

Mechanical Engineering & Materials Science

Website: <https://mems.wustl.edu/academics/undergraduate/index.html>

Faculty

Chair

Philip V. Bayly (<https://engineering.wustl.edu/faculty/Philip-Bayly.html>)

The Lee Hunter Distinguished Professor of Mechanical Engineering
PhD, Duke University
Nonlinear dynamics, vibrations, biomechanics

Associate Chairs

David A. Peters (Mechanical Engineering) (<https://engineering.wustl.edu/faculty/David-Peters.html>)

McDonnell Douglas Professor of Engineering
PhD, Stanford University
Aeroelasticity, vibrations, helicopter dynamics, aerodynamics

Katharine M. Flores (Materials Science) (<https://engineering.wustl.edu/faculty/Katharine-Flores.html>)

Christopher I. Byrnes Professor of Engineering
PhD, Stanford University
Mechanical behavior of structural materials

Endowed Professors

Ramesh K. Agarwal (<https://engineering.wustl.edu/faculty/Ramesh-Agarwal.html>)

William Palm Professor of Engineering
PhD, Stanford University
Computational fluid dynamics, computational physics

Guy M. Genin (<https://engineering.wustl.edu/faculty/Guy-Genin.html>)

Harold & Kathleen Faught Professor of Mechanical Engineering
PhD, Harvard University
Solid mechanics, fracture mechanics

Mark J. Jakiela (<https://engineering.wustl.edu/faculty/Mark-Jakiela.html>)

Lee Hunter Professor of Mechanical Design
PhD, University of Michigan
Mechanical design, design for manufacturing, optimization, evolutionary computation

Srikanth Singamaneni (<https://engineering.wustl.edu/faculty/Srikanth-Singamaneni.html>)

Lilyan and E. Lisle Hughes Professor of Mechanical Engineering
PhD, Georgia Institute of Technology
Microstructures of cross-linked polymers

Professors

Jianjun Guan (<https://engineering.wustl.edu/faculty/Jianjun-Guan.html>)

PhD, Zhejiang University
Biomimetic biomaterials synthesis, scaffold fabrication

Jessica E. Wagenseil (<https://engineering.wustl.edu/faculty/Jessica-Wagenseil.html>)

DSc, Washington University
Arterial biomechanics

Associate Professors

Spencer P. Lake (<https://engineering.wustl.edu/faculty/Spencer-Lake.html>)

PhD, University of Pennsylvania
Soft-tissue biomechanics

Xianglin Li (<https://xianglinli.wixsite.com/mysite/>)

PhD, University of Connecticut
Multiphase heat and mass transfer in energy systems; computational fluid dynamics

J. Mark Meacham (<https://engineering.wustl.edu/faculty/Mark-Meacham.html>)

PhD, Georgia Institute of Technology
Micro-/nanotechnologies for thermal systems and the life sciences

Rohan Mishra (<https://engineering.wustl.edu/faculty/Rohan-Mishra.html>)

PhD, The Ohio State University
Computational materials science

Amit Pathak (<https://engineering.wustl.edu/faculty/Amit-Pathak.html>)

PhD, University of California, Santa Barbara
Cellular biomechanics

Assistant Professors

Matthew R. Bersi (<https://engineering.wustl.edu/faculty/Matthew-Bersi.html>)

PhD, Yale University
Biomedical engineering

Sang-Hoon Bae (<https://engineering.wustl.edu/faculty/Sang-Hoon-Bae.html>)

PhD, University of California, Los Angeles
Materials growth, optoelectronics, renewable energy

Patricia B. Weisensee (<https://engineering.wustl.edu/faculty/Patricia-Weisensee.html>)

PhD, University of Illinois at Urbana-Champaign
Thermal fluids

Professors of the Practice

Kashif Masud Awan (<https://engineering.wustl.edu/faculty/Kashif-Masud-Awan.html>)

PhD, University of Ottawa
Biosensors, quantum computers, optical communication

Swami Karunamoorthy (<https://engineering.wustl.edu/faculty/Swami-Karunamoorthy.html>)

DSc, Washington University
Helicopter dynamics, engineering education

Teaching Professors

Emily J. Boyd (<https://engineering.wustl.edu/faculty/Emily-Boyd.html>)

PhD, University of Texas at Austin
Thermofluids

Ruth J. Okamoto (<https://engineering.wustl.edu/faculty/Ruth-Okamoto.html>)

DSc, Washington University
Biomechanics, solid mechanics

Research Assistant Professor

Hong Niu (<https://engineering.wustl.edu/faculty/Hong-Niu.html>)

PhD, Ohio State University
Biomaterials, regenerative medicine

Joint Faculty

Richard L. Axelbaum (Energy, Environmental & Chemical Engineering) (<https://engineering.wustl.edu/faculty/Richard-Axelbaum.html>)

Stifel & Quinette Jens Professor of Environmental Engineering Science
PhD, University of California, Davis
Combustion, nanomaterials

Elliot L. Elson (Biochemistry & Molecular Biophysics) (<https://profiles.wustl.edu/en/persons/elliott-elson/>)

Professor Emeritus of Biochemistry & Molecular Biophysics
PhD, Stanford University
Biochemistry, molecular biophysics

Michael D. Harris (Physical Therapy, Orthopaedic Surgery, and Mechanical Engineering & Materials Science) (<https://pt.wustl.edu/people/michael-d-harris-phd/>)

PhD, University of Utah
Whole body and joint-level orthopaedic biomechanics

Kenneth F. Kelton (Physics) (<https://physics.wustl.edu/people/kenneth-f-kelton/>)

Arthur Holly Compton Professor of Arts & Sciences
PhD, Harvard University
Study and production of titanium-based quasicrystals and related phases

Eric C. Leuthardt (Neurological Surgery and Biomedical Engineering) (<https://neurosurgery.wustl.edu/people/eric-c-leuthardt-md/>)

MD, University of Pennsylvania School of Medicine
Neurological surgery

Lori Setton (Biomedical Engineering) (<https://engineering.wustl.edu/faculty/Lori-Setton.html>)

Lucy and Stanley Lopata Distinguished Professor of Biomedical Engineering
PhD, Columbia University
Biomechanics for local drug delivery, tissue regeneration specific to the knee joints and spine

Matthew J. Silva (Orthopaedic Surgery) (<http://www.orthoresearch.wustl.edu/content/Laboratories/2963/Matthew-Silva/Silva-Lab/Overview.aspx>)

Julia and Walter R. Peterson Orthopaedic Research Professor
PhD, Massachusetts Institute of Technology
Biomechanics of age-related fractures and osteoporosis

Simon Tang (Orthopaedic Surgery and Biomedical Engineering) (<http://www.orthoresearch.wustl.edu/content/Laboratories/3043/Simon-Tang/Tang-Lab/Overview.aspx>)

PhD, Rensselaer Polytechnic Institute
Biological mechanisms

Senior Professors

Phillip L. Gould

PhD, Northwestern University
Structural analysis and design, shell analysis and design, biomechanical engineering

Kenneth L. Jerina (<https://engineering.wustl.edu/faculty/Ken-Jerina.html>)

DSc, Washington University
Materials, design, solid mechanics, fatigue, fracture

Shankar M.L. Sastry

PhD, University of Toronto
Materials science, physical metallurgy

Salvatore P. Suter

PhD, California Institute of Technology
Viscous flow, biorheology

Barna A. Szabo

PhD, State University of New York at Buffalo
Numerical simulation of mechanical systems, finite-element methods

Senior Lecturer

Louis G. Woodhams (<https://engineering.wustl.edu/faculty/Louis-Woodhams.html>)

BS, University of Missouri–St. Louis
Computer-aided design

Lecturers

Chiamaka Asinugo (<https://engineering.wustl.edu/faculty/Chiamaka-Asinugo.html>)

MS, Washington University
Mechanical engineering design

Sharniece Holland (<https://engineering.wustl.edu/faculty/Sharniece-Holland.html>)

PhD, University of Alabama
Additive manufacturing, mathematics

Jeffery Krampf (<https://engineering.wustl.edu/faculty/Jeff-Krampf.html>)

MS, Washington University
Fluid mechanics, modeling, design

J. Jackson Potter (<https://engineering.wustl.edu/faculty/Jackson-Potter.html>)

PhD, Georgia Institute of Technology
Senior design

H. Shaun Sellers (<https://engineering.wustl.edu/faculty/Shawn-Sellers.html>)

PhD, Johns Hopkins University
Mechanics, materials

Adjunct Instructors

Ricardo L. Actis

DSc, Washington University
Finite element analysis, numerical simulation, aircraft structures

Robert G. Becnel

MS, Washington University
FE review

Andrew W. Cary

PhD, University of Michigan
Computational fluid dynamics

Richard S. Dyer

PhD, Washington University
Propulsion, thermodynamics, fluids

Timothy W. Jackson

PhD, University of Washington
Structural analysis, dynamics

Richard R. Janis

MS, Washington University
Building environmental systems

Gary D. Renieri

PhD, Virginia Polytechnic Institute and State University
Structural applications, composite materials

Krishnan K. Sankaran

PhD, Massachusetts Institute of Technology
Metallic materials

Michael C. Wendl

DSc, Washington University
Mathematical theory, computational methods in biology and engineering