BioMOST Lab

The BioMechanics Of Soft Tissues, or BioMOST, Lab develops tools for plumbing the human body. Principles in biomechanics, biomaterials, and medical image processing are used to study diseases of the cardiovascular and pulmonary systems and the devices used to repair them. The lab's work includes experimental and computational methods. Experimental methods include fluid flow loops, tissue mechanical testing, electrochemical methods, and fabrication of silicone replicas. Computational methods include finite element analysis, computational fluid dynamics, computational geometry, image processing, and many others.

Who We Work With

- American Heart Association
- Carver Charitable Trust
- Fulbright Foundation
- National Institutes of Health
- National Science Foundation

Lab Director: Suresh M.L. Raghavan

- Professor of Biomedical Engineering
- Fulbright Distinguished Chair
- Fellow of the American Institute of Medical and Biological Engineering

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RESEARCH HIGHLIGHTS

Cardiopulmonary devices

- Design of an electrochemical catheter for measurement of cardiac output.
- Study of endovascular graft design for aortic aneurysms.

Critical care devices

- Study of flow monitoring during extracorporeal life support.
- Study of safe protocols for arterial flushing.

Aneurysms

- Human subjects research on predicting brain and aortic aneurysms' growth and rupture using computational biomechanics.
- Experimental study of the heterogeneity in failure properties of harvested human abdominal aortic aneurysms' tissue.

Lung biomechanics

- Development of novel measures of regional lung deformation during breathing.
- Finite element simulation of lung deformation during breathing.

Biomaterials

- Development of durable, thin biocompatible membranes for cardiovascular applications.

LEARN MORE

SCHEDULE A VISIT

by contacting Suresh Raghavan at **ml-raghavan@uiowa.edu** or **319-335-5704**

CONNECT WITH US

on our website **biomost.engineering.uiowa.edu**