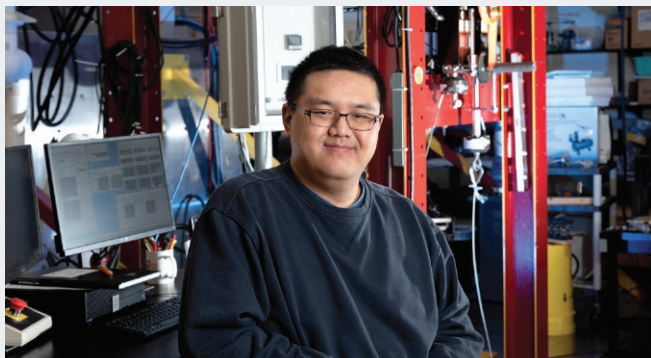


THE McCAIG INSTITUTE FOR BONE AND JOINT HEALTH

BIOMECHANICS LAB REPORT 2023/24

INTRODUCTION

The McCaig Institute for Bone and Joint Health welcomed Joshua Mang as a new technician in the McCaig Institute Biomechanics Lab in May of 2023, succeeding Kent Paulson in his role.



EQUIPMENT AND MAINTENANCE

The Biomechanics Lab houses four primary testing machines: two large MTS frames, the 858 Mini Bionix, and the Electroforce 3230, all routinely maintained and fully operational, with emergency protocols in place.

FINANCIAL SUMMARY

Total expenses of \$100,146 were incurred, including \$90,254 for the technician salary and benefits of Mang and Paulson, graciously supported by the Section of Orthopaedic Surgery and the Department of Surgery. Maintenance expenditures accounted for \$9,892.

PROJECTS

Faculty of Veterinary Medicine

- Model of equine stifle soft-tissue injury*
 - Dr. Holly Sparks & 2 graduate students
- Tendon and ligament strain in the equine forelimb*
 - Dr. Holly Sparks & graduate student

Industry

Department of Cell Biology & Anatomy

- Non-invasive ACL rupture in mice*
 - Dr. Roman Krawetz & graduate student
- Effects of antiepileptic drugs on bone remodeling*
 - Dr. Roman Krawetz & graduate student

Schulich School of Engineering

- Collagenous structure changes in patients with spinal disorders*
 - Dr. Neil Duncan & graduate student

Department of Radiology

- Atlas of articular cartilage across species*
 - Dr. Sarah Manske & graduate student

Faculty of Kinesiology

- Zoledronic acid and ApoA-1 in ovariectomized mice*
 - Dr. Brent Edwards & undergraduate student

Department of Surgery/Section of Orthopaedic Surgery

- Contribution of degenerated discs to spinal disorders*
 - Dr. Ganesh Swamy & graduate student
- Optimal dual plate configuration for humerus fractures*
 - Dr. Prism Schneider & staff
- Biomechanical analysis of femoral neck fixation*
 - Dr. Prism Schneider & 2 residents

