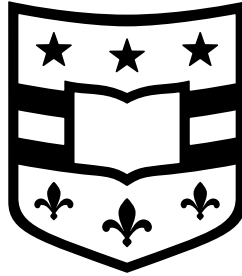




McKelvey School of Engineering

**PhD HOODING &
RECOGNITION CEREMONY**

Wednesday, May 13, 2026



**Washington University in St. Louis
McKelvey School of Engineering**

**PhD HOODING &
RECOGNITION CEREMONY**

Wednesday, May 13, 2026

7 p.m.

Graham Chapel

*This booklet contains participants for today's ceremony.
Appearing in this booklet is not a guarantee of degree conferral.*

PROGRAM

WELCOME & OPENING REMARKS

Aaron Bobick

Dean and James M. McKelvey Professor

RECOGNITION OF DEGREE CANDIDATES

Angela Wilson

Associate Dean for Graduate Programs

REMARKS AND RECOGNITION OF DOCTORAL CANDIDATES

Aaron Bobick

CLOSING REMARKS

Aaron Bobick

*Please remain seated until the recession
has left the chapel.*

BIOMEDICAL ENGINEERING

Lori Setton

*Chair and Lucy & Stanley Lopata
Distinguished Professor of
Biomedical Engineering*

COMPUTER SCIENCE & ENGINEERING

Roch Guérin

*Chair and Harold B. & Adelaide G. Welge
Professor of Computer Science*

PRESTON M. GREEN DEPARTMENT OF ELECTRICAL & SYSTEMS ENGINEERING

ShiNung Ching

Chair and Professor

ENERGY, ENVIRONMENTAL & CHEMICAL ENGINEERING

Joshua Yuan

*Chair and Lucy & Stanley
Lopata Professor*

MECHANICAL ENGINEERING & MATERIALS SCIENCE

James Friend

*Chair and Stephen F. & Camilla T. Brauer
Distinguished Professor*

INTERDISCIPLINARY PROGRAMS

Computational & Data Sciences

Patrick Fowler

Program Co-Director and Professor

Imaging Science

Joe Culver

*Program Co-Director and Sherwood
Moore Professor of Radiology*

Joseph O'Sullivan

*Program Co-Director and
The Samuel C. Sachs Professor
of Electrical Engineering*

Institute of Materials Science & Engineering

Katharine Flores

*Christopher I. Byrnes Professor,
Department of Mechanical Engineering
& Materials Science*

*Director, Institute of Materials
Science & Engineering*

Vice Dean for Graduate Education

BIOMEDICAL ENGINEERING

Yelyzaveta Bessonova

Neuromodulation in Olfactory Networks: Inferring Circuit Motifs and Predicting Behavioral Outcomes from Neural Response Changes

Shengxuan Chen

Large Field-of-View Two-Photon Microscopy for Functional Imaging in Mouse

Alexandra Davis

Elucidating the Role of the Synovial Matrix in Drug Transport and Disease

Hannah DeVore

Beginning the Shift from Laboratory to Everyday Life with Diffuse Optical Tomography

Esse Michelle Evbuomwan

Decoding and Developing Bacterial Systems for Clinical Impact

Siaka Fadera

Enhancing Brain Molecular Transport: Focused Ultrasound Modulation of the Glymphatic System for Drug Delivery and Waste Clearance

Anushka Gerald

Schwann Cell Mapping and Function in the Regeneration of Bone from Different Embryonic Origins

Anna Pauline Goestenkors

Conducting Granular Hydrogels: Coupling Dynamic Mechanical Properties, Cell-Scale Porosity, and Bioelectronic Interfaces

Jiaxiao Han

Advancing Photoacoustic Microscopy for Neurovascular Imaging

Keshav Kailash

Mechanics and Transport Across the Thoracic Aortic Wall: Experimental and Computational Characterization of Elastic Fiber-Deficient Arteries

Alice Liu

Acquired Von Willebrand Syndrome from Pathological Cardiovascular Flow

Dom Marticorena

Individualized Models of Perception and Cognition

Sayli Modak

Engineered Heart Tissue Model of Iron Overload Cardiomyopathy

Gerardo Enrique Molina

Functional and Spatially Specialized Inhibition and Neuromodulation during Learning in the Hippocampus

Taylor Nie

Deep Learning Enhanced Multimodal Endoscopy for Colorectal Cancer: From Real-Time Software Architecture to Clinical Response Assessment

Somtochukwu Stellamaris Okafor

3D-Printed Bioelectronic Scaffolds: From Tissue-Inspired Material Design to Devices for Dynamic Monitoring of Tissue Models

Martina Marras Seidel

*Molecular Mechanisms of Cardiotoxicity
Linked to Tyrosine Kinase Inhibition*

Kevin Xu

*A Prefrontal Cortex-Hypothalamus Circuit for Heart Rate
Control in Non-Human Primates*

Minghao Xue

*Towards Fully Automated Diagnosis: Deep Learning and
Multimodal Fusion for Ultrasound-Guided Diffuse
Optical Tomography in Breast Cancer*

Haini Hanru Zhang

*Multi-Dimensional Theranostic Platform for
Precision Cancer Interventions*

COMPUTATIONAL & DATA SCIENCES

Sandeep Acharya

*Thinking beyond Association Tests: Using Mathematical Models to
Identify Genes Influencing Exceptional Longevity*

Lydia Nicole Reader

*The Cul-de-Sac Paradox: The Relationship between Walkability,
Playability, and Children's Physical Activity*

Ivy Smith

*Bearing the Burden: The Emotional and Psychological Impact of Racial
Stress on Black Women in Missouri*

Lauren Sara Treiman

The Consequences of Using Human Behavior to Train AI

COMPUTER SCIENCE & ENGINEERING

Jiarui Feng

*Towards Modern Graph Learning: From Graph Neural Networks
to Large Language Models*

Aaron Handleman

Reducing Work Overhead in Work Stealing Runtimes

Yiwen Ju

Geometric Modeling through Multiple Implicit Functions

Woo Seok Jung

*Network Inference and Trait Association: A Framework for Discovering
Regulatory Mechanisms of Exceptional Longevity*

Subash Khanal

*Multimodal Representation Learning for
Geospatial Soundscape Mapping*

Saumik Arun Narayanan

*Building Human-Aware AI: Learning from and Assisting
Human Decision-Makers*

Saugat Pandey

*Revisiting Visualization Literacy: What Standardized Assessments
Reveal and Conceal across Instruments, Cultures, and AI Systems*

Jiaming Qiu

Benefits of Traffic Reprofileing for Delay Sensitive Networking

Ruiqi Wang

Smart Kitchen: Towards Real-Time AI Systems for Cognitive Support in Daily Activities

ELECTRICAL & SYSTEMS ENGINEERING

Serra Erdamar

*Control and Thermodynamics of Superconducting Qubits
with Non-Hermitian Dynamics*

Senyue Hao

*Development of High-Speed Parallel OCT Imaging Technology
Based on Photonic Integrated Circuits*

Yuelin Li

*Developing a Clinical Electromyometrial Imaging System for
Monitoring Human Uterine Contractions during Labor*

Andre Luiz Paes de Lima

*Moment Ensemble Approaches for Estimation
and Robust Quantum Control*

Fatih Sogukpinar

*Probing the Mechanisms of Reinforcement Learning:
Reinforcement Learning, Ventral Striatal Astrocytes, and the Dynamic
Coordination of Information Seeking with Learning*

Meles Gebreyesus Weldegebriel

*Pseudonymetry: Real-Time Interference Management System
for Accountable and Cooperative Spectrum Sharing
Using Embedded Watermarks*

Weiyan Zhou

Multiscale Optical Imaging: From Single-Molecule Dynamics to Tissue-Scale Mechanics

ENERGY, ENVIRONMENTAL & CHEMICAL ENGINEERING

Tyler Logan Cargill

*Evaluation and Calibration of Coupled Low-Cost
Particulate Matter Sensors*

Kaseba Chibwe

Integrating Microbiome Data to Address One Health Challenges

Puneet Singh Dhatt

*Design and Engineering of Renewable,
Multifunctional Biomaterials for Sustainability*

Alden James Filko

Systems Level Study of Antibiotic Persistence Mechanisms

Rajeev Kumar Gopal

*Transient Polarization and Dendrite Initiation Dynamics
in Solid-State Electrolytes*

Anna Marie Hartig

*The Environmental Fate of Biocontained
Genetically Engineered Microbes*

Yan He

*Assessing Hyperlocal and Local Air Quality through
Passive Samplers and Low-Cost Monitors*

Ahmad Helalely

*Interfacial Engineering of Electrodes and Solid-State Electrolytes
for High-Performance Lithium-Ion and Sodium-Ion Batteries*

Minkyung Jung

*Understanding Interfacial Reactions in Forming Solids with Hydrogels
for Clean Water and Resource Recovery*

Hakyung Lee

Microbial Resource Engineering for Sustainable Biomanufacturing

Matthew Gregory Lima

*Building a Systems-Level Understanding of
Vibrio Natriegens for Bioengineering*

Jingwen Luo

*Characterizing Polymer Phase Behavior and Conformation
Using In-Situ Neutron and X-ray Scattering*

Yue Rao

*Enhancing Renewable Energy from Waste: Innovative Strategies
for Biogas Upgrading and Polishing*

Inderjeet Singh

Developing Aerosol Representation in Atmospheric Modeling

Jiasi Sun

*Optimization and Mechanistic Understanding for Value-Added
Products Production through Anaerobic Digestion*

Zhenqin Wang

*Structure-Property-Processing Relationships of Naturally Derived
Macromolecular Systems*

Qian Xiao

*Characterization of New Particle Formation and Aerosol
In-Cloud Scavenging in the Marine Atmosphere*

Yihang Yuan

*Selenium Removal by Iron Electrocoagulation: Effects of
Water Chemistry, Operating Conditions, and
Post-Treatment Processes*

Ruixue Zhang

*Understanding Bacteria Stress Response during
Metabolic Perturbations and Bioprocessing*

Runyu Zhao

*Study of Complex Biological Systems through AI-Empowered
Metabolomic Analysis and Modeling*

IMAGING SCIENCE

Wiete Fehner

*Advancing High-Density Diffuse Optical Tomography for
Visual Semantic Encoding and Decoding in Naturalistic Settings*

Sung Min Ha

*Interpretable, Scalable, Unsupervised Machine Learning
for Large Neuroimaging Data*

Tongyao Wang

*Development of Robust, Rapid, and Radiation-Free
3D High-Resolution Cranial Bone Imaging for Pediatric Patients*

Pan Xiao

*Learning from Images and Text (Clinical) Data:
Toward Putting AI in Radiology*

Jin Yang

*The Development of Deep-Learning-Based Automatic Multi-Organ
Segmentation Models from CT Images and Their Clinical Evaluation*

Hamed Yousefi

*Development of Spatiotemporal Solutions for Dynamic
PET/MR Image Reconstruction*

INSTITUTE OF MATERIALS SCIENCE & ENGINEERING

Chansoo Kim

Advancing Wearable Health Monitoring via Soft Electronic Systems

Jiaxing Wen

Targeted Therapies for Myocardial Infarction and Heart Failure

MECHANICAL ENGINEERING & MATERIALS SCIENCE

Niyousha Karbasian

*Smooth Muscle Mechanobiology in Women's Health:
From the Cardiovascular to Reproductive System*

Ghiska Ramahdita

*Effects of Mechanical Anisotropy on Physiology and
Pathology of iPSC-Derived Engineered Heart Tissue Models
of Healthy and Diseased Myocardium*

Akash Thonnuril Shaji

*Roles of Nuclear-Cytoskeletal Connection and Osmolarity
in Collective Cell Migration*

Daisy Xu

*The Role of Perivascular Adipose Tissue Phenotype
in Vascular Remodeling*

Hongsheng Yu

Collagen Remodeling in Depth-Sensing and Memory of Epithelial Mechano-Response

