



Spring Quarter 10:2;2016

*e-news*



# Comparative Orthopaedic Lab

## "Finding a joint solution"

<http://www.columc.com/>

### Current Projects

- BioJoint Outcomes
- Sensory Function of the ACL
- Biomarkers Predict OA Severity at TKA
- Enhanced Subchondroplasty for PTOA
- BioCartilage versus Marrow Stimulation
- Return-to-Sport after ACL Reconstruction
- Superior Capsular Reconstruction
- Small Diameter ACL Reconstruction
- Novel Quad Tendon Allograft ACL
- BMC for Enhancing OCAs
- Meniscal Tissue Engineering
- Early Diagnosis of Hip Dysplasia

### Last quarter's "top 5"

1. First Mizzou Osteochondral Allograft Preservation System graft implanted in patient at MOI
2. COL Team gives 23 research presentations at 2016 ORS Annual Conference
3. COL collaborator, Dr. Clark Hung, receives the 2016 ORS Marshall R. Urist Award
4. COL receives \$3M NIH grant in collaboration with Columbia University BioEngineering
5. COL Students – Charles Baumann, Madeline Quoss, Kamryn Chastain, Eli Pratte – receive MU A&S Scholarships

## 16<sup>th</sup> Annual Comparative Orthopaedics Day

### with Littlejohn Family Keynote Speaker Dr. Chris Little

#### About Our Speaker

We are honored and excited to welcome **Dr. Chris Little** to deliver the Littlejohn Family keynote address for the 16<sup>th</sup> Annual Comparative Orthopaedics Day. Professor Chris Little is Director of the Raymond Purves Bone and Joint Research Laboratories at the Kolling Institute of Medical Research and the Dean of Research for Sydney Medical School in Australia. Chris is a veterinarian with specialist surgery training and ACVS certification, and has a PhD from the University of Sydney for his studies of articular cartilage degradation in osteoarthritis (OA). Following a postdoc at Cardiff University (UK), he was awarded an Arthritis Foundation of Australia Fellowship at the University of Melbourne. In 2004, he was recruited to his current position. Chris's research interests focus on defining the biochemical, cellular and molecular mechanisms of joint pathology in OA, tendon injury and repair, and spinal intervertebral disc degeneration. His research is based on the belief that it is only through a better understanding of the mechanisms that drive the initiation and progression of these diseases that new therapies can be developed. Chris is recognized internationally for his expertise in the development and use of animal models of bone and joint disease. He has served as an Associate Editor of *Osteoarthritis and Cartilage*, and a leader of the OARS international initiative to establish standardized methods for evaluation of animal models of OA. Chris has received numerous awards for his research, more than \$12M in research funding and has authored 124 scientific papers and 7 book chapters.



Sponsored by The Littlejohn Family Endowment



#### Schedule of Events

8:45 am	Welcome & Introductions	Dr. Jimi Cook
9:00	<b>Keynote Lecture</b> Translating New Osteoarthritis Treatments from Research to Reality <i>What really works?</i>	<b>Dr. Chris Little</b>
10:00	<i>Break</i>	
10:30	Mizzou BioJoint in the Knee	Dr. Jim Stannard
10:50	Mizzou BioJoint in the Ankle and Hip	Dr. Brett Crist
11:10	Mizzou Meniscal Replacement: All-inside MAT	Dr. Seth Sherman
11:30	Primary Allograft ACL Reconstruction with Internal Brace Augmentation in a Canine Model	Dr. Pat Smith
12:00-1:20 pm	<i>Lunch Break</i>	<i>box lunch provided</i>
1:30	RIA "Waste Water" is Osteoinductive in vivo	Dr. Alex Wessel
1:50	Adverse Events following Lumbar Spine Fusion: Combined Effect of Age, Smoking and Vitamin D Supplementation	Dr. Christina Goldstein
2:10	Intervertebral Disc Research at Mizzou – Where are we now?	James T. Stannard
2:30	Biological Augmentation Strategies for Meniscal Repair	Dr. Farrah Monibi
2:50	<i>Break</i>	
3:20	Interlimb Differences in Ground Reaction Forces during Step-up and Step-down Tasks in a Knee Osteoarthritis Population	Dr. Portia Flowers
3:40	Correlation of Biomarker Production to Biomechanical, Biochemical and Histologic Properties in Knee OA Patients	Nikki Werner
4:00	From the Lab to the High School Gym: ACL Risk Screening	Dr. Aaron Gray
4:20	Closing Remarks	Dr. Jimi Cook



Dr. Bob & Mrs. Marilyn Littlejohn with Dr. Chris Little at this year's event

#### Recent Pubs

1. Cook JL, et al. Importance of donor chondrocyte viability for osteochondral grafts. *Am J Sports Med* 2016
2. Smith PA, et al. Suspensory vs interference screw fixation for ACL reconstruction in a translational large animal model. *Arthroscopy* 2016
3. Crist BD, et al. Optimising femoral-head osteochondral allograft transplantation in a preclinical model. *J Orthop Translation* 2016
4. Stannard JT, et al. Development of a whole organ culture model for intervertebral disc disease. *J Orthop Translation* 2016
5. Roller BL, et al. Identification of novel synovial fluid biomarkers associated with meniscal pathology. *J Knee Surg* 2016
6. Cook JL, et al. Multiple injections of leukoreduced platelet rich plasma reduce pain and functional impairment. *J Knee Surg* 2015
7. Bozynski CC, et al. Acute management of ACL injuries using novel canine models. *J Knee Surg* 2015
8. Cook JL, et al. A canine hybrid double-bundle model for study of arthroscopic ACL reconstruction. *J Orthop Res* 2015
9. Smith MJ, et al. Investigation of rotator cuff healing using a DCB sponge in a canine model. *Int J Shoulder Surg* 2015