

Department	Principal Investigator	Research Project	Position Summary
APAM	Christopher Hansen	(CLOSED) The Columbia University Tokamak for Education (CUTE)	<a href="#">More Info</a>
APAM	Jeffrey Levesque	(CLOSED) High speed control of tokamak instabilities using cameras	<a href="#">More Info</a>
APAM	Nikolas Logan	(CLOSED) Machine Learning for Resonant Magnetic Perturbation Suppression of Edge Localized Modes in Tokamak Plasmas	<a href="#">More Info</a>
APAM	Elizabeth Paul	(CLOSED) Open-source software for fusion product dynamics	<a href="#">More Info</a>
APAM	Carlos Paz-Soldan	(CLOSED) Columbia Stellarator Experiment	<a href="#">More Info</a>
APAM	Xueyue (Sherry) Zhang	(CLOSED) Design and simulation of silicon nanophotonic for quantum emitter research	<a href="#">More Info</a>
APAM	Xueyue (Sherry) Zhang	(CLOSED) Quantum control hardware development	<a href="#">More Info</a>
BME	Elham Azizi	(CLOSED) Multimodal single-cell spatial integration and tumor microenvironment analysis of a large heterogeneous NUT carcinoma cohort	<a href="#">More Info</a>
BME	Elham Azizi	(CLOSED) Spatial characterization of cellular networks determining response to CAR-T therapy	<a href="#">More Info</a>
BME	Ke Cheng	(CLOSED) Microbial Microreactor Promotes Diabetic Wound Healing	<a href="#">More Info</a>
BME	Ke Cheng	(CLOSED) Novel treatments for cardiac diseases	<a href="#">More Info</a>
BME	Lance Kam	(CLOSED) InsignT: Rapid Assay of T Cell Health	<a href="#">More Info</a>
BME	Elisa Konofagou	(CLOSED) Cardiac Function and Perfusion Imaging using Ultrasound	<a href="#">More Info</a>
BME	Andrew Laine	(CLOSED) Large Scale Harmonization of CT Images of the Lung	<a href="#">More Info</a>
BME	Grace McIlvain	(CLOSED) Brain Mechanical Properties: In Vivo vs. Ex Vivo Measurements	<a href="#">More Info</a>
BME	Grace McIlvain	(CLOSED) Small Animal Brain Elastography: Pulse Sequence and Cradle Design	<a href="#">More Info</a>
BME	Nandan Nerurkar	(CLOSED) Mechanobiology of embryonic brain development	<a href="#">More Info</a>
BME	Nuttida Rungratsameetaweemana	(CLOSED) Characterizing Human Neural Mechanisms of Cognitive Control in Health and Disease	<a href="#">More Info</a>
BME	Samuel Sia	(CLOSED) Drug release hydrogels to improve wound healing	<a href="#">More Info</a>
BME	Samuel Sia	(CLOSED) Wearable device for health monitoring	<a href="#">More Info</a>
BME	Gordana Vunjak-Novakovic	(CLOSED) Investigating mechanisms underlying HNRNP2-Related Neurodevelopmental Disorder/Bain Syndrome	<a href="#">More Info</a>
BME	Gordana Vunjak-Novakovic	(CLOSED) Lung Bioreactors to Model Gene Therapy of Cystic Fibrosis	<a href="#">More Info</a>
BME	Gordana Vunjak-Novakovic	(CLOSED) Modeling Breast Cancer-induced Perturbations to Hematopoiesis in Engineered Bone Marrow	<a href="#">More Info</a>
BME	Parisa Yousefpour	(CLOSED) Engineering synthetic biology-based RNAs for therapeutic applications	<a href="#">More Info</a>
BME	Parisa Yousefpour	(CLOSED) Formulating biomolecular vaccines	<a href="#">More Info</a>
BME	Parisa Yousefpour	(CLOSED) Modulating Immune responses to RNA therapeutics	<a href="#">More Info</a>
CHEM	Juliana Carneiro	(CLOSED) Tailoring Electrified Catalyst Surfaces for the Non-oxidative Coupling of Methane: Towards the Sustainable Refinery	<a href="#">More Info</a>
CHEM	Jingguang Chen	(CLOSED) Synthesis and characterization of bimetallic electrocatalysts for sustainable chemical production	<a href="#">More Info</a>
CHEM	Daniel Esposito	(CLOSED) Artificial flowstone for CO2 Capture and mineralization.	<a href="#">More Info</a>
CHEM	Daniel Esposito	(CLOSED) Direct Air Electrolysis for Hydrogen Production	<a href="#">More Info</a>
CHEM	Allie Obermeyer	(CLOSED) Development of delivery vehicles for protein therapeutics	<a href="#">More Info</a>
CHEM	Mijo Simunovic	(CLOSED) Engineering human organogenesis in vitro	<a href="#">More Info</a>
CHEM	Asher Williams	(CLOSED) Engineering Lectins for Therapeutic Applications	<a href="#">More Info</a>
CEEM	Sharon Di	(CLOSED) Aging and Mobility	<a href="#">More Info</a>
CEEM	Marco Giometto	(CLOSED) Point-Cloud Processing for Digital Twins of Urban Environments	<a href="#">More Info</a>
CEEM	Huiming Yin	(CLOSED) Design and Manufacture of Aerogel Beads and Films with High Thermomechanical Performance	<a href="#">More Info</a>
CEEM	Huiming Yin	(CLOSED) Singum modeling of the transportation network in Manhattan	<a href="#">More Info</a>
COMS	David Knowles	(CLOSED) Contrastive deep learning of the splicing code using 100s of genomes	<a href="#">More Info</a>
COMS	David Knowles	(CLOSED) Extending the LeafCutter splicing quantification algorithm	<a href="#">More Info</a>
COMS	David Knowles	(CLOSED) Machine learning models of RNA splicing in single cells	<a href="#">More Info</a>
COMS	Yunzhu Li	(CLOSED) Fine-Grained Robotic Manipulation with Residual Reinforcement Learning	<a href="#">More Info</a>
COMS	Yunzhu Li	(CLOSED) Physics-Informed Neural Simulators for Dynamics Modeling in Robotic Manipulation	<a href="#">More Info</a>
COMS	Henning Schulzrinne	(CLOSED) Improving hybrid video conferences	<a href="#">More Info</a>
COMS	Henning Schulzrinne	(CLOSED) Preventing illegal robocalls	<a href="#">More Info</a>
COMS	Nakul Verma	(CLOSED) Exploring the limits of data visualization methods	<a href="#">More Info</a>
COMS	Junfeng Yang	(CLOSED) LLMs Meet Cybersecurity	<a href="#">More Info</a>
COMS	Zhou Yu	(CLOSED) AI Agent Orchestration Framework Optimization	<a href="#">More Info</a>
EAEE	Robert J. Farrauto	(CLOSED) Enhanced Desorption of CO2 capture from air	<a href="#">More Info</a>
EAEE	Pierre Gentine	(CLOSED) Probabilistic Data Assimilation Enhances the Prediction of Observed Temperature Extremes	<a href="#">More Info</a>
EAEE	Oscar Nordness	(CLOSED) Deep Eutectic Solvents for Polymer Recycling	<a href="#">More Info</a>
EAEE	Bolun Xu	(CLOSED) Data analysis in electricity markets	<a href="#">More Info</a>
EAEE	Bolun Xu	(CLOSED) Energy storage deployments against extreme climate events	<a href="#">More Info</a>
EAEE	Bolun Xu	(CLOSED) Optimization of sustainable steel production	<a href="#">More Info</a>
EAEE	Ngai Yin Yip	(CLOSED) Lithium, water, and mineral recovery from natural brines	<a href="#">More Info</a>

ELEN	Savannah Eisner	(CLOSED) Quantum Dot Design for Radiation Detection	<a href="#">More Info</a>	
ELEN	Christine Hendon	(CLOSED) Near Infrared Spectroscopy Characterization of Uterine Fibroids and Cancer	<a href="#">More Info</a>	
ELEN	Ioannis Kymissis	(CLOSED) Control of polymer coatings for robotic structures	<a href="#">More Info</a>	
ELEN	Ioannis Kymissis	(CLOSED) Control of microLED array devices	<a href="#">More Info</a>	
ELEN	Xiang (Alex) Meng	(CLOSED) AI-Driven Design Automation for Silicon Photonic Chips	<a href="#">More Info</a>	
MECE	Mary Boyce	(CLOSED) Design of Soft Composites	<a href="#">More Info</a>	
MECE	Bianca Howard	(CLOSED) Developing Socio-Physical Urban Building Energy Models	<a href="#">More Info</a>	
MECE	Bianca Howard	(CLOSED) Reinforcement Learning for Intelligent Building Energy System Control	<a href="#">More Info</a>	
MECE	Vijay Vedula	(CLOSED) AI-powered enhanced automatic cardiac segmentation framework	<a href="#">More Info</a>	
MECE	Vijay Vedula	(CLOSED) Fibrosis in patients with hypertrophic obstructive cardiomyopathy	<a href="#">More Info</a>	
MECE	Vijay Vedula	(CLOSED) Modeling the effect of microgravity on cardiac mechanics and large artery blood flow	<a href="#">More Info</a>	