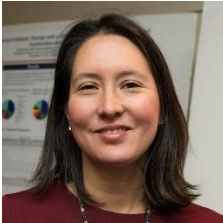


## *Biographies & Contact Information*

(In alphabetical order)

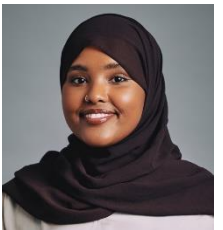


### **Bree Aldridge, PhD**

[Tufts University School of Medicine](#)

Bree Aldridge is Professor in the Department of Molecular Biology and Microbiology and the Department of Biomedical Engineering at Tufts University. She is the Associate Director of the Stuart B. Levy Center for Integrated Management of Antimicrobial Resistance, and Associate Director of the Tufts Institute for Artificial Intelligence. Using microscopy and computational modeling, her lab develops quantitative tools to interrogate and interpret tuberculosis cell growth and division behaviors. Her lab is interested in learning how bacterial growth state and morphological features predict drug response at the single-cell level. In parallel, the Aldridge lab uses engineering approaches to systematically measure drug combination effects in vitro and design optimized multi-drug treatment strategies.

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### **Samia Ali**

[Tufts University School of Medicine](#)

A previous PREP Scholar under the Graduate School of Biomedical Sciences, Samia Ali has transitioned into a Research Assistant-1 position in the Chin Lab. She is a graduate from the University of Washington where she majored in Physiology and minored in Bioethics & Humanities. Her previous research work explored environmental conditions that contribute to disease outcomes. Presently, she has a keen focus on employing bioinformatics to investigate biological markers associated with cardiovascular disease.

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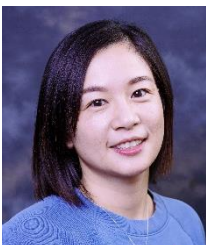


### **Lauren Black, PhD**

[Tufts University School of Engineering](#)

Lauren D. Black III is an Associate Professor in Biomedical Engineering at Tufts University and currently the Director of Graduate Studies for the department. His lab is focused on understanding how alterations to the biophysical environment impact cell phenotype in the heart in the context of both normal tissue development and pathophysiological disease. While much of the work is focused on cell- extracellular matrix signaling, the lab has also done significant work in assessing how both mechanical and electrical stimulation (and their interactions) impact cardiac tissue maturation/ development.

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### **Ying Chen, PhD**

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Ying Chen is a Research Assistant Professor in the Department of Biomedical Engineering at Tufts University. Her expertise is centered around the development of three-dimensional tissues, with a particular emphasis on leveraging biomaterial scaffolds and human intestinal cells/microbiota to establish intricate human intestinal models. These models serve as invaluable tools for investigating diverse aspects, ranging from intestinal nutrition intake and infections to diseases such as Inflammatory Bowel Disease (IBD) and Irritable Bowel Syndrome (IBS). Moreover, her research delves into the exploration of the brain-gut-microbiome axis, drug

delivery mechanisms, and cellular toxicity.

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## Howard Chen, PhD

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Howard Chen is an investigator at the Molecular Cardiology Research Institute (MCRI) at Tufts Medical Center, where his research focuses on the molecular imaging of cell death and survival pathways in the heart *in vivo*. Dr. Chen's laboratory takes an interdisciplinary approach encompassing fundamental molecular and cellular biology, biochemistry, and state-of-the-art imaging technologies, nanoscience, and synthetic chemistry to gain biological and pathophysiological insights. Following graduate training at Boston College, he completed postdoctoral work in both the cardiology and radiology departments at Massachusetts General Hospital, Harvard Medical School, where he investigated cardiovascular diseases with molecular imaging technology.

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## Marly Coe

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Marly is a 4th year PhD student in the Biomedical Engineering department at Tufts University's School of Engineering, working in the neuro group within David Kaplan's lab. Interested in tissue engineering for regenerative medicine applications, Marly's research focuses on neuro-regeneration after traumatic brain injury. Using a 3D human brain tissue model, they seek to better understand the interactions between neurons and glial cells after injury, and to identify ways that glia can be manipulated to enhance neuro-regeneration.

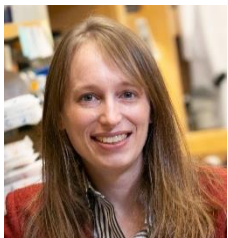
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## Gregory Cox, PhD

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Greg Cox is an associate professor at the Jackson Laboratory, where he researches the molecular pathways of human degenerative muscle diseases, such as spinal muscular atrophy, muscular dystrophy and ALS.

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## Heather Gardner, DVM, PhD

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Heather Gardner is an assistant professor at Cummings School of Veterinary Medicine at Tufts University. She completed her medical oncology residency at Ohio State University in 2017 and her PhD in Genetics at Tufts University School of Graduate Biomedical Sciences in 2020. Her current research efforts focus on understanding how somatic structural variants alter the epigenome and using that information to optimize liquid biopsy diagnostics to detect early treatment failure in cancer patients.

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## Juan Gnecco, PhD

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Dr. Gnecco is an Assistant Professor in the Department of Biomedical Engineering at Tufts University, and an associate Principal Investigator in the Mother Infant Research Institute (MIRI) at the Tufts Medical Center. He is the head of the Laboratory of Reproductive Engineering whose research focus centers around understanding the immune-endocrine mechanisms regulating reproductive processes in health and disease.

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## Joseph Gormley

Tufts CTSI

Joseph Gormley is the Director of Advanced Systems Development at Tufts Clinical and Translational Science Institute (Tufts CTSI). He has over twenty-five years of science and engineering experience within Fortune 500 pharmaceutical and chemical corporations, NIH funded academic institutions and early-stage biotechnology companies. His career has spanned multiple informatics and life science domains including rational chemical design, biomarker discovery, drug development and clinical analytics. At Tufts CTSI, he leads multiple full-stack AI-based software development initiatives including a next generation machine learning platform for automated drug discovery and repurposing. He is a past recipient of a John Adams Innovation Award to assess commercialization strategies for Computational Systems Biology and a Co-PI on multiple NIH Biomedical Translator awards to develop intelligent knowledgebase technologies for clinical and translational research.

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## Nisa Iyer, PhD

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Dr. Nisha Iyer joined the department of Biomedical Engineering at Tufts University as an Assistant Professor in 2021. Her research interests are at the intersection of developmental biology and regenerative medicine, using stem cells to understand and advance neural repair. Her lab focuses on how regional specificity impacts development, degeneration, and regeneration in the central nervous system and beyond, developing biomanufacturing strategies and organoid technologies to direct cell therapy research.

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## David L. Kaplan, Ph.D.

Tufts University School of Engineering

David Kaplan is the Stern Family Endowed Professor of Engineering at Tufts University, a Distinguished University Professor, and Professor in the Department of Biomedical Engineering. His research focus is on biopolymer engineering, tissue engineering, regenerative medicine and cellular agriculture. He has published over 1,000 peer reviewed papers, is editor-in-chief of ACS Biomaterials Science and Engineering and he serves on many editorial boards and programs for journals and universities. His lab has been responsible for over 150 patents issued or allowed, and more than a dozen start-up companies. He has also received a number of awards for his research and teaching and was elected as a Fellow to the American Institute of Medical and Biological Engineering and was elected to the National Academy of Engineering.

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## Tania (Tali) Konry, PhD

Northeastern University Bové College of Health Sciences

Trained as bio engineer, Talia Konry is currently an Associate Professor in the Department of Pharmaceutical Sciences and the Assistant Dean for Research of the School of Pharmacy and Pharmaceutical Sciences at Bové College of Health Sciences, Northeastern University. Her expertise is in applied immunotherapy, function to omic (functionomic) analysis, and organ-on-a-chip technologies.

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## **Vivek Kumar, PhD**

[The Jackson Laboratory](#)

Dr. Kumar is a faculty at The Jackson Laboratory in Bar Harbor. His lab works on the genetic and neural circuitry of complex behaviors. They use mice models of psychiatric conditions to understand mechanism and develop new therapeutics. Dr. Kumar applies computational, genetic, and genomic methods to carry this out. Dr. Kumar will talk about how his lab has developed ML methods to understand animal behavior and how they plan to use these new computational methods for neurotherapeutics. He obtained his PhD at the University of California, San Diego, working on gene regulation. He carried out postdoctoral work at Northwestern University

and the University of Texas Southwestern Medical Center, where he used genetics to dissect complex behavior in mice. He has been at the Jackson Laboratory since 2015.

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## **Sheng Li, PhD**

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Sheng Li is an Associate Professor at The Jackson Laboratory (JAX) and a member of its NCI-designated Cancer Center. A computational biologist, Li utilizes computational and sequencing methodologies to identify and characterize the essential epigenetic lesions that guide cancer cells to evolve and escape from anti-cancer therapy. She is a recipient of the “NextGen Star” from The American Association for Cancer Research in 2020 and the Maximizing Investigators' Research Award from NIH-NIGMS. Li received her PhD in Computational Biology from Cornell University.

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## **Cheryl London, DVM, PhD, ACVIM (Oncology)**

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Cheryl London is the Anne Engen and Dusty Professor of Comparative Oncology and the Associate Dean for Research and Graduate Education at the Cummings School of Veterinary Medicine. She is also Director of the Tufts CTSI Research Collaboration Team and leads the Cummings Clinical Research Shared Resource. Dr. London is a veterinary medical oncologist and immunologist who leverages spontaneous cancer in dogs to develop and optimize novel cancer immunotherapies with the goal of improving subsequent human

translation.

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## **Amanda Martinot, DVM, MPH, PhD**

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Dr. Martinot is a scientist and veterinary pathologist who specializes in animal models of infectious disease of global health importance including Tuberculosis (TB) and SARS-CoV-2. Dr. Martinot received her veterinary degree from the University of Florida College of Veterinary Medicine (2003) and completed her MPH at the University of North Carolina Chapel Hill (2006). She completed her comparative pathology residency, PhD, and post-doctoral studies at Harvard University. She is currently an Assistant Professor in the Department of

Infectious Diseases and Global Health at Tufts Cummings School of Veterinary Medicine, in Grafton, MA.

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## **Katherine Megquier, PhD**

[The Broad Institute](#)

Kate is a Postdoctoral Associate in the Karlsson Lab at the Broad Institute of Harvard and MIT, co-mentored by Drs. Elinor Karlsson and Cheryl London. She earned a combined DVM/MS in Comparative Biomedical Sciences from Tufts Cummings School of Veterinary Medicine in 2012, her PhD from Uppsala University in 2018, and was awarded an NCI Ruth L. Kirschstein NRSA F32 Postdoctoral Fellowship in 2020. Her work focuses on uncovering the genetic mechanisms of cancer in companion animals and applying this knowledge to better understand disease pathogenesis and develop new tests and treatments for both veterinary and human cancer patients.

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## **Kelly Metcalf Pate, DVM, PhD**

[Massachusetts Institute of Technology](#)

Dr. Metcalf Pate is the Director for the Division of Comparative Medicine and the Dorothy W. Poitras Associate Professor of Biological Engineering at MIT. She received her BA in Zoology and Biochemistry from Boston University, her DVM from Purdue University School of Veterinary Medicine, and completed her residency training in laboratory animal medicine and PhD from Johns Hopkins School of Medicine, where she was faculty prior to moving to the Boston area. Her research interests include platelet immunology, virology and animal model development.

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## **Ayan Paul, PhD**

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Ayan Paul is a Research Scientist at The Institute of Experiential AI, Northeastern University and jointly affiliated with CDNM, BWH, Harvard Medical School. Ayan has published in Theoretical Particle Physics, Mathematical Epidemiology, Computational Socioeconomics and Interpretable Machine Learning. Ayan's current research focuses on understanding RNA Biology using multi-omics data where he studies specific processes that drive proteome diversity. His work leads to insights on both cell/tissue differentiation and disease causing genetic variants. He uses Graph Neural Networks and Large Language models to study genetic sequences and their interaction with RNA binding proteins. Ayan's work can lead to the development of targeted therapeutics for diseases that arise from complex traits. Ayan is also actively involved in technology transfer and is the co-founder of CoVis Inc and KarmaV Inc. Ayan is a member of the Steering Committee for the Asian Faculty and Staff affinity group at Northeastern. He has led several initiatives for DE&I in Germany and the USA and is also in a leadership role for the Sustainability in Science initiative started by the High Energy Physics community.

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## **Daniel Promislow, PhD**

[University of Washington School of Medicine](#)

Dr. Promislow is a Professor in the Department of Biology and in the Department of Laboratory Medicine & Pathology at the University of Washington. His research uses evolutionary genetics and systems biology approaches to understand how genes and environment shape aging and age-related disease in natural populations. In addition to his lab-based research in *Drosophila*, Dr. Promislow is Principal Investigator and Co-Director of the Dog Aging Project, an NIH-funded, nationwide community science study whose goal is to understand the biological and environmental determinants of healthy aging in tens of thousands of companion dogs.

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## Peter Robinson, MD, MSc

### The Jackson Laboratory

Peter Robinson is a professor of Computational Biology at the Jackson Laboratory, where he leads a research group dedicated to the development of algorithms and computational resources for the analysis of exome and genome sequences. His lab developed the Human Phenotype Ontology (HPO), which is now an international standard for computation over human disease that is used by the Sanger Institute, several NIH-funded groups including the Undiagnosed Diseases Program, Genome Canada, the rare diseases section of the UK's 100,000 Genomes Project, and many others. Robinson studied Mathematics and Computer Science at Columbia University and Medicine at the University of Pennsylvania. He completed training as a Pediatrician at the Charité University Hospital in Berlin, Germany.

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## Jennifer SanMiguel, PhD

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Dr. Jennifer SanMiguel, Ph.D. is a Study Director in the Jackson Laboratory Rare Disease Translational Center in Bar Harbor, Maine. She leads a variety of projects through direct collaboration with the rare disease community including patient foundations and academic scientists. These studies span generation of new mouse models of patient-centric rare disease alleles, characterization of these models, and ultimately, preclinical testing.

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## Harry P. Selker, MD, MSPH

### Tufts Clinical and Translational Science Institute

Harry P. Selker is dean of Tufts Clinical and Translational Science Institute and a professor of medicine at the Tufts University School of Medicine. At Tufts CTSI, Dr. Selker provides leadership for programs and infrastructure that support clinical and translational research at Tufts University schools and affiliated hospitals, and other partnered academic, community-based, and industry organizations. Dr. Selker is also the executive director of the Institute for Clinical Research and Health Policy Studies at Tufts Medical Center, where he serves as chief of the Division of Clinical Care Research in the Department of Medicine. Dr. Selker's research focuses on the development of treatment strategies aimed at improving medical care. He is known for his studies of the factors influencing emergency cardiac care and for development of "clinical predictive instruments," mathematical models that are used as decision aids. They provide emergency physicians and paramedics with predictions for their patients' likely cardiac diagnoses and outcomes for real-time use in clinical care. This has included conduct of multiple large national clinical effectiveness trials that have demonstrated better treatment and clinical outcomes for patients with acute coronary syndromes. Additionally, Dr. Selker has done research to advance clinical study design, execution, issues around informed consent, data analysis, mathematical predictive modeling of medical outcomes, and comparative effectiveness research.

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## Anuj Srivastava, PhD

### The Jackson Laboratory

Anuj Srivastava is the Associate Director of the Genome Informatics group in the Jackson Laboratory, Department of Computational Sciences, where he leads a large team of computational scientists and bioinformatics analysts. Dr. Srivastava's group at JAX is primarily focused on building systems/algorithms to effectively analyze next-generation sequencing data generated from various sequencing technologies from humans and mice. His group has developed particular expertise in the analysis of patient-derived xenograft (PDX) cancer samples as a part of the NCI PDXNet and Pivot program.

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## **Andrea Varela-Stokes, DVM, PhD**

[Tufts University Cummings School of Veterinary Medicine](#)

Andrea Varela-Stokes, DVM, PhD, is a Professor and Chair of the Department of Comparative Pathobiology at Cummings School of Veterinary Medicine at Tufts University. She is a Cummings School graduate (V'01), earning her PhD in Infectious Diseases from the University of Georgia. As a veterinary scientist, she is PI of a research program in tick-borne diseases, with an emphasis on host-tick-Rickettsia interactions using a guinea pig model. Her teaching and other service contributions draw from a broader background in

veterinary parasitology.

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## **Vicky Yang, PhD**

[Tufts University Cummings School of Veterinary Medicine](#)

Vicky Yang is an associate professor in the Department of Clinical Sciences at the Tufts University Cummings School of Veterinary Medicine. As a veterinary cardiologist and a researcher in the field of regenerative medicine, she has a special interest in improving our understanding of the role of epigenetics in canine cardiac disease and the potential therapeutic benefits of regenerative medicine treatments for these diseases. Dr. Yang and her laboratory team are also interested in developing diagnostics using plasma exosomal microRNA.

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## **Pam Yelick, PhD**

[Tufts University School of Dental Medicine](#)

Dr. Yelick, who joined Tufts in 2006, is a tenured full professor in the Department of Orthodontics, and Director of the Division of Craniofacial and Molecular Genetics, Tufts University School of Dental Medicine, Boston MA. She also holds appointments in the Department of Biomedical Engineering, and in the Genetics, Molecular and Cellular Biology, and Pharmacology Programs, Tufts GSBS. Dr. Yelick's research focuses on Craniofacial Development, Disease and Regeneration. She is the Chief Scientific Officer of RegendoDent, Inc. since 2022.

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