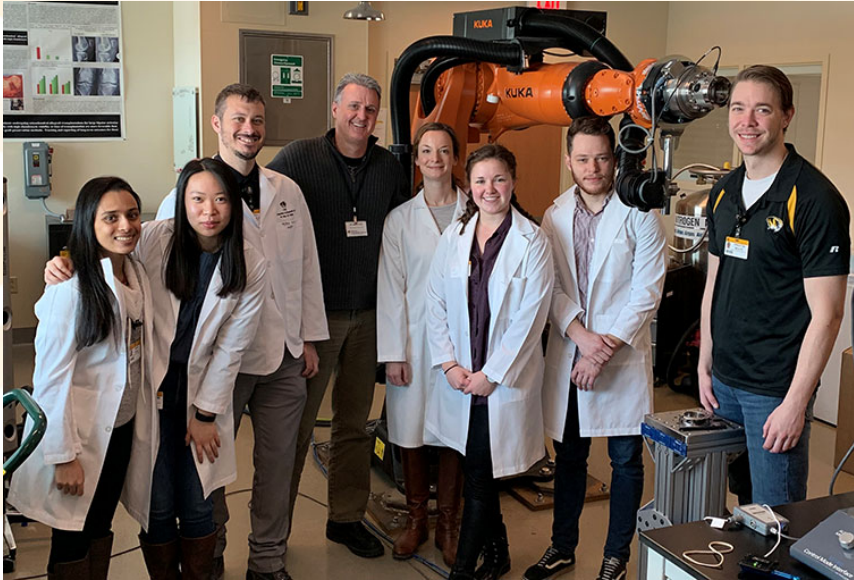




BioRobotics Testing System Installed in TLRO



With support from the Department of Orthopaedic Surgery, the Thompson family, the Gaines Endowment, and the Mizzou BioJoint® Center, the latest technology for translational biomechanical testing was installed in the TLRO's Carson Biomechanics and Bioengineering Lab. Dr. Robb Colbrunn from SimVitro helped install the system and trained the team.

The [SimVitro BioRobotics Testing System](#) is an innovative tool that can perform a

wide-range of biomechanical testing that correspond to real life movements, activities, and loads, including work, sport, and rehabilitation. This novel system adds to our unique capabilities as a translational orthopaedic laboratory performing comprehensive musculoskeletal research in an orthopaedic hospital dedicated to ‘Discovering Better’ for our patients.

Current Projects

- Immunology of Osteochondral Allograft Bone
- DoD BioJoint Knee and Ankle Clinical Trials
- DoD Meniscal Allograft Comparison Study
- Iron Chelators for OCA Bone Integration
- RIA vs BMAC for Bone Healing
- Canine & Human Hip Dysplasia Biomarkers
- Sex Differences in ACL Graft Healing
- Mizzou Knee Arthrometer Testing System
- Bone Quality after Bariatric Surgery
- Biomarkers for IVD Disease
- Updating Skeletal Maturity Methods
- BioJoint® Flex Knee Rehab System

Last Quarter's “Top 5”

1. TLRO Team had 60 abstracts accepted for presentation at 2020 ORS Annual Meeting
2. Mindie Roush, Sr. Research Technician, retired from military service after 21 years
3. Kylee Rucinski earned her Master of Health Administration degree from Mizzou
4. Dr. Simon Tang, leading Spine Researcher from Washington University, visited TLRO
5. Dr. Ryan Knigge received American Association for Anatomy Fellowship Award

Recent Pubs

1. Rucinski K, et al. Effects of compliance on outcomes after OCA and meniscal allograft transplantation. *Orthop J Sports Med* 2019
2. Stefani RM, et al. Dexamethasone delivery via microsphere-embedded agarose for osteochondral repair. *Acta Biomater* 2019
3. Baker BS, et al. Blood flow restriction therapy in patient older than age 50. A systematic review. *Clin Orthop Relat Res* 2019
4. Oliver HA, et al. Enhanced subchondroplasty treatment for cartilage and subchondral bone marrow lesions. *J Orthop Res* 2019
5. Stoker AM, et al. Metabolic responses of osteochondral allografts to re-warming. *J Orthop Res* 2019
6. Chastain KS, et al. Metabolic responses of meniscal tissue to focal collagenase degeneration. *Conn Tiss Res* 2019
7. Thomas DM, et al. Biomechanical properties of bioabsorbable fixation for osteochondral shell allografts. *J Knee Surg* 2019
8. Lewis RA, et al. Knee ultrasonography to determine risk for noncontact injuries in collegiate football. *J Knee Surg* 2019
9. Cook JL. Bone marrow aspirate biologics for OCA – because we can or because we should? *Arthroscopy* 2019
10. Kuroki K, et al. Histologic assessment of ligament vascularity and synovitis in dogs with CCLD. *Am J Vet Res* 2019
11. Ahner CA, et al. Biomarkers in serum and urine for presence or absence of hip dysplasia in a canine model. *J Orthop Res* 2019
12. Oladeji LO, et al. Cooled radiofrequency ablation for treatment of OA-related knee pain. *J Knee Surg* 2019
13. Franklin SP, et al. T1rho, T2 mapping and EPIC-uCT imaging in a canine model of osteochondral injury. *J Orthop Res* 2019