Drexel UNIVERSITY

6th Annual

Immune Modulation & Engineering Symposium

2024

Philadelphia, PA, USA

DREXEL UNIVERSITY School of Biomedical Engineering, Science and Health Systems

DREXEL UNIVERSITY Office of Research & Innovation

DREXEL UNIVERSITY Coulter-Drexel Translational Research Partnership Program

DREXEL UNIVERSITY College of Medicine

DREXEL UNIVERSITY College of Engineering

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About the Symposium

The mission of the Immune Modulation & Engineering Symposium is to bring together researchers in biomedical engineering and basic and translational immunology to advance the rapidly emerging field of immune engineering. The speakers and attendees represent leaders in this field, with expertise in collaborating across disciplines to generate innovative solutions to treat disease and injury by modulating the immune system.

Symposium Location:

The Study Hotel
20 S. 33rd Street
Philadelphia, PA, USA

Poster Session Location:

Behrakis Grand Hall
3210 Chestnut Street
Philadelphia, PA, USA

Organizing Committee

CONFERENCE CHAIR

Kara Spiller, PhD

CONFERENCE VICE CHAIR

Christopher Rodell, PhD

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Qinghe Zeng

Symposium Agenda

Day 1: Wednesday, November 13

8:00AM	**Breakfast**
8:45AM	**Opening Remarks** **Kara Spiller, PhD, Chair of the Immune Modulation & Engineering Collaborative at Drexel University**
9:00 AM Moderator: Gabriele Romano, PhD	**Session 1: New Directions in the Treatment of Cancer** **Dennis Discher, PhD** | University of Pennsylvania *"Chromosomal instability in cancer can enhance macrophage-initiated immune responses, including anti-tumor IgG"* **Matt VanBrocklin, PhD** | Huntsman Cancer Institute / University of Utah *"Development and application of a novel theralytic virus"* **Alessandro Fatatis, MD, PhD** | Drexel University *"Tumor-derived IL-1beta in metastatic prostate cancer"*
10:30 AM	**Break**
11:00 AM Moderator: Xiao Huang, PhD	**Session 2: Cell and Gene Therapy** **Kole Roybal, PhD** | University of California, San Francisco *"Toward the development of synthetic immunity to cancer"* **Yevgeny Brudno, PhD** | University of North Carolina and North Carolina State University *"Biomaterial for rapid manufacturing and delivery of CAR T cells"* **Omid Veiseh, PhD** | Rice University *"Bioengineering cell-based therapeutics for immunomodulation"*
12:30 PM	**Break** *Optional "Meet the Mentors" session for trainees to interact with leaders in the field* *Time: 1:15 to 2:20pm*

Symposium Agenda

2:30 PM	**Session 3: Nanomaterials**
Moderator: **Brian Kwee, PhD**	**Nicole Steinmetz, PhD** | UCSD *"ImmunoEngineering gone #viral"* **Kathryn Whitehead, PhD** | Carnegie Mellon University *"The interplay of innate and adaptive immune responses to lipid nanoparticles determines RNA delivery loss-of-efficacy"* **Natalie Artzi, PhD** | Harvard Medical School *"Tissue- and cell-responsive materials for medical applications"*
4:30 PM	**Session 4: Diverse Perspectives in Immune Engineering** **Opening Reception | Location: Behrakis Grand Hall**
Moderator: **Kara Spiller, PhD**	**Linda Griffith, PhD** | MIT *"Synthetic hydrogel matrices for parsing complex immune-tissue interactions in vitro"* **Discussion**
5:15-7:30 PM	**Poster Session and Cocktail Reception** **@ Behrakis Grand Hall**

Day 2: Thursday, November 14

9:00 AM	**Session 5: Type 1 Diabetes and Autoimmune Disease**
Moderator: **Peter Deak, PhD**	**Manish Butte, MD, PhD** | UCLA *"Engineering the T cell environment"* **Sarita Patil, MD, PhD** | Massachusetts General Hospital, Harvard Medical School *"Tolerance through the lens of epitope-specific antibodies"* **Vijay Bhoj, MD, PhD** | Hospital of the University of Pennsylvania *"Development of CAR T therapies to eliminate pathogenic antibodies to blood proteins – challenges and opportunities"*
10:30 AM	**Break**

Symposium Agenda

11:00 AM — **Session 6: Regenerative Medicine**

Moderator:
Kate Wofford, PhD

Qizhi Tang, PhD | University of California, San Francisco
"Designer tregs for autoimmune diseases"

Valerie Horsley, PhD | Yale Medicine
"Macrophage heterogeneity and regulation in skin wounds"

Evangelia Bellas, PhD | Temple University
"Engineering adipose tissue (dys)function"

12:30 PM — **Break**

2:00 PM — **Session 7: Mechanisms**

Moderator:
Kaitlyn Sadtler, PhD

Cornelius Taabazuing, PhD | University of Pennsylvania
"New tools for studying caspase biology"

Vivek Shenoy, PhD | University of Pennsylvania
"Mechanobiology of the recursive dialog between immune cells and the extracellular matrix"

Early Career PI Award Winner Presentation

Outstanding Early Career Researcher

Brian Kwee | University of Delaware
"Regulatory T-cell targeting biomaterials for treating ischemic diseases"

3:30 PM — **Break**

4:00 PM — **Session 8: Trainee Award Winners**

Moderator:
Chris Rodell, PhD

Leadership in Diversity:

Riddha Das, PhD | Massachusetts General Hospital
"Engineering and stimulation of myeloid cells for cancer immunotherapy"

Sahily Reyes-Esteves, MD, PhD | University of Pennsylvania
"Targeted LNPs containing IL-10 mRNA improve outcomes in experimental intracerebral hemorrhage"

Symposium Agenda

Translational Research:

Tomasz M. Grzywa, MD, PhD | Children's Hospital of Philadelphia
"Directed evolution-based discovery of ligands for in vivo restimulation of CAR-T cells"

Innovative Research:

Sihan Jia | Drexel University
"Advanced immunomodulatory strategies for tolerogenic dendritic cell induction in autoimmune therapy"

Taj Yeruva, PhD | University of Maryland
"Synthetic mucus biomaterials for localized monoclonal antibody delivery in inflammatory bowel disease"

Day 3: Friday, November 15

9:00 AM — **Session 9: Infectious Diseases**

Moderator:
Roshell Muir, PhD

Louis Picker, MD | OHSU Vaccine and Gene Therapy Institute
"Programming T cell responses with Cytomegalovirus-based vaccines"

Michael Gale, PhD | University of Minnesota
"IL-15 links innate and adaptive immune programming mediating RhCMV/SIV vaccine protection: implications for HIV"

Arangassery Rosemary Bastian, PhD | BioNTech SE
"Infectious disease vaccine development path and lessons learned from RSV vaccine development"

10:30 AM — **Break**

11:00 AM — **Session 10: Biomaterials**

Moderator:
Rebecca Pompano, PhD

Brittany Hartwell, PhD | University of Minnesota
"A hitchhiker's guide to mucosal immunity: Harnessing albumin hitchhiking for enhanced intranasal vaccine uptake and efficacy"

Symposium Agenda

	Joshua Doloff, PhD | Johns Hopkins University *"Elucidating immunologic mechanism of tissue remodeling induced by a microgel composite"* **Santiago Correa, PhD** | Columbia University *"Functionalizing biomaterials with lipid nanotechnology to precisely modulate the immune system"*
12:30 PM	**Break**
2:00 PM **Moderator:** **Matthew Wolf, PhD**	**Session 11: Advanced Models** **Ning Jenny Jiang, PhD** | University of Pennsylvania *"High-throughput and high-dimensional profiling of single antigen-specific T cells"* **Kathryn Miller Jensen, PhD** | Yale University *"Reconstructing cell-cell communication in the tumor-immune microenvironment"* **Gail Rosen, PhD** | Drexel University *"Learning Universal Sequence Representations and Interpretable ML Models for Microbial Communities"*
3:30 PM	**Break**
4:00 PM **Moderator:** **Jenna Hope, PhD**	**Session 12: Versatile Immunotherapies** **Qiaobing Xu, PhD** | Tufts University *"Engineering tumour vaccine through targeted proteolysis"* **Madhusudhanan Sukumar, PhD** | Johnson & Johnson Innovative Medicine *"Counteracting T Cell exhaustion: strategies to enhance T Cell therapy through stemness and mitochondrial metabolism"* **Michael Naso, PhD** | Century Therapeutics *"Discovery and development of a multi-engineered iPSC-derived cell therapy"*
5:30 PM	**Closing Remarks**

Our Speakers

Dennis Dischер, PhD
University of Pennsylvania

Dennis E. Dischер, is the Robert D. Bent Professor, and Director, Physical Sciences Oncology Center/Project @ Penn. He is an elected member of the US National Academy of Medicine and the US National Academy of Engineering, and he serves on the Editorial Boards of Science, Molecular Biology of the Cell, and PNAS Nexus, among other journals.

Matt VanBrocklin, PhD
Huntsman Cancer Institute / University of Utah

Dr. VanBrocklin is a tenured Associate Professor of Surgery at the University of Utah and an Investigator in the Huntsman Cancer Institute with significant experience in virology, mouse modeling, and immunotherapy. Since initiating his lab in 2011 he has developed multiple clinically relevant preclinical models of cancer in order to identify and validate molecular targets/strategies that can ultimately be exploited clinically. This modular system lends itself for cooperation, discovery, and validation studies with targeted and/or immunological agents. His lab is currently pursuing novel immunotherapy and virotherapy solutions for cancer and infectious diseases.

Alessandro Fatatis, MD, PhD
Drexel University

Alessandro Fatatis, MD, PhD, is a professor in the Department of Pharmacology & Physiology at Drexel University College of Medicine. His research focuses on the cellular and molecular mechanisms driving the metastatic potential of solid tumors, particularly prostate and breast cancers. His lab aims to identify novel biomarkers and therapeutic targets for managing metastatic disease. Employing a translational approach, they study cancer cell dissemination to secondary organs like the skeleton, lungs, and brain using cellular, molecular, and pre-clinical models.

Our Speakers

Kole Roybal, PhD
University of California, San Francisco

Dr. Roybal is the Director of the UCSF Parker Institute for Cancer Immunotherapy and an Associate Professor in the Department of Immunology at the UCSF. The Roybal Lab harnesses synthetic biology and immunology to increase the therapeutic potential of engineered immune cells. He was awarded the Sartorius and Science Magazine Prize for Regenerative Medicine and Cell Therapy, the NIH New Innovator Award, and the CRI STAR Award. His work was foundational to the next-generation immune cell therapy company, Cell Design Labs, where he was a founding scientist (acquired by Gilead). He has also co-founded cell therapy companies Arsenal Bio (now clinical stage), Dispatch Biotherapeutics, and Moonlight Bio focused on the treatment of solid tumors.

Yevgeny Brudno, PhD
University of North Carolina and North Carolina State University

Yev is an Associate Professor in the School of Pharmacy at UNC and in the Department of Biomedical Engineering at NC State. He earned dual BA degrees in Chemistry and Biophysics from the University of Pennsylvania and obtained his PhD in Chemical Biology from Harvard University, working with David Liu on directed evolution technologies. His postdoctoral work at the Wyss Institute, Harvard with David Mooney, focused on developing controlled release drug delivery technologies for cancer and regenerative medicine. Mostly recently, his lab develops materials to improve cell therapies, including CAR T cells. Yev's research is rooted in the belief that advances in chemistry and the basic molecular sciences can generate meaningful change in how therapies are designed, produced, and administered.

Omid Veiseh, PhD
Rice University

Dr. Omid Veiseh, Ph.D., is a Professor and CPRIT Scholar in Cancer Research in the Department of Bioengineering at Rice University. He leads an interdisciplinary translational research program to engineer and commercialize next-generation cell-based therapeutics for various human diseases. His team leverages the latest techniques in synthetic biology, immunoengineering, and materials science to develop innovative cell-based platforms for real-time and feedback-regulated production of biologics. Over the course of his career, he has authored or co-authored more than 75 peer-reviewed publications and is an inventor on more than 40 pending or awarded patents.

Our Speakers

Nicole Steinmetz, PhD
UCSD

Dr. Steinmetz is a Professor and Vice Chair of NanoEngineering at the University of California, San Diego (2018-present). She is the founding Director of the Center for Nano-ImmunoEngineering (nanoIE), the Co-Director for the Center for Engineering in Cancer within the Institute for Engineering in Medicine, and she serves on the Leadership Team for a UC San Diego Materials Research Science and Engineering Center (MRSEC), an $18M NSF-funded research center. She started her independent career at Case Western Reserve University School of Medicine in the Department of Biomedical Engineering (in 2010-2018), where she was promoted through the ranks of Assistant, Associate, and Full Professor.

Kathryn Whitehead, PhD
Carnegie Mellon University

Kathryn Whitehead is a Professor of Chemical Engineering and Biomedical Engineering at Carnegie Mellon University. Her lab develops drug delivery systems for RNA, proteins, and applications in maternal and infant health. She is the recipient of numerous awards, including the NIH Director's New Innovator Award and the DARPA Director's Fellowship. Prof. Whitehead is an elected Fellow of the AIMBE and the Controlled Release Society, and she gave a TED talk on the nanoparticles used in the in the COVID-19 mRNA vaccines. Her publications have been cited over 10,000 times, and her patents have been licensed for reagent and therapeutic use.

Natalie Artzi, PhD
Harvard Medical School

Dr. Artzi is an Associate Professor of Medicine at Harvard Medical School. She is a Principal Research Scientist at MIT, Core Faculty at the Wyss Institute for Biologically Inspired Engineering, and Head of Structural Nanomedicine at Mass General Brigham's Gene and Cell Therapy Institute (GCTI). She is the recipient of multiple grants, including ARPA-H, and prestigious awards, including the inaugural Kabiller Rising Star Award in Nanotechnology and Nanomedicine, the Acta Biomaterialia Silver Medal, Society for Biomaterials Clemson Award for Applied Research, One Brave Idea Award, Stepping Strong Innovator, Mid-Career Award from the Society for Biomaterials, and the Massachusetts Life Science Center for Women Entrepreneurs.

Our Speakers

Linda Griffith, PhD
MIT

Prof. Linda G. Griffith received a Bachelor's Degree from Georgia Tech and a PhD degree from the University of California at Berkeley, both in chemical engineering. Griffith's is a member of the National Academy of Engineering and the recipient of a MacArthur Foundation Fellowship, the Popular Science Brilliant 10 Award, NSF Presidential Young Investigator Award, the MIT Class of 1960 Teaching Innovation Award, Radcliffe Fellow and several awards from professional societies.

Manish Butte, MD, PhD
UCLA

Dr. Butte is the E. Richard Stiehm Professor in Pediatrics, with appointments in Immunology and Human Genetics, serving as the Division Chief of Immunology at UCLA. His undergraduate and MD degrees are from Brown. His PhD in Biophysics is from UCSF. His clinical training was at CHOP and fellowship at Boston Children's. He did post-doc at Harvard, started his faculty career at Stanford, and then was recruited to UCLA in 2016. His research lab studies T cells with projects on infections, autoimmunity, vaccines, metabolism, and cancer. His clinical focus is on rare, genetic immune diseases (also called inborn errors of immunity).

Sarita Patil, MD, PhD
Massachusetts General Hospital, Harvard Medical School

Sarita Patil is an Assistant Professor of Medicine at Harvard Medical School and the Co-Director of the Food Allergy Center at Massachusetts General Hospital (MGH), where she is a member of the Divisions of Allergy and Immunology in the Medicine and Pediatrics. She primarily specializes in the treatment of patients with food allergies. She is the Co-Director of the Adult Multidisciplinary Eosinophilic Esophagitis Clinic at MGH, which she helped develop for treatment of eosinophilic gastrointestinal diseases. Her laboratory in the Center for Immunology and Inflammatory Diseases and the MGH Food Allergy Center focuses on understanding antibody and B cell responses in both the initiation and treatment of allergic diseases.

Our Speakers

Vijay Bhoj, MD, PhD
Hospital of the University of Pennsylvania

Vijay Bhoj, MD, PhD, is an Assistant Professor of Pathology and Laboratory Medicine at the Hospital of the University of Pennsylvania, specializing in Transfusion Medicine, Therapeutic Pathology, and Cancer Immunobiology. His research focuses on cellular immunotherapy, specifically the development of engineered immuno-receptors, such as chimeric antigen receptors, for treating cancer, autoimmunity, and transplant rejection. Dr. Bhoj earned his MD and PhD from the University of Texas Southwestern Medical Center and holds board certifications in Clinical Pathology and Transfusion Medicine.

Qizhi Tang, PhD
University of California, San Francisco

Qizhi Tang, PhD, is a professor of immunology at the University of California, San Francisco (UCSF). Research in her lab focuses on investigating Treg control of autoimmune diabetes and translating insights from mechanistic discoveries to novel therapies. In the past 10 years, she has led translational efforts to design and implement 10 Treg-based clinical trials in autoimmune diseases and organ transplantation. Currently, pre-clinical research in her lab focuses on developing cellular engineering strategies to enhance human Treg potency and lineage stability.

Valerie Horsley, PhD
Yale Medicine

Valerie Horsley is a Professor in MCDB at Yale University. Her research focuses on skin biology, particularly the mechanisms underlying skin regeneration and the role of stem cells in skin health and disease. Her work has revealed novel cellular and molecular mechanisms by which monocyte-derived macrophages function in regulation of fibroblast heterogeneity and skin repair after injury.

Our Speakers

Evangelia Bellas, PhD
Temple University

Dr. Evangelia Bellas is an Associate Professor in the Department of Bioengineering at Temple University. Her research focuses on the development of fat-on-chip and (dys)functional adipose tissue models to study how vascularization and interactions with the microenvironment impact tissue health and function and funded by NIH, NASA, NSF, Lipedema Foundation and VentureWell. She is the recipient of the NSF CAREER Award (2021), Biomedical Engineering Society (BMES) - Cell and Molecular Bioengineering (CMBE) Young Innovators Award (2021), Biomedical Engineering Society-Cell and Molecular Bioengineering Rising Star Award (2023) and the American Society for Matrix Biology - Junior Investigator Award (2023).

Cornelius Taabazuing, PhD
University of Pennsylvania

Dr. Cornelius Taabazuing earned his BS in Biochemistry and Molecular Biology and his PhD in Biological Chemistry from the University of Massachusetts Amherst. As a graduate student, he worked on understanding the chemistry of the main oxygen sensing enzymes in humans. He then conducted his postdoctoral work in the Chemical Biology department at Memorial Sloan-Kettering Cancer Center where his research focus turned to understanding the molecular regulation of innate immune activation. Dr. Taabazuing is currently a Presidential Assistant Professor in the Department of Biochemistry and Biophysics at the University of Pennsylvania.

Vivek Shenoy, PhD
University of Pennsylvania

Prof. Vivek Shenoy is the Eduardo D. Glandt President's Distinguished Professor at the School of Engineering and Applied Sciences, University of Pennsylvania, and Director of the NSF Center for Engineering Mechanobiology (CEMB). His research develops theoretical concepts and numerical methods to understand the behavior of biological and engineering systems, focusing on multiphysics models that link small-scale cellular phenomena with large-scale tissue interactions. His work integrates principles from soft matter physics, solid mechanics, and applied mathematics.

Our Speakers

Louis Picker, MD
OHSU Vaccine and Gene Therapy Institute

Dr. Picker is the Associate Director of the Vaccine and Gene Therapy Institute, a Senior Scientist in the Pathobiology and Immunology Division of the Oregon National Primate Research Center, and a Professor of Pathology at the Oregon Health & Science University. Dr. Picker was recruited to OHSU in 2000 from the Department of Pathology at the University of Texas Southwestern Medical Center at Dallas where he served as a Principal Investigator, Medical Director of the Flow Cytometry and Clinical Immunology Laboratory, and Co-Director of the Division of Hematopathology and Immunology.

Michael Gale, PhD
University of Minnesota

Dr. Michael Gale, Jr. received his training at the University of Washington School of Public Health and Community Medicine. He served on the faculty of the University of Texas Southwestern Medical Center until joining the University of Washington in 2007. He joined the University of Minnesota as Head of the Medical School's Department of Microbiology and Immunology and as Director of the University of Minnesota Institute on Infectious Diseases on October 31, 2024.

Arangassery Rosemary Bastian, PhD
BioNTech SE

Dr. Rosemary Bastian Aris is an accomplished Clinical Biomarker Lead with over seven years of industry experience, currently serving as a Director and interim team lead for the translational science group at BioNTech for infectious diseases. In her role, she is a key member of the core clinical team focused on vaccine development. She oversees the immunostrategy from Phase 0 through Phase 3 of clinical development, leading a cross-disciplinary team and driving strategic initiatives including competitive intelligence and regulatory interactions.

Our Speakers

Brittany Hartwell, PhD
University of Minnesota

Dr. Brittany Hartwell is an Assistant Professor of Biomedical Engineering at the University of Minnesota. Her lab's research in immunoengineering combines perspectives from biomolecular engineering, drug delivery, and immunology to develop targeted vaccines and immunotherapies to direct the immune response, with a focus on mucosal immunity. Before starting at the University of Minnesota in 2021, Dr. Hartwell was a postdoc with Darrell Irvine at MIT where she worked on developing targeted mucosal vaccines. She obtained her PhD in biomolecular engineering with Cory Berkland at the University of Kansas, and her bachelors in chemical and biological engineering from Iowa State University.

Joshua Doloff, PhD
Johns Hopkins University

Joshua C. Doloff is an Assistant Professor in Biomedical Engineering, Materials Science, and Oncology (Cancer Immunology) at Johns Hopkins University. At the Translational Tissue Engineering Center, his lab focuses on Immunoengineering and Regenerative Medicine, with emphasis on implant/transplant rejection, tissue remodeling, cancer, and autoimmunity. Josh is the Chair of SFB's Immunoengineering SIG, a CRS Young Investigator Award for Immuno Delivery, a CMBE Young Innovator, NIH Trailblazer, and most recently OCRA Early Career Investigator.

Santiago Correa, PhD
Columbia University

Dr. Santiago Correa is an Assistant Professor of Biomedical Engineering at Columbia University and a member of the Herbert Irving Comprehensive Cancer Center. He focuses on developing nanotechnologies to reprogram the immune system for treating cancer and autoimmune disorders. Dr. Correa earned his PhD in Biological Engineering from MIT, where he explored nanoparticle surface chemistry for targeting ovarian cancer in the Hammond Lab. Before Columbia, he was an NCI-funded Ruth L. Kirschstein F32 Postdoctoral Fellow at Stanford University, working on immunomodulatory biomaterials. His work has been supported by fellowships from the NSF, Sloan Foundation, and Siebel Foundation. Santiago holds a BS in Biomedical Engineering from Yale University.

Our Speakers

Ning Jenny Jiang, PhD
University of Pennsylvania

Jenny Jiang is Peter & Geri Skirkanich associate professor of innovation in the Department of Bioengineering at the University of Pennsylvania. She obtained her PhD from Georgia Institute of Technology and did her post-doc training at Stanford University. Dr. Jiang's research focuses on systems immunology and immune engineering by developing technologies that enable the direct profiling of human immune systems in cancer, infection, and vaccination. Dr. Jiang is a recipient of the prestigious Damon Runyon Cancer Research Foundation Damon Runyon-Rachleff Innovator Award, NSF CAREER Award, and Chan Zuckerberg Initiative Ben Barres Early Career Acceleration award.

Kathryn Miller Jensen, PhD
Yale University

Kathryn Miller-Jensen is a Professor of Biomedical Engineering and Molecular, Cellular, and Developmental Biology at Yale University. Her lab combines experimental and computational approaches to study signaling and transcriptional regulation in the immune system, with a focus on how intercellular heterogeneity drives disease phenotypes. She is an NSF CAREER Award recipient and an AIMBE Fellow. She was an NIH NSRA Postdoctoral Fellow at the University of California at Berkeley and she holds a PhD in Chemical Engineering from the Massachusetts Institute of Technology.

Gail Rosen, PhD
Drexel University

Gail Rosen received a B.S., M.S., and Ph.D. from the Georgia Institute of Technology. She is a recipient of an NSF CAREER award, a Drexel Faculty Career Development award, and Drexel Provost's Fellowship. She serves on the editorial board of the Association for Microbiology's mSystems and BMC Microbiome journals. She heads the Ecological and Evolutionary Signal-processing and Informatics (EESI) lab, organizes the Center for Biological Discovery from Big Data, and serves on the board and is a founding member of the University Research Computing Facility at Drexel. For the past 3 summers, she organized 2-week Drexel-Rowan-UChicago Biological Data Science summer workshops, which reached 8000+ participants around the world.

Our Speakers

Qiaobing Xu, PhD
Tufts University

Dr. Qiaobing Xu is a professor in Department of Biomedical Engineering at Tufts University. His work involves using combinatorial methods to develop novel lipid nanoparticles for the delivery of therapeutic biomacromolecules for gene therapy and gene editing. He received Charlton Award from Tufts University School of Medicine and National Science Foundation CAREER Award. He was named the Pew Scholar for Biomedical Sciences from Pew Charitable Trusts and was elected as a Fellow of AIMBE, Class of 2020.

Madhusudhanan Sukumar, PhD
Johnson & Johnson Innovative Medicine

Dr. Madhu Sukumar is the Associate Director of Cell Therapy Platform at Johnson and Johnson Innovative Medicine. He earned his PhD from Ludwig Maximilian University (LMU) in Munich, Germany 2008, where he conducted pivotal research on the “Mechanisms of Rejection of High-Grade B Cell Lymphoma.” Following his doctoral studies, Dr. Sukumar underwent extensive postdoctoral training in Cellular Immunotherapy and Tumor Immunology under the mentorship of Dr. Restifo and Dr. Rosenberg at the Surgery Branch of the U.S. National Cancer Institute (NCI, NIH) from 2008 to 2013.

Michael Naso, PhD
Century Therapeutics

Michael Naso is a Senior Vice President in Research responsible for guiding the research of genetically engineered induced pluripotent stem cell (iPSC)-derived immune cell products to treat hematologic and solid tumors, as well as autoimmune diseases. Prior to joining Century in January of 2019, he was a Director at Janssen Research and Development within the Biotherapeutics division, where he held leadership positions for programs and teams focused on antibody and cell and gene therapy discovery. Michael received his MS degree from Thomas Jefferson University in Anatomy, Cell Biology and Pathology, and his PhD from TJU in Biochemistry and Molecular Biology.

Abstract Award Winners

Leadership in Diversity:

Riddha Das, PhD
Massachusetts General Hospital
Engineering and stimulation of myeloid cells for cancer immunotherap

Sahily Reyes-Esteves, MD, PhD
University of Pennsylvania
Targeted LNPs containing IL-10 mRNA improve outcomes in experimental intracerebral hemorrhage

Translational Research:

Tomasz M. Grzywa, MD, PhD
Children's Hospital of Philadelphia
Directed evolution-based discovery of ligands for in vivo restimulation of CAR-T cells

Innovative Research:

Sihan Jia
Drexel University
Advanced immunomodulatory strategies for tolerogenic dendritic cell induction in autoimmune therapy

Taj Yeruva, PhD
University of Maryland
Synthetic mucus biomaterials for localized monoclonal antibody delivery in inflammatory bowel disease

Outstanding Early Career Researcher

Brian Kwee, PhD
University of Delaware
Regulatory T-cell targeting biomaterials for treating ischemic diseases

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Poster Session

Date: November 13th, 2024

Time: 5:15 pm to 7:30 pm

Location: Behrakis Grand Hall

Thank You

If you have any questions, please get in touch with us.

More at https://drexel.edu/biomed/research-and-design/overview/IMES2024/
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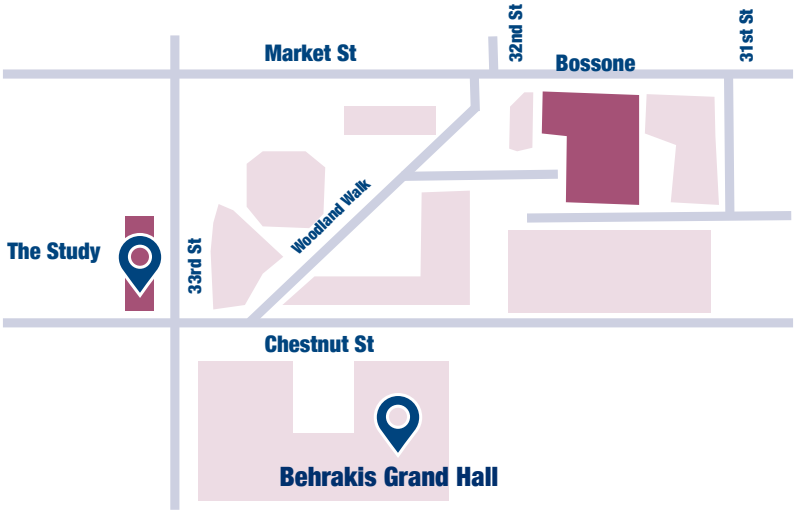

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