENERATIVE MEDICINE APPROACH TO STOP OSTEOARTHRITIS PROGRESSION
J. Li, C. Little • Kolling Inst., Univ. of Sydney, Sydney, Australia

THE MURINE EAR WOUND CARTILAGE SUPERHEALER TRAIT IS ASSOCIATED WITH GUT MICROBIOTA CHANGES AND IS TRANSFERRABLE TO NON-HEALER MICE BY GUT MICROBIOME TRANSPLANT.
C. Dunn1, J. McNaughton1, A. Rivas2, C. Velasco1, M. A. Jeffries1,3 • 1Univ. of Oklahoma, Oklahoma City, OK, 2Univ. of Arkansas for the Hlth.Sci., Little Rock, AR, 3Oklahoma Med. Res. Fndn., Oklahoma City, OK

Poster Session 2

Plenary Session – DEBATE
Moderated by: Richard Loeser, MD and Carla Scanzello, MD, PhD
Lumping vs. Splitting: In this Age of Diversity, is OA a Singular Disease?
Tonia Vincent, MD, PhD
Frank Beier, PhD

Statistics in Basic Science
Introduction from OACs Editor-in-Chief • Joel A. Block, PhD
Perspective of the Deputy Editor for Basic Science • Frank Beier, PhD
Statistical Reviewer’s Standpoint
“What does the Statistical Reviewer Look For” • Aleksandra Turkiewicz, PhD

Discussion Group Meeting
Rehabilitation

Discussion Group Meeting
Imaging
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<th>Time</th>
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<tr>
<td>6:30 PM–8:00 PM</td>
<td>Discussion Group Meeting</td>
<td>Willow West</td>
<td>OA Phenotype Research</td>
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<tr>
<td>6:30 PM–8:00 PM</td>
<td>Discussion Group Meeting</td>
<td>Willow Centre</td>
<td>Pain Mechanisms in OA: Basic and Clinical Research</td>
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<td>6:30 PM–8:00 PM</td>
<td>Discussion Group Meeting</td>
<td>Chestnut East</td>
<td>International Foot and Ankle OA Consortium</td>
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<tr>
<td>6:45 PM–8:00 PM</td>
<td>Chinese Abstract Session Conducted in Chinese</td>
<td>Provincial North</td>
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**Sunday, May 5**

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<tr>
<td>7:00 AM–8:30 AM</td>
<td>Discussion Group Meeting</td>
<td>Chestnut Room</td>
<td>International Osteoarthritis Management Programs a.k.a. “Joint Effort”</td>
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<tr>
<td>7:30 AM–8:30 AM</td>
<td>Discussion Group Meeting</td>
<td>Kenora Room</td>
<td>Bridging Disciplines: A Pathway to Finding Solutions for Osteoarthritis</td>
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<td>7:30 AM–8:30 AM</td>
<td>Breakfast Workshops*</td>
<td>Provincial North</td>
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<td>Human and Animal OA Imaging 101</td>
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<td>I-19 Human Imaging • Xiaojuan Li, PhD</td>
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<td>I-20 Animal Imaging • Matt Koff, PhD</td>
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<td>Breakfast Workshop F</td>
<td>Provincial South</td>
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<td>I-21 Nuts And Bolts of Meta-Analysis, Systematic Literature Reviews,</td>
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<td>Network Meta-Analysis</td>
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<td>Peter Jüni, PhD</td>
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<td>* Additional ticketed fee required</td>
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<td>8:45 AM–10:15 AM</td>
<td>Concurrent Session 11: Clinical Trials</td>
<td>Grand Ballroom West</td>
<td>Moderated by: Dawn Aitken, PhD and David Hunter, MBBS, PhD, FRACP</td>
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<tr>
<td>8:45 AM–9:15 AM</td>
<td>I-22 2020 OA Vision: Emerging Therapeutics on the OA Landscape</td>
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<td>Phil Conaghan, MD</td>
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</table>
Concurrent Session 11: Clinical Trials (cont’d.)
Grand Ballroom West

9:15 AM–9:25 AM 85 HIGHEST RATED ABSTRACT AWARD WINNER
IDENTIFYING PREDICTORS OF PLACEBO RESPONSE IN OSTEOARTHRITIS CLINICAL TRIALS OF THREE AGENTS WITH DIFFERENT ROUTES OF DELIVERY: A META-ANALYSIS USING INDIVIDUAL PATIENT DATA.
J. Stocks, M. S. Persson, M. van Middelkoop, J. Runhaar, S. Bierva-Zeinastra, I. Atchia, R. Lambert, A. D. Sawitzke, T. McAlindon, M. H. Hashemipur, D. A. Walsh, M. Doherty, W. Zhang • 1Univ. of Nottingham, Nottingham, United Kingdom, 2Erasmus MC Med. Univ., Rotterdam, Netherlands, 3Newcastle Univ., Newcastle upon Tyne, United Kingdom, 4Univ. of Alberta, Edmonton, AB, Canada, 5Univ. of Utah, Salt Lake City, UT, 6Tufts Med. Ctr., Boston, MA, 7Fasa Univ. of Med. Sci., Fasa, Iran, Islamic Republic of

9:25 AM–9:35 AM 86
SIGNIFICANT PAIN REDUCTION WITH ORAL METHOTREXATE IN KNEE OSTEOARTHRITIS; RESULTS FROM THE PROMOTE RANDOMISED CONTROLLED PHASE III TRIAL OF TREATMENT EFFECTIVENESS

9:35 AM–9:45 AM 87
SHORT-TERM EFFECT OF OCCUPATIONAL THERAPY INTERVENTION ON HAND FUNCTION AND PAIN IN PATIENTS WITH THUMB BASE OSTEOARTHRITIS–SECONDARY ANALYSES OF A RANDOMIZED CONTROLLED TRIAL

9:45 AM–9:55 AM 88
ONSET AND MAINTENANCE OF EFFICACY OF SUBCUTANEOUS TANEZUMAB IN PATIENTS WITH MODERATE TO SEVERE OSTEOARTHRITIS OF THE KNEE OR HIP

9:55 AM–10:05 AM 89
DOES EARLY RECONSTRUCTION OF THE ANTERIOR CRUCIATE LIGAMENT PREVENT FURTHER MENISCAL DAMAGE? SECONDARY ANALYSIS OF RANDOMIZED CONTROLLED TRIAL
B. A. Snoeker, F. W. Roemer, A. Turkiewicz, L. S. Lohmander, R. B. Frobell, M. Englund • 1Lund Univ., Lund, Sweden, 2Univ. of Erlangen-Nuremberg, Erlangen, Germany
**SINGLE INTRA-ARTICULAR INJECTION OF TLC599 PROVIDED SUSTAINED PAIN RELIEF THROUGH 24 WEEKS IN PARTICIPANTS WITH SYMPTOMATIC KNEE OSTEOARTHRITIS**

D. Hunter\(^1\), C-C. Chang\(^3\), J-C. Wei\(^4\), H-Y. Lin\(^5\), C. Brown\(^7\), S-F. Shih\(^7\) • \(^1\)Univ. of Sydney, Sydney, Australia, \(^2\)Royal North Shore Hosp., Sydney, Australia, \(^3\)Div. of Allergy, Immunology and Rheumatology, Dept. of Internal Med., Sch. of Med., Coll. of Med., Taipei Med. Univ., Taipei, Taiwan, \(^4\)Div. of Allergy, Immunology and Rheumatology, Chung Shan Med. Univ. Hosp., Taipei, Taiwan, \(^5\)Dept. of Internal Med., Cheng Hsin Gen. Hosp., Taipei, Taiwan, \(^6\)Dept. of Allergy, Immunology and Rheumatology, Taipei Veterans Gen. Hosp., Taipei, Taiwan, \(^7\)Taiwan Liposome Company, Taipei, Taiwan
Concurrent Session 12: Inflammation and Immunity (cont’d.)

Grand Ballroom Centre

9:55 AM–10:05 AM  **95**
α10^th^MSCs DECREASE SYNOVIAL MEMBRANE LONG TERM EXPRESSION OF TIMP-2 AND NFκB FOLLOWING ARTICULAR INJURY


10:05 AM–10:15 AM  **96**
CONNEXIN43-POSITIVE EXOSOMES FROM OSTEOARTHRITIC CHONDROCYTES SPREAD SENESCENCE AND INFLAMMATORY MEDIATORS TO NEARBY SYNOVIAL AND BONE CELLS

M. Varela-Eirín¹, A. Varela-Vázquez¹, A. Guitián-Caamaño¹, S. B. Bravo-López², C. Paíno³, E. Fonseca¹, M. Kandouz⁴, T. Aasen⁵, A. Tabernero⁶, A. Blanco⁶, J. R. Caeiro⁶, M. Mayán¹ • ¹CellCOM Res. Group. INIBIC. SERGAS. UDC, A Coruña, Spain, ²Proteomics laboratory. IDIS. CHUS-USC., Santiago de Compostela, Spain, ³Unit of Experimental Neurology-Neurobiology. “Ramón y Cajal” Hosp. (IRYCIS), Madrid, Spain, ⁴Dept. of Pathology, Sch. of Med., Wayne State Univ., Detroit, MI, ⁵Translational Molecular Pathology Res. Group. Vall d’Hebron Res. Inst. U. Autònoma de Barcelona. CIBERONC, Barcelona, Spain, ⁶Departamento de Bioquímica y Biología Molecular, INCYL, U. de Salamanca, Salamanca, Spain, ⁷Flow Cytometry Core Technologies, UCD Conway Inst., U. Coll. Dublin, Dublin, Ireland, ⁸Dept. of Orthopaedic Surgery and Traumatology. CHUS. USC, Santiago de Compostela, Spain

10:15 AM–10:45 AM Break

10:45 AM–12:15 PM Plenary Session—YEAR IN REVIEW

Grand Ballroom West/Centre

Moderated by: Danny Chan, PhD and Ingrid Meulenbelt, PhD

› **OA Clinical: Epidemiology and Therapy** • Margreet Kloppenburg, MD, PhD
› **I-24 Imaging** • Rick Kijowski, MD
› **I-25 Rehabilitation & Outcomes** • Monica Maly, PhD
› **I-26 Mechanics (animal and human)** • Michael Hunt, PhD, PT
› **I-27 Biomarkers** • Erwin van Spil, MD, PhD
› **I-28 Genetics, Genomics, Epigenetics** • Louise Reynard, PhD
› **OA Biology** • Carla Scanzello, MD, PhD
AGING

97 SOD ACTIVITY IN THE END STAGE KNEE AND HIP OSTEOARTHRITIC CARTILAGE SIGNIFICANTLY LOWER THAN NON OSTEOARTHRITIC CARTILAGE INDEPENDENT OF AGE-RELATED CHANGE
M. Koike1, H. Nojiri2, H. Kanazawa1, H. Yamaguchi1, K. Miyagawa1, N. Nagura1, S. Banno1, Y. Iwase1, H. Kurosawa1, K. Kaneko2
1Dept. of Orthopaedic Surgery, Juntendo Tokyo Koto Geriatric Med. Ctr., Tokyo, Japan, 2Dept. of Orthopaedic Surgery, Juntendo Univ. Graduate Sch. of Med., Tokyo, Japan

98 FENOFIBRATE, A PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR ALPHA, IS A NOVEL MOLECULE WITH SENOLYTIC AND AUTOPHAGY ACTIVITY FOR CARTILAGE DEGENERATION AND OSTEOARTHRITIS
1Inst. de BioMed. Res. of A Coruña (INIBIC), A Coruña, Spain, 2Biofarma Res. Group, Ctr. for Res. in Molecular Med. and Chronic Diseases (CIMUS), Univ. of Santiago de Compostela, Santiago de Compostela, Spain, 3Coll. of Biological Sci., Univ. of Minnesota, Minneapolis, MN, 4Dept. of Molecular Med., Scripps Res., La Jolla, CA

99 OVEREXPRESSION OF MIG-6 IN CARTILAGE INDUCES AN OSTEOARTHRITIS-LIKE PHENOTYPE IN MICE.
M. R. Bellini, M. A. Pest, F. Beier • Univ. of Western Ontario, London, ON, Canada

100 SENESCEENCE IN OSTEOARTHRITIS

101 HISTOLOGICAL ANALYSIS OF MURINE KNEES REVEALS THE IMPACT OF THE MITOCHONDRIAL DNA VARIATION ON THE JOINT DEGENERATION IN A CONPLASTIC MOUSE MODEL OF AGING AND FORCED EXERCISE
M. Scotece1, I. Rego-Pérez1, A. Lechuga-Vieco2, P. Filgueira-Fernández1, J. Enriquez2, F. Blanco1 • 1Servicio de Reumatología. Inst. de Investigación Biomédica de A Coruña (INIBIC). Complejo Hosp.ario Univ.rio de A Coruña (CHUAC), Sargas. Univ.e da Coruña (UDC), A Coruña, Spain, 2Grupo de Genética funcional del sistema de fosforilación oxidativa. Centro Natl. de Investigaciones Cardiovasculares (CNIC), Madrid, Spain

102 INVESTIGATING THE ROLE OF NUCLEAR RECEPTOR PROLIFERATOR-ACTIVATED RECEPTOR DELTA (PPARΔ)IN AGING AND METABOLIC MODELS OF OSTEOARTHRITIS
B. C. To1, A. Ratneswaran2, G. Kerr1, F. Beier1 • 1Western Univ., London, ON, Canada, 2Univ. of Toronto, London, ON, Canada

103 MULTIPARAMETRIC ANALYSIS OF HUMAN PLASMA EXOSOME PHENOTYPE BY CONVENTIONAL FLOW CYTOMETRY
X. Zhang, V. B. Kraus • Duke Univ., Durham, NC

104 AGING INDUCES ENDOPLASMIC RETICULUM (ER) STRESS AND APOPTOSIS IN NON-HUMAN PRIMATE KNEE ARTICULAR CARTILAGE
R. R. Yammani, L. Tan • Wake Forest Sch. of Med., Winston Salem, NC

105 CONTROLLED INDUCTION AND TARGETED ELIMINATION OF P16INK4A-HIGH CHONDROCYTES TO INVESTIGATE SENESCENCE-MEDIATED CARTILAGE DYSFUNCTION
G. A. Sessions1, M. A. Sinkler2,3, M. E. Copp1, B. O. Diekman1,2 • 1Univ. of North Carolina Chapel Hill, Chapel Hill, NC, 2Med. Coll. of Georgia at Augusta Univ., Augusta, GA, 3North Carolina State Univ., Raleigh, NC
106
KNOCKDOWN OF SIRTUIN3 IN CARTILAGE PROTECTS MALE MICE AGAINST HIGH-FAT DIET-INDUCED OSTEOARTHRITIS
S. Zhu1, E. L. Donovan1-2, E. B. Lopes1, M. Kinter1, A. Simmons1, D. Makosa1, D. Cortassa1, M. West1, T. M. Griffin1-4 • 1Oklahoma Med. Res. Fndn., Oklahoma City, OK, 2Oregon Inst. of Technology, Klamath Falls, OR, 3Univ. of Wisconsin, Madison, WI, 4Univ. of Oklahoma Hlth.Sci. Ctr., Oklahoma City, OK

107
NOVEL MODEL FOR AGE-RELATED OA: ER STRESS IN ARTICULAR CARTILAGE INDUCES JOINT DEGENERATION IN MICE.
K. L. Posey1, J. L. Alcorn1, A. C. Veerisetty1, M. G. Hossain1, J. T. Hecht1-2 • 1McGovern Med. Sch. at UTHlth., Houston, TX, 2UTHlth.Sch. of Dentistry, Houston, TX

108
AGE INCREASES THE SEVERITY OF OSTEOARTHRITIS PROGRESSION AFTER MEDIAL MENISCUS TRANSSECTION IN RATS
K. M. Chan1, T. D. Yeater, K. D. Allen • Univ. of Florida, Gainesville, FL

109
MORE THAN PAIN: PRE-OPERATIVE INDICATORS OF PATIENTS WHO PROGRESS FROM UNILATERAL TO BILATERAL TOTAL KNEE ARTHROPLASTY WITHIN 10 YEARS
J. A. McClelland1, K. E. Webster1, H. Klemm2, S. Wicks1, J. A. Fellar2 • 1La Trobe Univ., Bundoora, Australia, 2OrthoSport Victoria, Melbourne, Australia

BIOMARKERS

110
MICRORNA-1915-3P IN SERUM EXOSOME IS ASSOCIATED WITH DISEASE ACTIVITY OF RHEUMATOID ARTHRITIS IN KOREA
J. YOO1, M-K. Lim, D-H. Sheen • EULJI Univ. Hosp., DAEJEON, Korea, Republic of

111
MULTIPLE JOINT OSTEOARTHRITIS IN THE OSTEOARTHRITIS INITIATIVE

112
SERUM LEVELS OF COLL2-1, A SPECIFIC BIOMARKER OF CARTILAGE DEGRADATION, ARE NOT AFFECTED BY SAMPLING CONDITIONS, CIRCADIAN RHYTHM, SEASONALITY AND PHYSICAL ACTIVITY.
Y. Henrotin1,2, M. Fonck3, B. Costes1, B. Cordier3, A. Labasse3, S. Vander Poelen3, A-C. Hick2 • 1Univ. of Liege, Liege, Belgium, 2Artialis SA, Liège, Belgium, 3Artialis SA, Liège, Belgium

113
IDENTIFICATION AND CHARACTERIZATION OF NEW BIOCHEMICAL MARKERS FOR SARCOPENIA.
Y. Henrotin1,2, B. Cordier3, A. Labasse3, S. Vander Poelen3, C. Boileau3, B. Costes3, C. L’hôte2 • 1Univ. of Liege, Liege, Belgium, 2Artialis SA, Liège, Belgium, 3Artialis SA, Liège, Belgium

114
WEIGHT BEARING CT 3D JOINT SPACE WIDTH MEASURES SHOW EARLY JOINT CHANGES FOLLOWING INTRA-ARTICULAR FRACTURES
M. Ho1, K. Dibbern1, M. Willey1, C. P. Klewenzo2, J. Agei2, J. L. Marsh1, D. D. Anderson1 • 1The Univ. of Iowa, Iowa City, IA, 2Univ. of Washington, Seattle, WA

115
SIRT1 CLEAVAGE: FROM CARTILAGE DEGENERATION TO OSTEOARTHRITIC BIOMARKER
G. Batshon, O. Qiq, E. Reich, A. Kumar, M. Dvir-Ginzberg • Hebrew Univ. Of Jerusalem, Jerusalem, Israel

116
SYNOVIAL FLUID IL-1RA LEVELS ARE CORRELATED WITH SYNOVIAL FLUID IL-6 AND SERUM IL-1RA LEVELS IN PATIENTS WITH KNEE OSTEOARTHRITIS
Y. Shimura, H. Kurosawa, M. Tsuchiya, H. Kaneko, Y. Iwase, K. Kaneko, M. Ishijima • Juntendo Univ., Bunkyo, Tokyo, Japan
117 SERUM MEASURES OF METABOLISM AND INFLAMMATION AMONG ADULTS PRIOR TO INCIDENT ACCELERATED HAND OSTEOARTHRITIS: DATA FROM THE OSTEOARTHRITIS INITIATIVE


118 HIGHER AGGREGAN 1-F21 EPITOPE CONCENTRATIONS IN SYNOVIAL FLUID EARLY AFTER KNEE INJURY ARE ASSOCIATED WITH WORSE CARTILAGE QUALITY 20 YEARS LATER

S. Larsson1, P. Neuman2, A. Struglics2 • 1Lund Univ., Faculty of Med., Dept. of Clinical Sci. Lund, Orthopaedics, Lund, Sweden, 2Lund Univ., Faculty of Med., Dept. of Clinical Sci. Malmö, Orthopaedics, Lund, Sweden

119 PHENYLALANINE IS A POTENTIAL NOVEL MARKER FOR RADIOGRAPHIC KNEE OSTEOARTHRITIS PROGRESSION: THE MOST STUDY

G. Zhai1, X. Sun2, E. Randell1, M. Liu1, N. Wang1, L. Schäfer1, B. Lu1, J. Duryea2, T. E. McAlindon1 • 1Mem. Univ. of Newfoundland, St. John’s, NL, Canada, 2Bostom Univ. Sch. of Med., Boston, MA, 3Univ. of California, San Francisco, CA, 4Univ. of Iowa, Iowa, IA, 5Univ. of Alabama, Birmingham, Birmahingam, AL, 6Univ. of California, San Francisco, CA

120 ELEVATED SERUM BIOMARKERS OF INFLAMMATORY TURNOVER OF COLLAGEN TYPES III AND VI PREDICT RAPID CARTILAGE LOSS

A. R. Bihlet1, J. J. Bjerre-Bastos1, I. Byrjalsen1, J. R. Andersen1, A-C. Bay-Jensen1, J-P. Pelletier2, J. Martel-Pelletier2, M. A. Karsdal1 • 1Nordic BioSci., Herlev, Denmark, 2Univ. of Montreal Hosp. Res. Ctr., Montreal, QC, Canada

121 CORRELATION BETWEEN URINECTX-II AND SYNOVIAL PATHOLOGY IN TOTAL KNEE ARTHROPLASTY PATIENTS

P. Arunrukthavon, S. Khuangsirikul, D. Heebthamai, T. Chotanaphuti • Phramongkutklao Hosp., Bangkok, Thailand

122 OSTEOARTHRITIS DISEASE PROGRESSION IN BIOMARKER-BASED PATIENT ENDOTYPES.


123 INCREASED LEVELS OF THE ALARMIN HIGH MOBILITY GROUP BOX 1 IS DETECTED IN SYNOVIAL FLUID AFTER ACUTE KNEE INJURY

C. Aulin1, H. E. Harris1, S. Larsson2, A. Struglics2 • 1Karolinska Inst., Stockholm, Sweden, 2Lund Univ., Lund, Sweden

124 LUBRICIN AND HYALURONAN ARE ALTERED IN MULTIPLE EQUINE MODELS OF TRAUMATIC JOINT INJURY

B. Peal, R. Gagliardi, J. Su, L. Fortier, M. Delco, A. Nixon, H. Reesink • Cornell Univ., Ithaca, NY

125 POST TRAUMATIC OSTEOARTHRITIS: BASELINE SYNOVIAL FLUID BIOMARKERS ARE ASSOCIATED WITH CARTILAGE BIOCHEMISTRY MEASURED USING MRI ONE YEAR AFTER ACL RECONSTRUCTION

J. J. Lee1, V. Pedaola1, J. Heubner2, X. Zhang2, C. McCulloch1, B. Ma1, X. Li1, M. Koffi1, H. Potter1, K. Amrami2, A. Krych3, S. Rodeo4, V. Kraus2, S. Majumdar1 • 1Univ. of California, San Fransisco, San Fransisco, CA, 2Duke Univ., Durham, NC, 3Cleveland Clinic, Cleveland, OH, 4Hosp. for Special Surgery, New York, NY, 5Mayo Cinic, Rochester, MN

126 A HIGHLY SENSITIVE MULTIPLEX BIOMARKER ASSAY FOR THE EARLY DIAGNOSIS OF OSTEOARTHRITIS

J. Hendriks1, M. ShariF, D. B. Saris3, M. Karperien1 • 1Univ. of Twente, Enschede, Netherlands, 2Univ. of Brisol, Bristol, United Kingdom, 3Mayo Clinic, Rochester, MN
127 DECONSTRUCTING BIOMARKER ANALYSIS IN OA: ACTIVITY, BURDEN OF DISEASE AND PROGRESSION
A-C. Bay-Jensen, A. Bihlet, C. Thudium, J. R. Andersen, M. A. Karsdal • Nordic BioSci. A/S, Herlev, Denmark

128 REESTABLISHMENT OF THE ARGS PHARMACODYNAMIC, SERUM BIOMARKER. DEVELOPMENT OF A HIGH SENSITIVE CHEMILUMINESCENCE IMMUNOASSAY FOR DETECTION OF AGGREGANASE-GENERATED AGGREGAN FRAGMENTS
Y. He1, H. Rønberg1, M. Karsdal1, A. Siebuhr1, J. Larkin2, A-C. Bay-Jensen1 • 1Nordic BioSci., Herlev, Denmark, 2GlaxoSmithKline, Upper Merion, PA

129 THE BIOLOGICAL EFFECT OF AN ANGULAR TILT PARADIGM ON THE KNEE JOINT
P. Jayabalan1, R. Bergman2, H. Kim3, Y. Dhaher1 • 1Shirley Ryan AbilityLab, Chicago, IL, 2Univ. of Michigan, Ann Arbor, MI

130 ON THE ROAD TO BIOMARKERS: DEVELOPING A ROBUST SYSTEM FOR MIRNA EVALUATION IN EQUINE BLOOD AND SYNOVIAL FLUID
J. Antunes, T. G. Koch, J. Koenig, N. Cote, M-S. Dubois • Ontario Vet. Coll., Guelph, ON, Canada

131 BIOCHEMICAL PROFILING OF BONE MARROW LESIONS IN KNEE OSTEOARTHRITIS PATIENTS: ALTERED MINERALIZATION OF THE SUBCHONDRAL BONE MATRIX
J. S. Kuliwaba, Y-R. Lee, D. Muratovic, T. K. Gill, D. M. Findlay • The Univ. of Adelaide, Adelaide, Australia

BIOMECHANICS & GAIT

132 CHANGES IN KNEE ADDUCTION MOMENT WITH A VARIABLE-STIFFNESS SHOE ARE RELATED TO CHANGES IN PAIN AND FUNCTION
J. Erhart-Hledik1,2, G. Mahtani1,2, J. Asay1,2, T. Andriacchi1,2, C. Chu1,2 • 1Stanford Univ., Stanford, CA, 2Palo Alto Veterans Hosp., Palo Alto, CA

133 DOES DYNAMIC KNEE ADDUCTION ANGLE IMPACT CLINICAL RESPONSE TO A TOE-OUT GAIT MODIFICATION INTERVENTION?
J. M. Charlton, D. Kobsar, M. A. Hunt • Univ. of British Columbia, Vancouver, BC, Canada

134 DOES THE PRESENCE OF SELF-REPORTED KNEE INSTABILITY IMPACT THE RESPONSE TO WALKING SURFACE TRANSLATIONS IN THOSE WITH KNEE OSTEOARTHRITIS?
M. Baker, N. Urquhart, W. Stanish, D. Rutherford • Dalhousie Univ., Halifax, NS, Canada

135 GAIT KINEMATICS FOR PATIENTS WITH EARLY STAGE KNEE OSTEOARTHRITIS IN THE APPROACH PROJECT

136 CLINICAL ANALYTICAL VIBROARTHROGRAPHY METHOD FOR CLASSIFYING PATIENTS WITH KNEE OSTEOARTHRITIS
S. Ota1, R. Fujita1, N. Segawa1, R. Tanaka1, S. Inagawa1, T. Sakaï2 • 1Seijoh Univ., Tokai, Japan, 2Saitama Univ., Saitama, Japan

137 COULD INCREASED TRUNK FLEXION UNDERLIE ALTERATIONS IN KNEE MUSCLE ACTIVITY IN PEOPLE WITH KNEE OA?
S. J. Preece, W. Alghamdi, R. Jones • Univ. of Salford, Manchester, United Kingdom
138 SEX DIFFERENCES IN KNEE EXTENSION RATE OF TORQUE DEVELOPMENT AND PATIENT-REPORTED FUNCTION AMONG INDIVIDUALS WITH ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION.
C. Kuenze, C. Lisee, T. Birchmeier, A. Triplett, L. Wilcox, A. Schorfaaer, M. Shingles • Michigan State Univ., East Lansing, MI

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454 CORRELATES OF HAND ABNORMALITIES AND MEASURES OF HAND PAIN AND FUNCTION IN OLDER ADULTS.
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468 IMPACT OF CONTRALATERAL RADIOGRAPHIC STATUS ON LONGITUDINAL CHANGE OF CARTILAGE TRANSVERSE RELAXATION TIME (T2) IN RADIOGRAPHICALLY NORMAL KNEES, A MODEL OF EARLY OA? - DATA FROM THE OSTEOARTHRITIS INITIATIVE
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469 CARTILAGE THICKNESS LOSS CORRELATES TO UTE-T2* EARLY AFTER ACL RECONSTRUCTION
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470 [18F]-SODIUM FLUORIDE IMAGING OF BONE METABOLISM AFTER ACUTE LOADING
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471 KNEE JOINT DISTRACTION IS MORE EFFICIENT IN REBUILDING CARTILAGE THICKNESS IN THE MORE AFFECTED COMPARTMENT THAN HIGH TIBIAL OSTEOTOMY IN PATIENTS WITH KNEE OSTEOARTHRITIS
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IS THE HYPERTROPHIC PHENOTYPE OF TIBIOFEMORAL OSTEOARTHRITIS ASSOCIATED WITH FASTER STRUCTURAL PROGRESSION? THE MOST STUDY

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LONGITUDINAL ASSESSMENT OF CARTILAGE COMPOSITION BY HIGH-FIELD MRI IN PATIENTS WITH LOW-GRADE KNEE CARTILAGE INJURY


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RELIABILITY OF KNEE ULTRASOUND IN A COMMUNITY BASED COHORT

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MICRO-COMPUTED TOMOGRAPHY OF 3D MICROSTRUCTURE OF INTACT AND OSTEOARTHRITIC HUMAN MENISCUS

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SEMI-AUTOMATED LONGITUDINAL ASSESSMENT OF QUANTITATIVE JOINT SPACE WIDTH AT THE HIP IN A COMMUNITY-BASED COHORT

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479  FACTORS ASSOCIATED WITH LONGITUDINAL CHANGE OF MENISCAL EXTRUSION IN OVERWEIGHT WOMEN WITHOUT CLINICAL SIGNS OF KNEE OSTEOARTHRITIS.
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480  AN EFFICIENT ALTERNATIVE TO MAGNETIC RESONANCE (MR) COMPOSITE RELAXATION (R2-R1ρ) MAPPING IN HUMAN KNEE CARTILAGE STUDY AT 3T
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481  THE DEGENERATION OF MEDIAL MENISCUS IN MENISCAL BODY AND POSTERIOR HORN SHOWS A GREATER CHANGE THAN THAT IN ANTERIOR HORN ACCORDING TO THE SEVERITY OF MEDIAL MENISCUS EXTRUSION IN EARLY- TO PRIMARY-STAGE KNEE OSTEOARTHRITIS
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482  INFLUENCE OF SEX ON TIBIOFEMORAL CARTILAGE RESPONSE TO RUNNING IN YOUNG HEALTHY MEN AND WOMEN
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483  ASSOCIATIONS OF PROGRESSION OF OSTEOARTHRITIS MRI FEATURES WITH THE COURSE OF KNEE PAIN OVER A FIVE YEARS PERIOD IN AN OPEN FEMALE POPULATION
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484  3D JOINT SPACE MAPPING IS A BETTER PREDICTOR OF FUTURE TOTAL HIP REPLACEMENT THAN CURRENT 2D RADIOGRAPHIC GOLD STANDARDS: AN AGES-REYKJAVIK STUDY
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485  RELATIONSHIPS BETWEEN VASTUS MEDIALIS FAT INFILTRATION WITH BODY MASS INDEX, DISEASE SEVERITY AND ANTERIOR CRUCIATE LIGAMENT STATUS IN PATIENTS WITH KNEE OSTEOARTHRITIS
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486  THE EFFECT OF KNEE ALIGNMENT ON CARTILAGE LOSS DIFFERS BASED ON ANTERIOR CRUCIATE LIGAMENT STATUS IN PATIENTS WITH OR AT RISK OF KNEE OSTEOARTHRITIS: DATA FROM THE OSTEOARTHRITIS INITIATIVE
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502 GAGCEST MRI AT 3T CAN DETECT CARTILAGE DIFFERENCES BETWEEN HEALTHY AND OSTEOARTHRITIC SUBJECTS
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• The Univ. of Manchester, Manchester, United Kingdom, 2Boston Univ., Boston, MA, 3The Univ. of Oxford, Oxford, United Kingdom

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674 PREVALENCE OF SELF-REPORTED KNEE INSTABILITY IN PATIENTS WITH MENISCAL TEARS WITH AND WITHOUT CONCOMITANT KNEE OSTEOARTHRITIS
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675 SYNOVIAL FLUID LUBRICIN INCREASES IN CANINE CRUCIATE LIGAMENT RUPTURE
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676 INCREASED JOINT SPACE NARROWING AFTER ARTHROSCOPIC PARTIAL MENISCECTOMY: DATA FROM THE OSTEOARTHRITIS INITIATIVE
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677 ASSOCIATION BETWEEN SARCOPENIA AND OSTEOARTHRITIS-RELATED KNEE STRUCTURAL CHANGES: A SYSTEMATIC REVIEW
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679 EVALUATION OF THE MODIFIED RADIO-ULNAR LINE IN CORRELATION WITH IMAGING FEATURES OF THE DISTAL RADIO-ULNAR JOINT OSTEOARTHRITIS, USING A 4D CT EXAMINATION
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680 RELATIONSHIP BETWEEN RECOVERY OF TENDON BIOMECHANICS, GAIT AND PATIENT FUNCTION AFTER ACHILLES TENDON RUPTURE
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681 CORRELATION OF SYNOVIAL FLUID LEPTIN WITH BODY HABITUS IN THE HEALTHY AND OSTEOARTHRITIC CANINE KNEE
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683  RESVERATROL-ENHANCED AUTOPHAGIC FLUX REDUCES SEVERITY OF EXPERIMENTAL RHEUMATOID ARTHRITIS

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685  MAPPING THE PROTEIN DISTRIBUTION IN ZONES OF THE HEALTHY HUMAN MEDINAL MENISCUS BODY
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686  COMPARISON MICRORNAS EXPRESSION IN NORMAL AND RUPTURED CANINE CRUCIATE LIGAMENTS
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687  INFLAMMATORY RESPONSE OF A HUMAN MENISCAL IN VITRO MODEL STUDIED BY PROTEOMICS
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688  QUANTIFYING PARTICLE DISTRIBUTION IN HEALTHY AND OSTEOARTHRITIC RAT KNEE JOINTS USING FLUORESCENT IMAGING AND ELECTRON PARAMAGNETIC RESONANCE SPECTROSCOPY
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689  ADIPONECTIN IS A POTENTIAL MEDIATOR OF SYNOVIAL FIBROSIS FROM EARLY TO LATE KNEE OSTEOARTHRITIS
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690  OSTEOPHYTES FORMATION PROCESSES IN EARLY STAGE KNEE OSTEOARTHRITIS IN HUMAN
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M. ISLAM • Sir Salimullah Med. Coll., Dhaka, Dhaka, Bangladesh

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G. P. OCAMPOS, Sr., M. U. DE REZENDE, G. J. YAMAMOTO, Sr., M. M. LUZO, F. E. DE FARIAS, C. A. DA SILVA • IOT-HC-FMUSP, SAO PAULO, Brazil

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C. H. Teirlinck, Jr.\(^1\), A. P. Verhagen\(^1\), E. A. Reijneveld-van de Vendel\(^1\), J. Runhaar\(^1\), M. van Middelkoop\(^1\), L. Hermens\(^2\), I. B. de Groot\(^2\), S. M. Bierma-Zeinstra\(^1\) • 1Erasmus MC, Rotterdam, Netherlands, 2Natl. Hlth.Care Inst., Diemen, Netherlands

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G. M. Barbosa\(^1\), J. E. Cunha\(^1\), P. A. Castro\(^2\), T. M. Cunha\(^2\), F. F. Oliveira\(^2\), F. Q. Cunha\(^2\), F. S. Ramalho\(^2\), T. F. Salvini\(^1\) • 1Federal Univ. of São Carlos, São Carlos, Brazil, 2Univ. of Sao Paulo, Ribeirão Preto, Brazil

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