

QUARTERLY NEWSLETTER

UPENN DIGESTIVE AND LIVER CENTER

CENTER ADMINISTRATION

Ken Cadwell, PhD

Center Director

Gary D Wu, MD

Co-Associate Director

Rebecca G Wells, MD

Co-Associate Director

CORES

Molecular Pathology and Imaging Core (MPIC)

Jonathan Katz, MD

Core Director

Kate Bennett

Technical Director

Host-Microbial Analytic and Repository Core (H-MARC)

Gary D Wu, MD

Core Director

Lillian Chau, MS

Technical Director

Biomedical Data Science Core (BDSC)

Hongzhe Li, PhD

Co-Core Director

James D Lewis, MD

Co-Core Director

Genetically Engineered Mouse Core (GEMC)

Doug J Epstein, PhD

Core Director

Kathleen Moosbrugger

Technical Director

Gastrointestinal Epithelium Modeling Core (GEM)

Kathryn E. Hamilton, PhD

Co-Core Director

Amanda B Muir, MD

Co-Core Director

Tatiana Karakasheva, PhD

Technical Director

Welcome Dr. Ken Cadwell, our new Center Director!

Dear Colleagues and Friends,

I am honored to step into the role of Director of the UPenn Digestive and Liver Center and to have the opportunity to serve such an accomplished community. As I begin this new chapter, I first want to express my deep gratitude to Dr. Gary Wu for his exceptional leadership and dedication over the years. Gary's contributions have been instrumental in shaping the Center's success, and I am delighted that he has graciously agreed to continue serving as a co-Associate Director alongside Dr. Becky Wells. I am lucky to have their guidance as we build on the strong foundation they have established and navigate the challenges that may arise during this politically volatile period.



This edition of our quarterly newsletter brings exciting updates, including the announcement of our pilot award winners. The selection process was highly competitive, with a remarkable number of outstanding applications. This is a testament to the innovative research happening across our community. Congratulations to the awardees; your work embodies the excellence we strive to foster.

You may also notice that we've simplified our name to the UPenn Digestive and Liver Center, a change intended to make our identity clearer and easier to remember while staying true to our mission.

In my new role, I am committed to supporting our excellent core services and promote community building through the many enrichment activities organized by the Center. I look forward to working with all of you to drive our Center's continued growth and impact.

Warm regards,
Ken

**SAVE THE DATE for our ANNUAL P30 Symposium:
Fibrosis and wound healing across the spectrum of
digestive and liver diseases**

Wednesday November 12, 2025

More details to follow...



GET TO KNOW OUR CORES

MOLECULAR PATHOLOGY AND IMAGING CORE (MPIC)

Located on 9BRB (Rooms 931-933), the Molecular Pathology and Imaging Core (MPIC) is a state-of-the-art facility dedicated to supporting the histological and imaging needs of researchers across Penn, CHOP, and the broader academic community. From classical H&E and IHC/IF staining to cutting-edge spatial transcriptomics using 10x Visium and Xenium In Situ, MPIC bridges traditional pathology and modern molecular technologies. MPIC houses high-resolution fluorescence and brightfield microscopes (Nikon, Leica), laser capture microdissection, a Leica Aperio slide scanner, and automated staining with the Leica BOND RXm. Questions? Reach out to Kate Bennet at bennk@pennmedicine.upenn.edu.

HOST-MICROBIAL ANALYTIC AND REPOSITORY CORE (H-MARC)

Located on 9BRB (Rooms 934, 937-939), the Host-Microbial Analytic & Repository Core (H-MARC) empowers researchers to explore the dynamic interplay between host systems and microbes through integrated analyses and biorepository services. H-MARC offers a suite of analytic capabilities - instrumentation for gene expression, genomics, transcriptomics and metabolomics via subsidies when utilizing Penn-based technical services (Penn Genomics and Sequencing Core and Penn Metabolomics Core), microbial culture and targeted metabolomics. The human biorepository maintains a curated human biospecimen bank with rich clinical metadata and annotated biospecimens to support GI, liver and microbiome research. Contact Lillian Chau at Lillian.Chau@pennmedicine.upenn.edu to learn more.

GENETICALLY ENGINEERED MOUSE CORE (GEMC)

The Genetically Engineered Mouse Core (GEMC) is a centralized resource located in the CRB vivarium dedicated to generating infection-free, genetically modified mouse models. These models include transgenic and chimeric lines tailored to studying development, disease, and gene function. In collaboration with the CRISPR/Cas9 Mouse Targeting Core, GEMC utilizes cutting-edge technologies to efficiently and cost-effectively generate knock-out, knock-in, and other complex genetic modifications in mice. Additional services include: injections - DNA/RNA microinjection, ES cell, intracytoplasmic sperm; electroporation-based editing, cryopreservation and pathogen-free re-derivation. Interested in learning more? Reach out to Technical Director Kathleen Moosebrugger at kthompso@pennmedicine.upenn.edu

GASTROINTESTINAL EPITHELIAL MODELING CORE (GEM)

The Gastrointestinal Epithelium Modeling (GEM) Core, established in 2024 through a joint initiative by CHOP's GEM Program and the Penn Center for Molecular Studies in Digestive & Liver Diseases, empowers pediatric GI research with living biobanked organoids - mini-replicas of patient intestinal tissue to support personalized disease modeling, ultimately facilitating bench to bedside discovery. For more information, email Tatiana Karakasheva at KARAKASHET@chop.edu or visit GEM at 902G ARC.

BIOMEDICAL DATA SCIENCE CORE (BDSC)

The Biomedical Data Science Core (BDSC) provides basic analyses such as statistical testing, data cleaning, exploratory methods, differential expression/abundance, and predictive modeling via machine learning; as well as tailored biostatistics such as multi-omics integration, network/pathway modeling, causal inference and single-cell data analysis bioinformatics and clinical data informatics. Additionally, study design, protocol development, SOPs, power calculations, grant text reviews and access to/ integration of clinical data sources (EHRs, claims, registries) with metadata management and SOP development are available to support basic, translational, and human-subject research. To request a consultation, click on this link: <https://redcap.link/7spln13k>

INTRODUCING OUR PILOT GRANT AWARDEES

Hajera Amatullah, PhD

Amatullah Lab

Dr. Hajera Amatullah is an Assistant Professor in the Department of Systems Pharmacology and Translational Therapeutics at the University of Pennsylvania's Perelman School of Medicine. Her lab's overall research program focuses on epigenetic regulation of innate immunity, specifically how aberrant epigenetic landscapes and disrupted chromatin regulators contribute to chronic immune diseases such as inflammatory bowel disease (IBD), asthma, and lupus. Our lab utilizes immunological, molecular biology, and epigenetic approaches in primary human cells and mouse models to decipher function of chromatin regulators as well as profile epigenetic landscape in healthy and disease states. Our lab's ultimate goal is to offer insights into novel epigenetic based therapeutic strategies for chronic immune diseases.



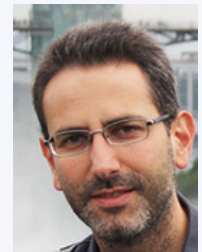
Nadim Mahmud, MD, MS, MPH, MSCE

Dr. Nadim Mahmud is an Assistant Professor of Medicine and Epidemiology at the University of Pennsylvania's Perelman School of Medicine. He specializes in gastroenterology and transplant hepatology, focusing on advanced risk prediction modeling to improve clinical decision-making for patients with chronic liver disease.

Manolis Roulis, PhD

Roulis Lab

Dr. Roulis is an Assistant Professor of Pathology and Laboratory Medicine at the University of Pennsylvania's Perelman School of Medicine. His research focuses on the mesenchymal microenvironment, particularly fibroblasts and the extracellular matrix, in maintaining tissue homeostasis and their role in chronic inflammation, fibrosis, and tumorigenesis. His laboratory employs single-cell analyses, mouse models, human organoids, and organotypic systems to study these processes in the gastrointestinal tract.



INTERESTED IN APPLYING FOR A P30 PILOT AWARD?

Call for applications coming soon!

For more information, visit our website at:

<https://www.med.upenn.edu/CMSDLD/pilot-project-program.html>

A reminder....

Please acknowledge support from the NIH P30 Center grant P30-DK050306 in publications resulting from core usage.

For more information on the P30, please visit our website at:

<https://www.med.upenn.edu/CMSDLD/>