



M^cCAIGINSTITUTE
FOR BONE AND JOINT HEALTH

The Biomechanics Lab

AT THE McCaig Institute for Bone and Joint Health

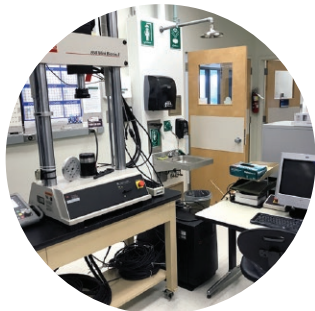
The McCaig Institute's recently updated biomechanics facility supports the next generation of biomechanics researchers by providing equipment and expertise that will take their programs to the next level.

The facility is equipped with biomechanical devices that can apply static and dynamic loads in compression, tension, torsion and bending. Testing can be accommodated across multiple dimensional scales from the cellular level to full organs. The facility also includes dissection tables, surgical suites, tissue preparation rooms, a FaroArm and freezer space.



UNIVERSITY OF CALGARY
CUMMING SCHOOL OF MEDICINE

Mobility for Life.

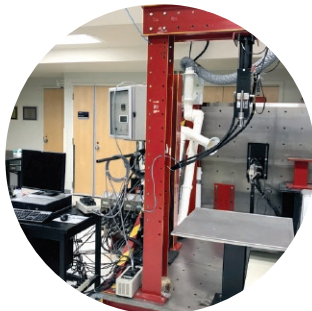


858 Mini Bionix

The axial/torsional configuration of the Bionix tabletop system enables biaxial testing, controlling torsional moments up to ± 100 N·m and total rotations of 270° . It is excellent for testing the durability and wear properties of components such as knee, hip and spine implants. When paired with specialized subsystems and accessories, it is capable of performing both simple and complex kinematics studies of skeletal tissue and orthopaedic constructs.

Sample Project:

- Human femur and tibia radial fractures under compression

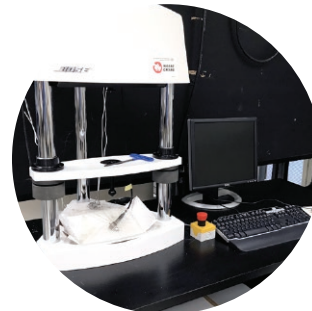


MTS_1 & MTS_2

Currently MTS_1 & MTS_2 both have two actuators that are configured in a horizontal and vertical orientation. However either system can borrow the other two actuators and configure them to best suit a four actuator test.

Sample Projects:

- Rabbit knee capsule stiffness (single horizontal actuator)
- Rabbit MCL strength (single vertical actuator)
- Rat Achilles tendon strength (single vertical actuator)
- Sheep MCL strength (single horizontal actuator)
- Surgical Table strength (single vertical actuator)



Bose ElectroForce 3220

The ElectroForce 3220 test instruments feature a 225 N maximum force. With the versatility of static to 300 Hz frequency response, the table-top configuration is adaptable to a variety of biomedical research and engineered materials test applications, creep under dynamic loading, fatigue, stress relaxation and special environments (water bath).

Sample Projects:

- Tuna Tendon strength
- Aorta strength (axial and circumferential)
- Plastics strength
- Skin strength
- Surgical suturing methods for tissue damage

A full-time biomechanics technician with orthopaedics expertise is on-hand to support research projects, ensuring high quality, accurate data collection and analysis.

For more information, please contact mccaig@ucalgary.ca.