

Biomedical Engineering Faculty & Research Areas

Departmental Graduate Faculty (may serve on the BMEGSC and act as research advisors and/or supervisors)

Gunjan Agarwal, Associate Professor, Biomedical Engineering and Internal Medicine (Cardiology); Ph.D., Tata Institute of Fundamental Research, Bombay, India.

Single molecule interactions using atomic force microscopy and other techniques.
gunjan.agarwal@osumc.edu

B. Rita Alevriadou, Associate Professor, Biomedical Engineering and Internal Medicine (Cardiology); Ph.D., Rice University, Houston, TX.

Vascular mechanobiology, cell/molecular engineering with emphasis on the cardiovascular system, free radicals and oxidative stress, molecular mechanisms of cell adhesion, inflammation/thrombosis, fluid mechanics in medicine/biology.
alevriadou.1@osu.edu or Rita.Alevriadou@osumc.edu

William A. Brantley, Professor, Restorative Dentistry, Prosthodontics and Endodontics; Ph.D., Carnegie Mellon.

Dental biomaterials.
brantley.1@osu.edu

Samir N. Ghadiali, Associate Professor and Director of Graduate Studies, Biomedical Engineering; Ph.D. Tulane University.

Mechanobiology of Acute Lung Injury, Eustachian Tube Dysfunction, Image-Based Modeling, Multi-Scale Modeling, Biofluid Mechanics, Cell Mechanics and Focal Adhesion Dynamics/Signaling.
ghadiali.1@osu.edu

Keith J. Gooch, Associate Professor, Biomedical Engineering; Ph.D. Penn State.

Regulation of the differentiation, growth, and remodeling of cells and tissues. Tissue engineering as applied to the cardiovascular system, cartilage, and diabetes.
gooch.20@osu.edu

Derek J. Hansford, Associate Professor, Biomedical Engineering; Ph.D., Berkeley.

Biomedical microdevices, microfabrication of biomaterials, biocompatibility of microfabricated structures.
hansford.4@osu.edu

Shawn (Xiaoming) He, Associate Professor, Biomedical Engineering; Ph.D., University of Minnesota. Methods for drug/gene delivery, tissue engineering and regenerative medicine.
he.429@osu.edu

Thomas J. Hund, Assistant Professor, Biomedical Engineering; Ph.D., Case Western Reserve. Cardiac disease and arrhythmia mechanisms via ion channel targeting and regulation.
hund.1@osu.edu

Richard T. Hart, Edgar C. Hendrickson Professor and Department Chair, Biomedical Engineering; Ph.D., Case Western Reserve. Finite element analysis of biological tissues and structures.
hart.322@osu.edu

Douglas Kniss, Professor, Biomedical Engineering and Obstetrics & Gynecology; Ph.D., Ohio State.
Studies of cell-matrix interactions that control stem cell differentiation for tissue engineering applications.
kniss.1@osu.edu

Stephen C. Lee, Associate Professor, Biomedical Engineering and Chemical and Biomolecular Engineering; Ph.D., Minnesota.
Biomedical nanotechnology.
stephen.lee@osumc.edu

Alan S. Litsky, Associate Professor, Biomedical Engineering and Orthopaedics; Sc.D., MIT; M.D., Columbia.
Hard-tissue biomaterials, implant fixation, research ethics.
litsky.1@osu.edu

Jun Liu, Assistant Professor, Biomedical Engineering; Ph.D., Ohio State.
Bioacoustics, ocular biomechanics, molecular imaging.
liu.314@osu.edu

Cynthia J. Roberts, Professor and Martha G. and Milton Staub Chair for Research in Ophthalmology, Biomedical Engineering and Ophthalmology; Ph.D., Ohio State.
Ophthalmic engineering.
roberts.8@osu.edu

Mark A. Ruegsegger, Assistant Professor of Practice, Biomedical Engineering; Ph.D., Case Western Reserve.
Cardiovascular biomaterials.
ruegsegger.1@osu.edu
Undergraduate Studies Chair: Questions about undergraduate studies issues should be addressed to bmeadvisor@osu.edu.

Ronald Xu, Associate Professor, Biomedical Engineering; Ph.D., Massachusetts Institute of Technology.
Medical device design & innovation, biomedical imaging, tissue optics, micro fabrication and tissue engineering.
xu.202@osu.edu

Yi Zhao, Assistant Professor, Biomedical Engineering; Ph.D., Boston University.
Non-conventional microfabrication, microdevices and nanodevices for biosensing/actuating applications, NEMS-based study of cellular and sub-cellular mechanics.
zhao.178@osu.edu

Joint Faculty

Heather M. Powell, Assistant Professor, Materials Science and Engineering and Biomedical Engineering; Ph.D., Ohio State.

Biomaterials for tissue regeneration, tissue engineering, and biomechanics, study of biomimetic and biomechanical strategies to generate tissue scaffolds.

powell.299@osu.edu

Jessica Winter, Assistant Professor, Chemical and Biomedical Engineering; Ph.D., University of Texas at Austin, Austin, TX.

Nanoscale neural prosthetics, surface patterning and neural adhesion, bio-inspired nanoparticle surfaces.

winter.63@osu.edu

Emeritus Faculty

Andreas von Recum, Professor Emeritus, Biomedical Engineering, Experimental Surgery, Oral Biology; D.V.M. and Dr. Vet. Med., Free University, Berlin, Germany; Ph.D., Colorado State University, Fort Collins, CO.

Biomaterials, biocompatibility.

vonrecum.1@osu.edu

Biomedical Engineering Affiliated Graduate Faculty (may serve on the BMEGSC and act as research advisors and/or supervisors)

Email addresses can be found at OSU.EDU: <https://directory.osu.edu/findpeople.php>

Recent entries in italics may not include updated research info, but can be searched on osu.edu!

Hojjat Adeli, Professor, Biomedical Informatics; Ph.D., Stanford.

Editor-in-Chief, Integrated Computer-Aided Engineering

Editor-in-Chief, International Journal of Neural Systems

Biocomputing, wavelets, biomedical imaging, signal processing of brain waves, EEG analysis pts with neurological disorders, neuroengineering.

Sudha Agarwal, Chair, Oral Biology; Ph.D., Northeastern University.

Cartilage and bone tissue engineering.

Kristy Ainslie, Assistant Professor, Pharm CBO/Coll, Chemical & Biomolecular Eng; Ph.D., Penn State. ainslie.1@osu.edu

Peter M. Anderson, Professor, Materials Science and Engineering; Ph.D., Harvard University.

Mechanical testing of soft tissue via indentation

Kamran Barin, Assistant Professor, Otolaryngology; Ph.D., Ohio State.

Vestibular function testing, dizziness and balance control, postural control.

Thomas M. Best, Professor and Pomerene Chair, Department of Family Medicine; Ph.D., Duke

University.
Co-Medical Director, The OSU Sports Medicine Center.

Thomas E. Blue, Professor, Mechanical Engineering; Ph.D., Michigan.
Boron neutron capture therapy, radiation therapy.

John Bolte, Assistant Professor, Biomechanics; Ph.D., Ohio State.
Biomechanics, Injury Biomechanics, Anatomy.

Carlos Castro, Assistant Professor, Mechanical & Aerospace Engineering; Ph.D., Massachusetts Institute of Technology. castro.39@osu.edu

Jeff Chalmers, Professor, Chemical Engineering; Ph.D., Cornell.
Immunomagnetic cell separation, hydrodynamic effects on cells.

Shive Chaturvedi, Associate Professor, Civil Engineering; Ph.D., Indian Institute of Technology.
Biomaterials, Neuropsychology, neuroethics, brain-imaging-stimuli correlations.

Ajit Chaudhari, Assistant Professor, Orthopaedics; Ph.D., Stanford University.
Prevention and treatment of sports injuries, Biomechanics, Gait and Motion Analysis.

Bradley D. Clymer, Associate Professor, Biomedical and Electrical & Computer Engineering;
Ph.D., Stanford.
Imaging: MRI, mammography, ultrasound, x-ray computed tomographic microscopy; signal processing of EEG, ECG, phonocardiograph.

A. Terrence Conlisk, Professor, Mechanical Engineering; Ph.D., Purdue.
Nanotechnology and modeling.

Roger A. Crawfis, Associate Professor, CIS; Ph.D., California, Davis.
Computer graphics, scientific and medical visualization, volume rendering.

Juan Crestanello, Associate Professor, Surgery; M.D., University of the Republic of Uruguay Medical School. juan.crestanello@osumc.edu

Roger Dzwonczyk, Clinical Associate Professor, Anesthesiology; M.S., Ohio State.
Physiologic signal processing, bioinstrumentation.

Somnath Ghosh, Professor, Mechanical Engineering; Ph.D., Michigan.
Computational mechanics.

Ernesto Goldman, Associate Professor, Anesthesiology; M.D., Ohio State.
Modeling of cardiopulmonary interactions during airway obstruction; 3-D real time cardiac contractility during increased airway resistance.

Deborah M. Grzybowski, Assistant Professor, Ophthalmology; Ph.D., Ohio State.

Biofluid mechanics, cell mechanics, fluid-tissue interactions, cerebrospinal fluid outflow, ex vivo & computational modeling.

Metin Gurcan, Associate Professor, SBS-Biomedical Informatics; Ph.D., Bilkent (Ankara).
metin.gurcan@osumc.edu

Robert L. Hamlin, Professor, Veterinary Biosciences; D.V.M., Ph.D., Ohio State.
Pathophysiology of heart failure, pulmonary mechanics.

Guanglong He, Assistant Professor, Internal Medicine. Ph.D., Chinese Academy of Sciences, China.
Electron paramagnetic resonance spectroscopy and imaging.

Deborah Givens Heiss, Associate Professor, Physical Therapy Division; Ph.D., Iowa; PT, OCS.
Spine biomechanics, motor control.

Jill Heathcock, Assistant Professor, Pediatrics, Director, Infant Lab; Ph.D., University of Delaware. heathcock.2@osu.edu

Hooshang Hemami, Professor, Electrical Engineering; Ph.D., Ohio State.
Dynamics, control, and simulation of human movement.

Timothy E. Hewett, Professor, Director, Research, Sports Med, SBS-Physiology & Cell Biology; Ph.D., University of Cincinnati. hewett.12@osu.edu

Kun Huang, Assistant Professor, Biomedical Informatics; Ph.D., U. Illinois-Urbana.
Computer vision, machine learning, medical imaging, and computational biology.

William M. Johnston, Professor, Restorative and Prosthetic Dentistry; Ph.D., Michigan.
Restorative materials.

Kenneth H. Jones, Assistant Professor, Biomedical Informatics; Ph.D., Tulane University. Director,
Anatomy.
Biomechanical effects of trauma.

Steven E. Katz, Associate Professor, Ophthalmology; M.D., Ohio State.
Orbital diseases, ocular computed tomography.

*Dogyoon Kim, Assistant Professor, Orthodontics; Ph.D., Rensselaer Polytechnic Institute.
kim.2508@osu.edu*

P. Ewen King-Smith, Professor, Optometry; Ph.D., Cambridge.
Tear film and interferometry, dry eye conditions.

Michael V. Knopp, M.D., Ph.D., Chairman and Professor of Radiology, Novartis Chair of Imaging

Research.
Biomedical imaging.

*Arunark Kolipaka, Assistant Professor, Radiology; D.Phil, Mayo Graduate School of Medicine.
kolipaka.1@osu.edu*

Periannan Kuppasamy, Professor, Internal Medicine & Surgery, William D. and Jacquelyn L. Wells Chair in Imaging Research; Ph.D., IIT (Madras).
EPR spectroscopy, imaging.

John J. Lannutti, Professor, Materials Science and Engineering; Ph.D., Washington (Seattle).
Tissue engineering scaffolds via electrospinning, bioactive polymer surfaces via subcritical fluids, nanofluidics, novel instrumentation to wear of total hip replacement.

Larry Lasky , Associate Professor, Pathology; M.D., Michigan.
Artificial immune system.

Steven Lavender, Associate Professor, Industrial and Welding Engineering, Orthopaedics; Ph.D., Ohio State.
Occupational biomechanics and ergonomics.

L. James Lee, Professor, Chemical Engineering; Ph.D., Minnesota.
Director, NSF Center for Advanced Polymer and Composite Engineering.

Robert J. Lee, Associate Professor, Pharmaceutics; Ph.D., Purdue University.
Novel receptor-targeted drug delivery systems and therapeutic strategies.

Robert Lee, Professor, Electrical Engineering; Ph.D., Arizona.
Imaging, electromagnetics.

Lawrence E. Leguire, Clinical Associate Professor, Ophthalmology; Ph.D., Vanderbilt.
Human electrophysiology.

Richard Lembach , Professor, Ophthalmology; M.D., Ohio State.
Ophthalmic biomechanics, refractive surgery.

Chenglong Li, Associate Professor, Medicinal Chemistry; Ph.D., Cornell University.
X-ray macromolecular crystallography, molecular docking, molecular dynamics, quantum chemistry to statistical mechanics and non-equilibrium and equilibrium thermodynamics.

Xiaoping Liu, Assistant Professor, Internal Medicine; Ph.D., Wuhan University (China).
Electrochemical sensors, diffusion-reaction kinetics.

Frederick R. Long, Clinical Associate Professor, Radiology; M.D., Yale.
Pediatric radiology and imaging.

William S. Marras, Professor, Industrial and Systems Engineering; Ph.D., Wayne State.
Occupational biomechanics, ergonomics, orthopedic biomechanics.

Alex M. Martinez, Assistant Professor, Electrical Engineering; Ph.D., Universitat Autònoma de Barcelona (Spain).
Vision, pattern recognition and cognitive science.

Peter J. Mohler, Director DHLRI, Adjunct Professor, SBS-Physiology & Cell Biology; Ph.D., University of North Carolina. mohler.94@osu.edu

Nicanor I. Moldovan, Assistant Professor, Biomedical Engineering and Cardiology; Ph.D., Bucharest, Romania.
Angiogenesis; Micro and nano patterning, bioelectric interfaces.

Srinivasan Parthasarathy, Assistant Professor, CIS; Ph.D., Rochester.
Data mining.

William S. Pease, Professor, Physical Medicine and Rehabilitation; M.D., Cincinnati.
Human motion, Electromyography.

Alistair B.M. Phillips, Assistant Professor, Surgery; M.D., Columbia University.
Cardiothoracic Surgery.

Kimerly Powell, Assistant Professor, Radiology; Ph.D., Ohio State. powell.4@osu.edu

Subha V. Raman, Assistant Professor, Internal Medicine; M.D., Ohio State University.
Noninvasive imaging in cardiovascular diagnosis and treatment; atherosclerosis, heart disease in women, microvascular disease, and heritable myocardial disease.

Ronald M. Reano, Assistant Professor, Electrical & Computer Engineering; Ph.D., University of Michigan.
Micro/nano-fabrication of wireless/terahertz/optical devices, bionanotechnology, nanoimprint lithography, MEMS, polymer and semiconductor nonlinear/ultrafast electro-optics.

Stanislav Rokhlin, Professor, Welding Engineering; Ph.D., Leningrad EE Institute.
Nondestructive evaluation with radiographic, optical, ultrasonic, and electromagnetic technology.

Sashwati Roy, Assistant Professor, Surgery; Ph.D., University of Kuopio, Kuopio, Finland.
Antioxidant and redox biology focusing on signal transduction and gene expression.

Douglas W. Scharre, Associate Professor; M.D., Georgetown.
Neuroimaging in dementia.

Petra Schmalbrock, Associate Professor, Radiology; Ph.D., Munster (Germany).
MRI pulse sequence development, high resolution imaging for neuroapplications.

Laura C. Schmitt, Assistant Professor, School of Allied Medical Professions; Ph.D., University of Delaware. schmitt.149@osu.edu

Scott Schricker , Assistant Professor, Restorative Dentistry, Prosthodontics, and Endodontics;
Ph.D., California.
Polymer chemistry, biomaterials, tissue engineering, dental materials.

Chandan Sen, Professor, Surgery & Molecular & Cellular Biochemistry; Ph.D., University of
Kuopio, Finland.
Director, Oxidant and antioxidant biology; DNA micro array and genetics; wound healing.

William E. Shiels II, Clinical Associate Professor, Radiology; D.O., Phila. Coll. of Osteopathic
Med.
Pediatric radiology.

Orlando P. Simonetti, Associate Professor of Internal Medicine and Radiology; Ph.D., Case
Western Reserve University.
Cardiovascular Magnetic Resonance, Computed Tomography.

Robert H. Small, Assistant Professor, Clinical; M.D., Ohio State.
Functional MRI; Physiological modeling.

Philip J. Smith, Professor, Industrial and Systems Engineering; Ph.D., Michigan.
Human-computer interaction.

Robert L. Stephens, Jr. , Associate Professor, Physiology; Ph.D., Ohio State.
Neurobiology of chronic pain syndromes.

DeLiang Wang, Professor, CSE; Ph.D., USC.
Machine perception, neural networks.

Paul A. Weber, Professor, Ophthalmology; M.D., Northwestern University. weber.5@osu.edu

Richard White, Chair and Professor, Radiology; M.D., Duke University. richard.white@osumc.edu

Shang-Tian Yang, Professor, Chemical Engineering; Ph.D., Purdue.
Bioprocessing, cell and tissue cultures.

Jay Zweier, Professor, Internal Medicine; M.D., Maryland.
Director, Davis Heart and Lung research Institute.