

CORES DAY

WHEN:

September 24, 2020
9:00 a.m. - 3:15 p.m.
Virtual BlueJeans Event

WEBSITE:

[https://www.med.
upenn.edu/cores/cores-
day-2020.html](https://www.med.upenn.edu/cores/cores-day-2020.html)

CORES DAY SCHEDULE

Interested in a core facility? Simply click the core facility name during the appropriate time slot on September 24th to be taken to their live morning presentation or afternoon “Office Hour” style Q&A session via BlueJeans.

Please note that all nine presentations in each time slot will take place simultaneously; please click on a name below to link to an individual presentation or “Office Hour” Q&A session.

Morning presentations (9:00 a.m. - 11:45 a.m.) will be recorded and made available online in the future. Afternoon “Office Hour” style Q&A sessions (11:55 a.m. - 3:15 p.m.) will be recorded, however footage will not be made publicly available.

| TIME | CORE FACILITY PRESENTATIONS | | | | | | | | |
|-------------------------|--|--|---|---|--|--|---|---|---|
| 9:00 a.m. - 9:15 a.m. | Office of Clinical Research (PSOM) | Center for Human Phenomic Science (PSOM) | Microbiome Core (CHOP) | Johnson Foundation Structural Biology and Biophysics (PSOM) | Penn Genomic Analysis Core Facility and Cell Center Services Facility (PSOM) | Bioinformatics Core (Wistar) | Neurobehavior Testing Core Facility (PSOM) | Animal Facility (Wistar) | Small Animal Imaging Facility (CHOP) |
| 9:25 a.m. - 9:40 a.m. | Biomedical Library (PSOM) | Center for Human Phenomic Science (CHOP) | Microbial Culture and Metabolomics Core Facility (PSOM) | Human Immunology Core Facility (PSOM) | Center for Applied Genomics (CHOP) | Bioinformatics Core Facility (PSOM) | Translational Core Lab and Biorepository Resource Center (CHOP) | Gnotobiotic Mouse Facility (PSOM) | Small Animal Imaging Facility (PSOM) |
| 9:50 a.m. - 10:05 a.m. | iLab High Performance Computing, Clinical Research Information Services (PSOM) | Chemical and Nanoparticle Synthesis Core Facility (PSOM) | Metabolomics Core Facility (PSOM) | OCRC Tumor BioTrust Collection (PSOM) | Next Generation Sequencing Core Facility (PSOM) | Bioanalytical Core Laboratory (CHOP) | Human Pluripotent Stem Cell Core Facility (CHOP) | Zebrafish Core (CHOP) | Clinical Imaging Core (PSOM) |
| 10:15 a.m. - 10:30 a.m. | Laboratory Information Systems, Penn Medicine Academic Computing Services (PSOM) | Singh Center for Nanotechnology (UPenn) | Metabolomics Core (CHOP) | Flow Cytometry and Cell Sorting Shared Resource Laboratory (PSOM) | Stem Cell Xenograft Core Facility (PSOM) | Biostatistics Analysis Center (PSOM) | CRSO Staffing Core (CHOP) | Comparative Pathology Core (Penn Vet) | Information Services Advisory Center (PSOM) |
| 10:40 a.m. - 10:55 a.m. | eagle-i (PSOM) | Penn Health-Tech (PSOM) | Image Shared Resource (Wistar) | Flow Cytometry Shared Resource (Wistar) | Pathology Core (CHOP) | Biostatistics and Data Management Core (CHOP) | Research Information Services (CHOP) | Extracellular Vesicle Core Facility (PennVet) | Center for Advanced MRI and Spectrometry (PSOM) |
| 11:05 a.m. - 11:20 a.m. | Disbursements Group, Comptroller's Office (UPenn) | Penn Vector Core Facility (PSOM) | Proteomics Core Facility (CHOP) | Flow Cytometry Core (CHOP) | Molecular Pathology and Imaging Core (PSOM) | High - Throughput Screening Core Facility (PSOM) | Comparative Medicine Services Core (CHOP) | Transgenic Core Facility (CHOP) | Center for Advanced Computer Tomography Imaging Services (PSOM) |
| 11:30 a.m. - 11:45 a.m. | Community Engagement and Research (PSOM) | Clinical Vector Core (CHOP) | Quantitative Proteomics Resource Core Facility (PSOM) | IBI Clinical Research Informatics Core Facility (PSOM) | CDB Microscopy Core Facility (PSOM) | Mixed Methods Research Lab (PSOM) | Investigational Drug Service (PSOM) | Histotechnology Core (Wistar) | Brain Science Center: Flywheel and Virtual Reality Labs (PSOM) |

CORES DAY SCHEDULE

| TIME | "OFFICE HOUR" Q&As | | | | | | | | |
|-------------------------|---|---|---|---|--|--|---|---|--|
| 11:55 a.m. - 12:15 p.m. | Office of Clinical Research (PSOM) | Center for Human Phenomic Science (CHOP) | Microbiome Core (CHOP) | Johnson Foundation Structural Biology and Biophysics (PSOM) | Penn Genomic Analysis Core Facility and Cell Center Services Facility (PSOM) | Bioinformatics Core Facility (PSOM) | Biomedical Research Support Core (Wistar) | Animal Facility (Wistar) | Small Animal Imaging Facility (CHOP) |
| 12:25 p.m. - 12:45 p.m. | Biomedical Library (PSOM) | Singh Center for Nanotechnology (UPenn) | Microbial Culture and Metabolomics Core Facility (PSOM) | Electron Microscopy Resource Lab (PSOM) | Center for Applied Genomics (CHOP) | Bioanalytical Core Laboratory (CHOP) | Translational Core Lab and Biorepository Resource Center (CHOP) | Gnotobiotic Mouse Facility (PSOM) | Small Animal Imaging Facility (PSOM) |
| 12:55 p.m. - 1:15 p.m. | Community Engagement and Research (PSOM) | Penn Health-Tech (PSOM) | Metabolomics Core Facility (PSOM) | Human Immunology Core Facility (PSOM) | Next Generation Sequencing Core Facility (PSOM) | Biostatistics Analysis Center (PSOM) | Human Pluripotent Stem Cell Core Facility (CHOP) | Zebrafish Core (CHOP) | Clinical Imaging Core (PSOM) |
| 1:25 p.m. - 1:45 p.m. | iLab Core Facility Management System (PSOM) | Penn Vector Core Facility (PSOM) | Human Intervention Core Facility (PSOM) | OCRC Tumor BioTrust Collection (PSOM) | Stem Cell Xenograft Core Facility (PSOM) | Biostatistics and Data Management Core (CHOP) | CRSO Staffing Core (CHOP) | Comparative Pathology Core (Penn Vet) | Ultrasound Service Center (PSOM) |
| 1:55 p.m. - 2:15 p.m. | Penn Medicine Academic Computing Services (PSOM) | Clinical Vector Core (CHOP) | Acute Care Biobanking Core Facility (PSOM) | Flow Cytometry and Cell Sorting Shared Resource Laboratory (PSOM) | Pathology Core (CHOP) | High - Throughput Screening Core Facility (PSOM) | Research Information Services (CHOP) | Extracellular Vesicle Core Facility (PennVet) | Brain Science Center: Flywheel and Virtual Reality Labs (PSOM) |
| 2:25 p.m. - 2:45 p.m. | eagle-i (PSOM) | Genomics Core Facility (Wistar) | Image Shared Resource (Wistar) | Flow Cytometry Shared Resource (Wistar) | Molecular Pathology and Imaging Core (PSOM) | CRISPR-Cas9 Mouse Targeting Core Facility (PSOM) | Neurobehavior Testing Core Facility (PSOM) | Transgenic Core Facility (CHOP) | Research Institute Shipping Core (CHOP) |
| 2:55 p.m. - 3:15 p.m. | Disbursements Group, Comptroller's Office (UPenn) | Raymond G. Perelman Center for Cellular and Molecular Therapeutics Research Viral Vector Core - RVC Core (CHOP) | Proteomics Core Facility (CHOP) | Flow Cytometry Core (CHOP) | CDB Microscopy Core Facility (PSOM) | Transgenic and Chimeric Mouse Facility (PSOM) | Comparative Medicine Services Core (CHOP) | Rodent Metabolic Phenotyping Core Facility (PSOM) | Neurons R Us Brain Cell Core (PSOM) |



Acute Care Biobanking Core Facility (PSOM)

Ayannah Fitzgerald, Clinical Coordinator

1:55 p.m. - 2:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/490081660>

The goals of the Acute Care Biobanking Core Facility, which is part of the PennCHOP Microbiome Program, are to encourage and facilitate microbiome-focused research in the pathogenesis, diagnosis and treatment of patients with critical illness. Many patients who are critically ill are subject to processes and complications with microbially-driven or infectious mechanisms. The core facility will assist in research by providing de-identified samples with linked clinical metadata to support research in this area, collect specimens as needed in support of microbiome research, and offer support for development of such research in the critical care setting.

<https://pennchopmicrobiome.chop.edu/cores/acute-care-biobanking-core>

Animal Facility (Wistar)

Denise DiFrancesco, Managing Director

9:00 a.m. - 9:15 a.m.

Presentation Time

11:55 a.m. - 12:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/383890768>

The Animal Facility Shared Resource facilitates research through humane and efficient management of animal populations. The vivarium operates as a modified barrier facility and is equipped with quarantine and a procedure room, holding rooms with biosafety cabinets, an imaging/holding room equipped with a PerkinElmer IVIS SpectrumCT imaging system, and additional support areas. The Facility has rack space for more than 6,000 sterile, disposable, and individually ventilated mouse cages. Space for housing limited numbers of small animal species other than mice is also available upon request. Wistar's Animal Care and Use Program, overseen by The Wistar Institutional Animal Care and Use Committee (IACUC), is fully accredited by AAALAC International since 1998, has an assurance on file with the Office of Laboratory Animal Welfare at the NIH, and is a registered USDA research institution.

<https://wistar.org/research-discoveries/shared-resources/animal-facility>

Bioanalytical Core Laboratory (CHOP)

Dr. Ganesh Moorthy, Director

9:50 a.m. - 10:05 a.m.

Presentation Time

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/210879517>

The Bioanalytical Core provides quantitative bioanalytical services (analysis of small molecule drugs, metabolites and biomarkers in blood, serum, plasma, urine, ultrafiltrate, micro-dialysate, whole blood microsampling, and tissue homogenates).

<https://www.research.chop.edu/bioanalytical-core>



Bioinformatics Core Facility (BIC) (PSOM)

Taehyong Kim, Interim Director

9:25 a.m. - 9:40 a.m.

Presentation Time

<https://bluejeans.com/210879517>

11:55 a.m. - 12:15 p.m.

"Office Hour" Q&A Time

The Bioinformatics Core (BIC) of the Institute for Biomedical Informatics (IBI) provides professional bioinformatics services that include data analysis and consultation to Penn Biomedical research community. The BIC core is also dedicated to the building of efficient pipelines that handle various biomedical data including Next-Generation Sequencing (NGS). Since its establishment four years ago, BIC has been serving 50 research groups from 20 Penn institutes and departments, helped the funding of multiple NIH grants, and co-authored in 20+ publications.

<https://bioinfo.med.upenn.edu/>

Bioinformatics Core Facility (Wistar)

Andrew Kossenkov, Director

9:00 a.m. - 9:15 a.m.

Presentation Time

<https://bluejeans.com/210879517>

The Wistar Bioinformatics Shared Resource continuously develops new and efficient approaches to data analysis as a response to emerging research needs. Facility functions include statistical analyses and computational modeling for any type of high-throughput data, advanced bioinformatics tools for integrative cancer biology, and data management. Routine data analyses include large scale information datasets (omics data) generated by high-throughput technologies, which address the following areas: gene expression (RNA-seq, single cell RNA-seq); gene regulation (ChIP-seq, ATAC-seq, epigenetic profiling, promoter methylation arrays); genome and transcriptome sequencing (alternate splicing, RNA editing, gene fusion, SNP and INDEL mutation detection, CNV); biomarkers (discovering markers in mRNA, miRNA and protein expression data); proteomic analyses (mass spectrometry-based spectra, LCMS, DIGE, RPPA, etc.); pathway and network analysis; integration of multi-platform data; and other customized data analysis projects.

<https://wistar.org/research-discoveries/shared-resources/animal-facility>

Biomedical Library (PSOM)

Dr. Hannah Rutledge, Director

9:25 a.m. - 9:40 a.m.

Presentation Time

<https://bluejeans.com/140820286>

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

Research support offerings at the Biomedical Library include: 3D and poster printing and consulting; systematic reviews services; research consultations for your clinical and basic science projects; NIH Public Access troubleshooting; basic bioinformatics support (e.g. NCBI and BioCyc databases); copyright guidance; and evaluating research impact at institutional, individual researcher, and article levels. We are here to help you!

<https://www.library.upenn.edu/biomed>



Biomedical Research Support Core (Wistar)

Livio Azzoni, Managing Director

11:55 a.m. - 12:15 p.m.
"Office Hour" Q&A Time

<https://bluejeans.com/651563432>

The Biomedical Research Support Core (BRSC) provides a robust infrastructure to support mechanistic, patient-oriented research. The BRSC manages the resource commitment associated with clinical studies, including supporting compliance with regulatory directives governing research in human subjects. Services include phlebotomy and blood product procurement, tissue microarrays, collection of pathological specimens, and support for clinical studies. This includes data collection, storage and extraction, data quality control, site monitoring, regulatory reporting, and connection with statistical teams for data analysis. Through our collaboration with the Histotechnology Facility, Wistar researchers also have access to tissue processing and advanced histology services for specimen analysis.

<https://wistar.org/research-discoveries/shared-resources/biomedical-research-support-facility>

Biostatistics Analysis Center (PSOM)

Scott Appel, Michael Kallan; Co-Directors

10:15 a.m. - 10:30 a.m. 12:55 p.m. - 1:15 p.m.
Presentation Time "Office Hour" Q&A Time

<https://bluejeans.com/210879517>

As a CCEB Service Center, the BAC provides biostatistical programming and analysis support across a wide range of research programs and medical disciplines, of any size and complexity, both within the University and externally. Whether the BAC supports a federally funded multi-year, multi-center research study or provides short-term analytic support for a departmentally funded project, each project receives the right amount of specialized expertise needed to achieve research goals.

<https://www.cceb.med.upenn.edu/bac>

Biostatistics and Data Management Core (BDMC) (CHOP)

Julie DiStefano-Pappas, Co-Director; Lance Ballester, Senior Biostatistician

10:40 a.m. - 10:55 a.m. 1:25 p.m. - 1:45 p.m.
Presentation Time "Office Hour" Q&A Time

<https://bluejeans.com/210879517>

The Biostatistics and Data Management Core (BDMC) supports the biostatistical and data management needs of the investigators at CHOP from virtually all subspecialties of pediatric medicine. The BDMC supports studies ranging from small, bench science projects to large, multi-site clinical trials. The BDMC is supported by Westat, a prominent health research organization with extensive biostatistics, data management, and information technology resources.

<https://research.chop.edu/biostatistics-data-management>



Brain Science Center: Flywheel and Virtual Reality Labs (PSOM)

Geoff Aguirre, Assoc. Professor of Neurology; Alex Miller, Scientist; Margaret Ryan, Admin. Coordinator

11:30 a.m. - 11:45 a.m.

Presentation Time

1:55 p.m. - 2:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/530604934>

The interdisciplinary Brain Science Center in the Penn Mahoney Institute for Neurosciences provides infrastructure support for research on human cognition, perception, affect, disordered cognition, and extension to preclinical models. By consolidating state-of-the-art methodological expertise in these domain areas as services, the Brain Science Center seeks to facilitate cutting-edge research using a largely shared set of methods and tools for elucidating brain-behavior relationships in health and disease.

<https://pennbrain.upenn.edu/>

CDB Microscopy Core Facility (PSOM)

Andrea Stout, Director

11:30 a.m. - 11:45 a.m.

Presentation Time

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/734876686>

The Cell and Developmental Biology (CDB) Microscopy Core Facility provides personalized assistance on all aspects of imaging, from tips on sample preparation, to training on one of our microscopes, to assistance with image data analysis. Our Facility currently houses seven confocal microscopes, a Bruker Vutara 352 super-resolution system, a Zeiss Z.1 Lightsheet system, three widefield light microscopes, and several computers dedicated to image processing and analysis. In addition, we offer scanning electron microscope (SEM) sample preparation and imaging.

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

Center for Advanced Computer Tomography Imaging Services (CACTIS) (PSOM)

Lisa M. Angilletta, Manager, Research Coordinator

11:05 a.m. - 11:20 a.m.

Presentation Time

<https://bluejeans.com/530604934>

The CACTIS mission is to oversee proposed research protocols that involve human, animal, phantom, or specimen studies in an effort to achieve two goals: to ensure all research performed on the CT scanners comply with CACTIS and University policy, and Federal Regulations; and to determine if CACTIS can maintain the resources required to carry out each research protocol, including personnel, software, hardware, and scan time. Additionally, CACTIS oversees the day-to-day operations of all CT procedures associated with research protocols, provides information regarding the use of the CT facilities to the research community at the University of Pennsylvania, provides CACTIS users with all of the policies of the institution governing research, and ensures that CACTIS is in compliance with these policies. The Service Center strives to support the Perelman School of Medicine's research endeavors by providing CT research services for a fee designed only to cover actual costs.

<https://bit.ly/32MyMEN>



Center for Advanced MRI and Spectrometry (CAMRIS) (PSOM)

Norman Butler, Technical Director; Shannon Long, Administrative Director

10:40 a.m. - 10:55 a.m.

Presentation Time

<https://bluejeans.com/530604934>

The overall mission of CAMRIS is to provide oversight in the responsible use and application of Magnetic Resonance in research through leadership, education, and guidance. These principles are manifested in the development of new research and collaborations inside and outside the Radiology Department which can translate into advanced clinical techniques; training in safe and efficient use of this investigative tool and dissemination of current, accurate, and evolving MR Technology; scheduling upgrades of MR Systems and facilities; scheduling systems operations and personnel within the MR department; and receiving and acting on recommendations pertaining to the administration of CAMRIS Facilities.

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

Center for Applied Genomics (CHOP)

Renata Pellegrino, PhD, Laboratory Director

9:25 a.m. - 9:40 a.m.

Presentation Time

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/734876686>

Established in 2006, the CAG CORE Laboratory is fully equipped with state-of-the-art technology and experienced staff members. Genotyping and Sequencing operations are integrated with our Biorepository and Bioinformatics teams to keep all stages of a collaborator's studies connected. The CAG lab offers cutting edge technologies in the Genomics field: Novaseq6000, Single Cell 10xGenomics, Bionano, Miseq, Fluidigm confirmation, Sanger Sequencing (including fragment analysis). Our genotyping facility utilizes high scale microarrays, Sanger and Fluidigm for massive genotyping.

<https://chop.ilab.agilent.com/landing/101>

Center for Human Phenomic Science (CHPS) (CHOP)

John Krall, Administrative Director

9:25 a.m. - 9:40 a.m.

Presentation Time

11:55 a.m. - 12:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/359701492>

The goal of the Center for Human Phenomic Science (CHPS) is to provide the resources, environment, operations, and training to support and promote high-quality clinical and translational research by qualified investigators. The CHPS supports the research of more than 300 different principal investigators from Penn and CHOP engaged in over 400 research protocols. All protocols are approved by the CHPS Resource Committee.

<https://chps.research.chop.edu/>



Center for Human Phenomic Science (CHPS) (PSOM)

Raymond R. Townsend, MD, CHPS Associate Program Director; Carl Shaw, CHPS Research Facilitator; Amanda Brock, Nurse Manager, CHPS

9:00 a.m. - 9:15 a.m.

Presentation Time

<https://bluejeans.com/359701492>

The CHPS was formed with the receipt of the Clinical and Translational Science Award (CTSA), an NIH Roadmap initiative. The CHPS has child and adult specific components at Children's Hospital of Philadelphia (CHOP) and University of Pennsylvania, respectively, as well as joint components. The CHPS merged the General Clinical Research Centers (GCRCs) at both institutions, and introduced new programs and services. The goal of the CHPS is to provide the resources, environment, operations, and training to support and promote high-quality clinical and translational research by qualified investigators.

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

Chemical and Nanoparticle Synthesis Core Facility (CNSC) (PSOM)

Kido Nwe, Technical Director; Davit Jishkariani, Associate Technical Director

9:50 a.m. - 10:05 a.m.

Presentation Time

<https://bluejeans.com/359701492>

The CNSC supports researchers by providing in-house expertise in medicinal chemistry, metal chelate chemistry, polymer synthesis, and nanoparticle production and surface functionalization. Our chemists provide custom, problem-specific support for researchers in medical, chemical, and materials science fields. Specific services include: consultation and assistance with the design of chemical/medicinal compounds, in-house synthesis of chemical/medicinal compounds, custom nanoparticle design and synthesis, custom nanoparticle surface functionalization, as well as polymer and dendrimer synthesis. In addition to custom services, the CNSC also provides a catalog of pre-made reactive metal chelates for radiolabeling and other imaging applications, reactive near-infrared imaging agents, hydrophobic and hydrophilic nanoparticles.

<http://www.itmat.upenn.edu/cnsc/>

Clinical Imaging Core (PSOM)

Kathleen Thomas, Director; Tom Ferrara, Clinical Research Operations and TRAC Manager

9:50 a.m. - 10:05 a.m.

Presentation Time

12:55 p.m. - 1:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/530604934>

The Clinical Imaging Core Facility is a service center providing clinical research support such as regulatory management, research coordination, imaging anonymization, and other research administrative support, as well as tumor response assessment, AV line placement, and imaging guided biopsy protocol review.

<https://www.penmedicine.org/departments-and-centers/department-of-radiology/radiology-research/core-facilities>

<https://www.med.upenn.edu/cbi/core-centers.html>



Clinical Vector Core (CHOP)

Johannes van der Loo, Director

11:30 a.m. - 11:45 a.m.

Presentation Time

1:55 p.m. - 2:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/359701492>

The Raymond G. Perelman Center for Cellular and Molecular Therapeutics has established state-of-the-art Current Good Manufacturing Practices (cGMP) clinical vector manufacturing suites for adeno-associated virus (AAV) and lentiviral (LV) vectors. Directed by a leading expert in preclinical and clinical vector production and characterization, our goal is to help realize the enormous promise of gene transfer therapy to address unmet medical needs.

The Clinical Vector Core manufactures clinical and pre-clinical adeno-associated virus (AAV) vectors of serotypes 1, 2, 5, 6, 8, and 9, and Lentivirus (LV) vectors. Novel or modified serotypes will require development prior to scale-up. Products for clinical use are manufactured in compliance with cGMP for Phase 1 and 2 clinical trials. To support preclinical work, including pharmacology and toxicology studies, we offer products manufactured using a GMP-comparable process. Research-grade products for proof-of-principle and bridging studies are also offered, in addition to support for long-term stability and device compatibility studies and investigational new drug (IND) submission.

The Clinical Vector Core is a not-for-profit core that welcomes projects from academia, industry, and government on a first-come, first-serve basis.

<https://www.research.chop.edu/clinical-vector>

Community Engagement and Research (CEAR) (PSOM)

Karen Glanz, George A. Weiss Professor, Perelman School of Medicine and School of Nursing;
Jade Avelis, Research Project Manager, Center for Health Behavior Research

11:30 a.m. - 11:45 a.m.

Presentation Time

12:55 p.m. - 1:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/140820286>

The Community Engagement and Research Core Facility (CEAR Core) aims to facilitate and build capacity for community-based research and community engagement, while enhancing the translation of research and technological developments to key public health and community stakeholders. The CEAR Core offers consultation on community engagement, training in participatory research methods, and assistance with the development, implementation, and evaluation of community translation activities. This Core is part of the Penn Institute for Translational Medicine and Therapeutics (ITMAT).

<http://www.itmat.upenn.edu/cear.html>



Comparative Medicine Services Core (CMSC) (CHOP)

Geary "Chip" Smith, DVM, MS, Technical Director

11:05 a.m. – 11:20 a.m.

Presentation Time

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/651563432>

Since its inception, the CHOP Research Institute has held a "bench to bedside" philosophy that emphasizes bringing basic research ideas to the clinic so that they may improve the lives of patients and their families. Completion of preclinical investigations and submission of Investigational New Drug (IND) and Premarket Approval (PMA) Applications to the FDA for the initiation of first-in-human trials are essential steps toward enacting this philosophy. The mission of the Raymond G. Perelman Center for Cellular and Molecular Therapeutics Comparative Medicine Services Core is to partner with and guide investigators (both CHOP-based and external) through these processes.

The Comparative Medicine Services Core is composed of highly-trained veterinary, regulatory, and quality assurance professionals capable of completing and overseeing a variety of animal studies, including fully GLP-compliant studies. In addition, we facilitate official communications with the FDA from pre-IND and pre-PMA discussions through generating and submitting SEND-compliant data packages for IND applications and PMA applications. We expect to be fully operational in the second quarter of 2021, but if you have medical products that are nearing the preclinical phase of development, we recommend starting the conversation about this process, today.

[Website Under Development](#)

Comparative Pathology Core (Penn Vet)

Matthew Lanza VMD; Enrico Radaelli DVM, PhD; Charles Assenmacher, DVM

10:15 a.m. - 10:30 a.m.

Presentation Time

1:25 p.m. - 1:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/383890768>

The Comparative Pathology Core (CPC), an Abramson Cancer Center shared resource, provides expert pathological characterization and validation of mouse and other animal models used in biomedical research by offering the expertise of board-certified veterinary pathologists and access to state-of-the-art histology, immunohistochemistry, and digital pathology services.

<https://www.vet.upenn.edu/research/core-resources-facilities/comparative-pathology-core>



CRISPR-Cas9 Mouse Targeting Core Facility (PSOM)

Leonel D. Joannas, Technical Director

2:25 p.m. - 2:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/210879517>

The CRISPR/Cas9 Targeting Core Facility at the Perelman School of Medicine has been fully operational since February 2017. Jorge Henao-Mejia MD, PhD, has served as Scientific Director and Leonel Joannas as the Technical Director. The Core is located in the Institute for Immunology and the Scientific and Technical Directors are part of the IFI. In addition, this recently established Core is composed of two laboratory technicians who work under our guidance. The mission of the CRISPR/Cas9 Targeting Core is to streamline procedures to facilitate the use of the CRISPR/Cas9 genome editing technology by the larger UPenn/CHOP community to rapidly and economically generate novel mouse genetic tools. This Core has had a significant positive impact in the community. Since we established this technology on campus we have generated over 200 new mouse models for 115 users at UPenn/CHOP and nationwide. In addition, our R&D efforts in this area should enable UPenn/CHOP to remain at the forefront of this technology.

<https://pathbio.med.upenn.edu/crispr/site/>

CRSO Staffing Core (CHOP)

Michele Toms, Administrative Director

10:15 a.m. - 10:30 a.m.

Presentation Time

1:25 p.m. - 1:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/651563432>

The Research Staffing Office Core (CRSO-CORE) provides clinical research personnel to support all types of Clinical research studies, and excels at matching top quality clinical research staff with clinical investigators and teams. The CRSO-CORE is comprised of clinical research professionals with diverse backgrounds and various levels of education and experience, including registered nurses, respiratory therapists, and coordinators who hold advanced degrees in psychology, public health, business, education, and clinical research. Our coordinators and clinical project managers are experienced with many types of clinical research studies, including behavioral health, tissue collection, data abstraction, interview/survey based, and all phases of drug and device trials.

<https://chop.ilab.agilent.com/sc/5222/research-staffing-core/?tab=about>



Disbursements Group, Comptroller's Office (UPenn)

Sarah Boyer, Disbursements Project Manager

11:05 a.m. - 11:20 a.m.

Presentation Time

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/140820286>

The Disbursements Group offers a faster, safer method to pay your study or program participants with the Greenphire ClinCard, a reloadable, prepaid card. The ClinCard provides an excellent alternative to AP checks, gift cards, and petty cash. Greenphire also supplies a convenient administrative tool for loading, tracking, and reporting your studies' or programs' payments in real-time. We also can discuss virtual payment options and answer any questions about paying human subjects.

<https://www.finance.upenn.edu/disbursements-accounts-payable/paying-human-subjectsothers>

eagle-i (PSOM)

Neetu Rajpal, Research Project Manager B; Greg Grant, Research Associate Professor of Genetics

10:40 a.m. - 10:55 a.m.

Presentation Time

2:25 p.m - 2:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/140820286>

Penn proudly participates in the eagle-i Network. The eagle-i website search function allows you to search more than 90,000 biomedical research resources from more than 28 institutions.

<https://www.eagle-i.net/>

Electron Microscopy Resource Lab (PSOM)

Sudheer Molugu, Director; Biao Zuo, Technical Director; Inna Martynyuk, Research Specialist

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/790024263>

The Electron Microscopy Resource Lab (EMRL) at the Perelman School of Medicine, University of Pennsylvania, is a training and service facility dedicated to providing both conventional transmission electron microscopy (TEM) of cells and tissues and state-of-the-art cryo-electron microscopy (cryo-EM) and cryo-electron tomography (cryo-ET) for structural investigation of macromolecules and cells. The Core Facility offers services to University of Pennsylvania research groups and external academic research groups in the greater Philadelphia area.

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



Extracellular Vesicle Core Facility (PennVet)

Rachel DeRita, PhD, Director

10:40 a.m. - 10:55 a.m.

Presentation Time

1:55 p.m. - 2:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/383890768>

The Extracellular Vesicle (EV) Core Facility located in the Rosenthal Building at 3800 Spruce Street provides comprehensive or selected services in the necessary isolation, quantification, and characterization of EVs. Isolation of EV is based on size exclusion using high-performance (SEC-HPLC) or gravity fed (e.g. iZon column) liquid chromatography, ultracentrifugation, and/or density gradient ultracentrifugation. We can accurately characterize EV particle size distribution and concentration using resistive pulse sensing (nCS1, Spectradyne, LLC) and nanoparticle tracking analysis (ZetaView by Particle Metrix) techniques. Immunophenotype can be accomplished using nanoscale flow cytometry, fluorescent nanoparticle tracking analysis, and/or chip array (ExoView™) techniques. Additionally, we provide services in training and education for individuals and lab groups in all methods above and study design consultation to ensure that your EV work is of the highest quality and prepared for high impact publication in this exciting and rapidly growing field.

<https://www.vet.upenn.edu/research/core-resources-facilities/extracellular-vesicle-core>

Flow Cytometry & Cell Sorting Shared Resource Laboratory (PSOM)

Derek Jones, Tom Williams; Technical Directors

10:15 a.m. - 10:30 a.m.

Presentation Time

1:55 p.m. - 2:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/790024263>

The Flow Cytometry and Cell Sorting Shared Resource Laboratory (FCCSRL) is dedicated to providing Penn investigators access to high-quality, cost-effective flow cytometric services, as well as providing the scientific expertise necessary to effectively integrate this technology into their research projects. One of the Resource Lab's primary missions is teaching this technology, consulting with investigators regarding integration of this technology into their research paradigms, and providing technical support to regular users. The facility offers training for investigator performed analysis on all bench-top analyzers, and cell sorter training is also available upon staff approval. A newly-integrated single cell genomic pipeline allows users to perform RNA-seq library preparation immediately after sorting. The Facility can advise and/or collaborate on implementing advanced data analysis methods for large-scale or high-dimensional experiments in conjunction with Dr. Wade Rogers. Investigators may also access commercial data analysis software by licensing through the facility (for a quarterly fee). Recognizing the complexity of cytomics, the Flow Cytometry and Cell Sorting Resource Laboratory has developed an educational program to enable investigators to make optimal and efficient use of the technology. This training and consultation program is a model for other shared resource labs throughout the country.

<https://pathbio.med.upenn.edu/pbr/portal/flowcyto/>



Flow Cytometry Core (CHOP)

Florin Tuluc, Laboratory Director

11:05 a.m. - 11:20 a.m.

Presentation Time

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/790024263>

The Flow Cytometry Laboratory at Children's Hospital of Philadelphia provides access to state-of-the-art instrumentation and flow cytometry and cell sorting services to members of the research community of CHOP and University of Pennsylvania. The Laboratory is located in Suite 1207 on the 12th Floor of the Leonard and Madlyn Abramson Pediatric Research Center. Seven analyzers (Cytek Aurora, CytoFlex LX, CytoFLEX S, LSRFortessa, LSR II, FACSCalibur, Accuri C6) and four cell sorters (Beckman-Coulter MoFlo Astrios EQ, Becton-Dickinson FACSAria Fusion, Becton-Dickinson FACSJazz, and Union Biometrica Biosorter) are operated in the Lab either by staff or trained users. MoFlo Astrios EQs, FACSAria Fusion, and FACSJazz are electrostatic droplet sorters encased in a biosafety class 2 cabinets and they are intensely used on an everyday basis for processing samples requiring containment at Biosafety Level 2 or lower. The Biosorter (Union Biometrica), equipped with blue and yellow green lasers, is available for analyzing and separating large particles (*C. elegans*; zebrafish larvae; pancreatic islets; *Drosophila* imaginal disc; large cells e.g. hepatocytes, adipocytes etc.). The Cytek Aurora is a five lasers spectral cytometer capable of analyzing over forty fluorochromes in a sample and it has a temperature-controlled 96 well plate loader for medium-throughput analysis. CytoFlex LX is a six lasers, 21 fluorescence parameters instrument, able to automatically load samples from 96 well plates. A CytoFLEX S cytometer (four lasers, 13 colors, plate loader) is also available. LSRFortessa is equipped with five lasers and it is capable of measuring 18 colors. LSR II has UV, violet, blue, and red lasers and can detect up to 15 colors. Both FACSCalibur and Accuri C6 have blue (488 nm) and red (640 nm) lasers and four color detectors. An Evos FL Auto fluorescence imaging system, a Countess FL II cell counter, a cell washer, centrifuges shakers, and other small equipment are also available in our lab. Flow cytometry analysis software (FlowJo, FCS Express) are offered to users through site license on internet dongles. The staff has the expertise for performing a variety of flow cytometry applications, including sample processing for surface and intracellular staining, functional assays, complex multi-color flow cytometry analyses, intracellular calcium assays, side population assays etc. Individualized training for operating the analyzers, cell sorters, the imaging system and the cell counter is provided upon request. Individual and small group training sessions for FlowJo (analysis software) and FCS Express are offered upon request.

<https://www.research.chop.edu/flow-cytometry>



Flow Cytometry Shared Resource (Wistar)

Jeffrey Faust, Managing Director

10:40 a.m. - 10:55 a.m.

Presentation Time

2:25 p.m. - 2:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/790024263>

The Flow Cytometry Shared Resource provides investigators with the technological resources and professional assistance for high quality, multiparameter flow cytometry analyses and sorting. The Facility is capable of cell sorting (sterile, at speeds up to 30,000 cells/sec) from homogeneous or mixed cell populations based on up to 32 fluorochromes, sorting up to six separate populations simultaneously, including human-derived samples at BSL-2 level. Facility personnel aid investigators in creating efficient and cost-effective experimental designs, through optimizing cytometry-specific reagent and fluorochrome selection, and offer assistance in operation of analysis instruments. Technical support is also provided for analyses of flow and imaging cytometry data for publication, presentation, and inclusion in grant applications, management of cytometric data (storage, archiving, and retrieval), and management of a site license for low-cost, post-acquisition analysis software.

<https://wistar.org/research-discoveries/shared-resources/flow-cytometry-facility>

Genomics Core Facility (Wistar)

Sonali Majumdar, Managing Director

2:25 p.m. - 2:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/359701492>

The Genomics Core Facility serves as a hub for consultation and scientific interaction relating to nucleic acid-based methods. The Facility supports several state-of-the-art platforms for a wide variety of nucleic acid-based studies, including massively parallel sequencing, as well as routine capillary sequencing. Specifically, the Genomics Core Facility supports transcriptomic projects including RNA-Seq, ChIP-Seq, small RNA-Seq, and targeted sequencing. In addition, we support global gene expression studies using Quant-Seq(3' RNA-seq) and targeted gene expression studies using the Nanostring nCounter platform. Single cell sequencing services are also available using the 10x Chromium controller, as well as the Takara iCell 8 MSND system. We also provide SNP genotyping using TaqMan assays, microsatellite analyses, and C.bovis assays. RNA/DNA isolations from various types of samples, including FFPE are also provided. Consultation and assistance with experimental design and for the development of custom services are encouraged.

<https://wistar.org/research-discoveries/shared-resources/genomics-facility>



Gnotobiotic Mouse Facility (PSOM)

Dmytro Kobuley, Technical Director; Michelle Albright, Lab Animal Technician

9:25 a.m. - 9:40 a.m.

Presentation Time

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/383890768>

Part of the PennCHOP Microbiome Program, the Gnotobiotic Mouse Core Facility provides access for researchers to small experimental isolators for a variety of in vivostudies using germ-free mice. The Core personnel provides technical support for germ-free experiments. A new addition to the Core is a state-of-the-art Isocage system.

<https://pennchopmicrobiome.chop.edu/cores/gnotobiotic-mouse-core>

High-Throughput Screening Core Facility (PSOM)

David C. Schultz, Technical Director

11:05 a.m. - 11:20 a.m.

Presentation Time

1:55 p.m. - 2:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/210879517>

The University of Penn High-Throughput Screening Core Facility (HTSC) in the Perelman School of Medicine provides Penn and non-Penn scientists routine fee-for-service and services plus collaboration, including (1) Distribution of lentivirus based shRNA and cDNA plasmid DNA clones; (2) technical expertise in developing biological assays (i.e. biochemical-, cell-, and high-content) in miniaturized, multi-well microtiter plates that are laboratory automation compatible; (3) high-throughput chemical and functional genomic screening, including data analysis and interpretation. Our goal is to use biological models to discover genes and small molecules that enable scientists to further study the functions of poorly understood proteins, signaling pathways, and cells in complex biological process relevant to human physiology and disease.

https://www.med.upenn.edu/cores/assets/user-content/documents/HTSC_overview_27May2015.pdf



Histotechnology Core Facility (Wistar)

Marjorie Donnelly, Histotech II

11:30 a.m. - 11:45 a.m.

Presentation Time

<https://bluejeans.com/383890768>

The Histotechnology Shared Resource provides services for fixing, processing, and paraffin or OCT-embedding of all types of tissues for light microscopy (e.g. routine stains, immunohistochemistry, or in situ hybridization). The Facility staff performs routine hematoxylin, eosin staining, immunohistochemistry, and FISH staining, as well as specialized staining and slide preparation for immunohistochemistry and in situ hybridization. Frozen sectioning is also available, including consultation regarding freezing and fixing techniques to optimize experimental results. Services: processing, embedding, sectioning, and histochemical staining of specimens; paraffin and frozen sectioning are routinely available for light microscopy and in situ hybridization; tissue preparation for DNA/RNA extraction; various histochemical staining procedures are performed, including those required for neuropathology; special procedures and staining protocols; consultation regarding freezing and fixing techniques, and immunohistochemistry staining techniques.

<https://wistar.org/research-discoveries/shared-resources/biomedical-research-support-facility/histotechnology-facility>

Human Immunology Core Facility (PSOM)

Nina Luning Prak, Director

9:25 a.m. - 9:40 a.m.

Presentation Time

12:55 p.m. - 1:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/790024263>

The Human Immunology Core (HIC) provides wet bench expertise and infrastructure support for early phase clinical trials and other investigations. The HIC offers purified cell subsets from healthy human apheresis donors. HIC staff are internally and externally qualified to perform blood (PBMC) and tissue processing for viable cryopreservation following validated standard operating procedures. The HIC also offers a wide range of immunological assays including digital ELISA, ELISA, ELISPOT, Luminex, flow cytometry, and immune repertoire profiling (NGS of BCR and TCR rearrangements in bulk and single cell formats). The HIC also offers investigators expertise and guidance in clinical trial sample processing, regulatory compliance, immunology assay design and validation, data analysis, and grant writing support.

<https://pathbio.med.upenn.edu/hic/site/>

Human Intervention Core Facility (PSOM)

James Lewis, Director

1:25 p.m. - 1:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/490081660>

The Human Intervention Core Facility, which is part of the PennCHOP Microbiome Program, offers a wide array of services to assist with the design and implementation of microbiome studies. The Core Facility can assist with longitudinal studies as well as pilot studies. Pilot studies can be rapidly implemented with human intervention core staff, project managers, and research coordinators.

<https://pennchopmicrobiome.chop.edu/cores/microbiome-human-intervention-core>



Human Pluripotent Stem Cell Core Facility (CHOP)

Deborah French, Core Director; Jean Ann Maguire, Technical Director; Chintan Jobaliya, Lab Manager; Alyssa Gagne, Research Technician; Elisa Waxman, Scientist

9:50 a.m. - 10:05 a.m.
Presentation Time

12:55 p.m. - 1:15 p.m.
"Office Hour" Q&A Time

<https://bluejeans.com/651563432>

The pluripotent stem cell and genome editing technologies represent exciting new tools for studying human disease. Having unlimited supplies of cells that either express or are genetically manipulated to express genes of interest provides investigators with human model systems to study disease mechanisms and identify new therapies.

The Core generates induced pluripotent stem cell (iPSC) lines from somatic cells including peripheral blood mononuclear cells, fibroblasts, and lymphoblastoid cell lines. These lines are generated using the latest non-integrating reprogramming methodologies that leave the genome intact. The Core has established standard operating procedures for:

- Pluripotent stem cell growth and maintenance
- Genome editing technologies including CRISPR-CAS9
- Differentiation to germ layer and derivative tissues of interest.

The Core provides enrichment training courses for investigators interested in learning how to work with pluripotent stem cells and/or establish the pluripotent stem cell technology in their own labs.

The Human Pluripotent Stem Cell Core, established in 2008, by the Raymond G. Perelman Center for Cellular and Molecular Therapeutics at Children's Hospital of Philadelphia, serves the research needs of CHOP, the University of Pennsylvania, and outside academic communities in the field of human pluripotent stem cell biology.

<https://www.research.chop.edu/human-pluripotent-stem-cell-core>

IBI Clinical Research Informatics Core Facility (PSOM)

Danielle Mowery, Scientific Director

11:30 a.m. - 11:45 a.m.
Presentation Time

<https://bluejeans.com/790024263>

The Institute for Biomedical Informatics (IBI) Clinical Research Informatics Core (CIC) assists faculty, staff, and students with conducting research projects using electronic health record data. The CIC facilitates access to clinical data and performs data analysis using artificial intelligence, ontologies, natural language processing, machine learning, and visual analytics. The CIC's mission is to provide innovative research services by applying data science to clinical data in order to learn actionable healthcare knowledge and develop impactful solutions for improving patient care. Services include facilitating access to Penn Medicine clinical data resources, performing data analysis using diverse computational methods, and providing tools for exploratory data analysis/visualize with priority access to the IBI Idea Factory for immersive display of data and research results.

<https://ibicic.med.upenn.edu/>



iLab, High Performance Computing, Clinical Research Information Services (PMAcs) (PSOM)

Curtis Embree, iLab Applications Analyst; Rikki Godshall, Manager – High Performance Computing; Jessica Chen, Application Manager – Clinical Research IS

9:50 a.m. - 10:05 a.m.
Presentation Time

1:25 p.m. - 1:45p.m.
iLab Q&A Only

<https://bluejeans.com/140820286>

iLab is the PSOM Core Facility management tool that allows researchers to request services, schedule equipment, and manage billing at Penn. High Performance Computing provides computational capacity, high-performance storage, and long-term archiving of large data sets. Clinical Research Information Services provides access and support for clinical research technology.

<https://www.med.upenn.edu/pmacs/iLab.html>

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

<https://www.med.upenn.edu/pmacs/researchsolutions.html>

Image Shared Resource (Wistar)

James Hayden, Managing Director

10:40 a.m. - 10:55 a.m.
Presentation Time

2:25 p.m. - 2:45 p.m.
"Office Hour" Q&A Time

<https://bluejeans.com/490081660>

The Wistar Institute Imaging Shared Resource provides access to a wide range of standard and advanced optical imaging systems for live or fixed samples, including manual and automated widefield microscopes, spectral confocal systems, a 2-Photon platform, and traditional photographic equipment. Researchers may be trained for unassisted use of all Core instrumentation, while full service assistance by facility staff is also available for qualitative or quantitative image capture. The Core also offers assistance with advanced image analysis solutions and technical assistance with experimental design to optimize imaging results, enabling users to get more out of the imaging technology.

<https://wistar.org/research-discoveries/shared-resources/imaging-facility>



Image Shared Resource (Wistar)

James Hayden, Managing Director

10:40 a.m. - 10:55 a.m.

Presentation Time

2:25 p.m. - 2:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/490081660>

The Wistar Institute Imaging Shared Resource provides access to a wide range of standard and advanced optical imaging systems for live or fixed samples, including manual and automated widefield microscopes, spectral confocal systems, a 2-Photon platform, and traditional photographic equipment. Researchers may be trained for unassisted use of all Core instrumentation, while full service assistance by facility staff is also available for qualitative or quantitative image capture. The Core also offers assistance with advanced image analysis solutions and technical assistance with experimental design to optimize imaging results, enabling users to get more out of the imaging technology.

<https://wistar.org/research-discoveries/shared-resources/imaging-facility>

Information Services Advisory Center (Isaac) (PSOM)

Jennifer Moody, Senior Manager

10:15 a.m. - 10:30am

Presentation Time

<https://bluejeans.com/530604934>

In 2018, Information Services transitioned from implementing systems to a more service-based user support orientation. The Information Services Advisory Center (ISAAC) was introduced as a new IS concierge service for people wanting to know questions such as "Where can I find? Who do I speak to about? I was thinking, but did not know" that traditionally wasn't handled by our IS Service Desk. The service is available for all Penn Medicine employees, and is a one-stop contact for all IS related questions regarding advice, resolution, guidance and follow-up.

<https://www.med.upenn.edu/evdresearch/isaac.html>

Investigational Drug Service (IDS) (PSOM)

Donna Capozzi, BCOP, Interim Director; Vivian Leung, PharmD, BCOP, Assistant Director

11:30 a.m. - 11:45 a.m.

Presentation Time

<https://bluejeans.com/651563432>

IDS is the research pharmacy for the University of Pennsylvania community, providing services to investigators throughout any school on campus, as well as to the University of Pennsylvania Health System and its affiliates. We provide a wide range of services related to medications, natural products, biologics and medical devices, including product formulation, pilot-scale drug manufacturing and drug product testing, as well as packaging, dispensing, distribution, compliance tracking, and inventory management. The IDS operates out of three locations – at HUP, PPMC, and a new cGMP facility at 3600 Civic Center Blvd.

<http://www.itmat.upenn.edu/ids.html>



Johnson Foundation Structural Biology and Biophysics (PSOM)

Kushol Gupta, Director

9:00 a.m. - 9:15 a.m.

Presentation Time

<https://bluejeans.com/790024263>

11:55 a.m. - 12:15 p.m.

"Office Hour" Q&A Time

The Department of Biochemistry and Biophysics at the University of Pennsylvania is privileged to have a wide range of unique equipment and expertise to facilitate modern biophysical characterization and structural analysis of proteins and other biomolecules. These facilities, funded in large part through the generosity of the Johnson Foundation, are available for use by the research community at Penn and beyond.

<https://www.med.upenn.edu/jf/index.html>

Laboratory Information Systems, Penn Medicine Academic Computing Services (PMACS) (PSOM)

Ned Haubein, Application Manager – LIMS; Rick Bryson, Service Information Officer; Chris Dymek, Service Information Officer; Vince Frangiosa, Service Information Officer

10:15 a.m. - 10:30 a.m.

Presentation Time

<https://bluejeans.com/140820286>

1:55 p.m. - 2:15 p.m.

PMACS Only Q&A Time

Laboratory Information Systems software (LabVantage LIMS) provides a system that helps track biosamples and biosample data through their full lifecycle, including sample collection, aliquot creation, derivative creation, sample movement, sample analysis, sample depletion, etc. The LIMS allows a centrally managed system to serve diverse research needs, and ensures research data is kept secure. Penn Medicine Academic Computing Services (PMACS) is a school-wide computing infrastructure (network, server, storage, and desktop support), web/database design, application development, sponsored project/program development and support; access to/management of enterprise-grade applications (LIMS, HPC, CTMS, DMS) in support of research, education and administration missions across Penn Medicine.

<https://www.med.upenn.edu/pmacs/researchsolutions.html#lims>

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



Metabolomics Core (CHOP)

Itzhak Nissim, Director

10:15 a.m. - 10:30 a.m.

Presentation Time

<https://bluejeans.com/490081660>

We provide investigators analytical services with state-of-the-art resources. Analysis performed in humans and animal models, both in vivo and in vitro systems, to carefully study the relationship between metabolome and fluxome in normal and disease states. In addition, we facilitate experimental and technical consultations as well data analysis.

<https://www.research.chop.edu/metabolomic-core>

Metabolomics Core Facility (CVI) (PSOM)

Chris Petucci, Director; Min-Soo Kim, Technician

9:50 a.m. - 10:05 a.m.

Presentation Time

12:55 p.m. - 1:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/490081660>

The Metabolomics Core is overseen by the Cardiovascular Institute and is a partnership with the Abramson Cancer Center and the Institute for Diabetes, Obesity, and Metabolism at Penn. The Metabolomics Core provides expertise in targeted and untargeted metabolomics of biological samples using liquid chromatography/mass spectrometry. Our mission is to perform the assays and assist in the interpretation of the results. The Core is available to the entire Penn research community, external research investigators, and industry.

<https://www.med.upenn.edu/cvi/metabolomics-core.html>

Microbial Culture and Metabolomics Core Facility (PSOM)

Elliot Friedman, Technical Director

9:25 a.m. - 9:40 a.m.

Presentation Time

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/490081660>

The Microbial Culture and Metabolomics Core Facility, which is part of the PennCHOP Microbiome Program, features facilities and equipment for the aerobic and anaerobic culture of microbial species in both batch and continuous systems, as well as targeted metabolomic services. The Facility offers training and usage for culture equipment; consultation regarding experimental design, and; anaerobic culture services. Working with researchers, the Core will purchase, receive, and revive strains from commercial culture collections (i.e., ATCC, DSMZ). The Facility can prepare glycerol stocks, liquid cultures, or gavage-ready suspensions for inoculation of animals with pure or define-mixed microbial communities.

<https://pennchopmicrobiome.chop.edu/cores/microbial-culture-and-metabolomics-core>



Microbiome Core (CHOP)

Kyle Bittinger, Analytical Director; Lisa Mattei, Laboratory Manager

9:00 a.m. - 9:15 a.m.

Presentation Time

11:55 a.m. - 12:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/490081660>

The CHOP Microbiome Center is the sequencing and analytical resource of the PennCHOP Microbiome Program, providing end-to-end solutions for microbiome research.

<https://www.research.chop.edu/chop-microbiome-center>

Mixed Methods Research Lab (MMRL) (PSOM)

Andrea Bilger, Associate Director

11:30 a.m. - 11:45 a.m.

Presentation Time

<https://bluejeans.com/210879517>

The goal of the Mixed Methods Research Lab (MMRL) is to foster the use of qualitative and mixed methods research methodologies with a focus on integrating key stakeholder perspectives and goals into research designs. The MMRL collaborates with investigators to address timely, pressing questions across diverse disciplines and works with investigators to provide conceptual, as well as technical support for broad research programs, including clinical, community-based, and implementation science research questions.

<https://www.med.upenn.edu/fmch/mixed-methods-research-lab>

Molecular Pathology and Imaging Core (MPIC) (PSOM)

Kate Bennett, Technical Director

11:05 a.m. - 11:20 a.m.

Presentation Time

2:25 p.m. - 2:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/734876686>

The Molecular Pathology and Imaging Core Facility (MPIC) provides histological services, equipment, and technical expertise for the processing and analyses of digestive, pancreatic, and liver tissues, as well as three-dimensional tissue culture models. The MPIC is part of the Center for Molecular Studies in Digestive and Liver Diseases.

<https://bit.ly/3mDtinH>



Neurobehavior Testing Core Facility (PSOM)

W. Timothy O'Brien, Director; Brianna Ciesielski, Research Associate

9:00 a.m. - 9:15 a.m.

Presentation Time

2:25 p.m. - 2:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/651563432>

The Neurobehavior Testing Core Facility (NTC) provides equipment and services to investigate behavior phenotypes of models related to neurological and other disorders. The Core is utilized by scientists across disciplines that are interested in the behavioral consequences of unique physiological disruptions (e.g., metabolic, drugs etc.). We provide assessment of many domains of behavior including, but not limited to, sensory, motor, social, communication, affect-related behaviors, and learning and memory. The NTC was established in 2012 through generous startup funds from the Perellman School of Medicine, the Institute for Translational Medicine and Therapeutics, Center for Sleep and Circadian Neurobiology, and Penn Medicine Neuroscience Center (PMNC).

<http://www.itmat.upenn.edu/NBTC.html>

Neurons R Us Brain Cell Core (NRU BCC) (PSOM)

Jacqueline Morris, Research Specialist

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/530604934>

The NRU (Neurons R Us/Brain Cell) Core Facility supplies suspensions of neuronal cells prepared from rodent brain for various downstream applications, including primary cell culture. The Core currently supplies rat or mouse cells isolated from cortex or hippocampus either in suspension or plates. Custom dissection services are available for other brain regions or for user-supplied genetically modified mice.

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

Next Generation Sequencing Core Facility (PSOM)

Jonathan Schug, Technical Director

9:50 a.m. - 10:05 a.m.

Presentation Time

12:55 p.m. - 1:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/734876686>

The Next Generation Sequencing Core Facility (NGSC) provides a full set of services related to single-cell and bulk whole-genome, RNA-Seq, ATAC-Seq, BIS-Seq, Exome-Seq, ChIP-Seq, CLIP-Seq, etc. We recently acquired an Illumina NovaSeq 6000, in addition to our NextSeq and MiSeq sequencers – which all feature self-service, as well as full-service operation. We have experience with difficult, low input samples, as well as sequencing and analyzing novel library types. We have a small Oxford Nanopore sequencer which allows for full-length RNA or cDNA sequencing, as well as very long read (100KB) sequencing from genomes. Come see us for experimental design services prior to starting your experiment.

<https://ngsc.med.upenn.edu/>



OCRC Tumor BioTrust Collection (PSOM)

Euihye Jung, Technical Director; Dalia Omran, Research Specialist;
Micaela Parson, Research Specialist

9:50 a.m. - 10:05 a.m.
Presentation Time

1:25 p.m. - 1:45 p.m.
"Office Hour" Q&A Time

<https://bluejeans.com/790024263>

The Ovarian Cancer Research Center (OCRC) opened a Tumor BioTrust Collection (TBC) to the Penn research community on July 1, 2018. Specimens that are available through the OCRC TBC include gynecologic cancer specimens such as fresh and frozen tissues, plasma, serum, peripheral blood mononuclear cells, blood, formalin fixed paraffin embedded (FFPE) samples, and Tissue Microarrays (TMAs). All samples collected have clinical annotation including demographic patient profiles, pathological and clinical notations, treatment history, and detail disease information, etc. We are building and maintaining a centralized research database according to HIPPA specifications and Penn IRB standards.

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

Pathology Core (CHOP)

Daniel Martinez, Technical Director

10:40 a.m. - 10:55 a.m.
Presentation Time

1:55 p.m. - 2:15 p.m.
"Office Hour" Q&A Time

<https://bluejeans.com/734876686>

The Pathology Core Laboratory at the Research Institute at Children's Hospital of Philadelphia provides basic histopathology, research immunohistochemistry, tissue microarray, and digital slide scanning services to researchers at CHOP and within the surrounding academic community. We offer a full range of histopathology services for both paraffin-embedded and frozen tissue samples including tissue processing, embedding, and cutting. We also perform most standard stains, as well as immunohistochemistry, antibody workup, fluorescence, in situ hybridization, and TUNEL. Tissue microarrays can be constructed and our staining services may be used on slides acquired from the arrays. Sophisticated imaging instrumentation is available for both bright field and fluorescent microscopy including whole slide scanning. We also host specialized software to analyze, manage, and store data on stained tissues and arrays. We are located on the 11th Floor of the Leonard and Madlyn Abramson Pediatric Research Center in Room 1106. Daniel Martinez (267-426-5635, martinezd@email.chop.edu) is the Lab Director and can address all questions regarding basic histopathology, research immunohistochemistry, tissue microarray, and imaging. Dr. Tricia Bhatti, MD, is the Faculty Director.

<https://www.research.chop.edu/pathology>



Penn Genomic Analysis Core Facility and Cell Center Services Facility (PSOM)

Tapan Ganguly, Director

9:00 a.m. - 9:15 a.m.

Presentation Time

<https://bluejeans.com/734876686>

11:55 a.m. - 12:15 p.m.

"Office Hour" Q&A Time

The Penn Genomic Analysis Core DNA Sequencing Facility offers sequencing services on three platforms, gold standard Sanger sequencing on ABI capillary sequencers, next-generation sequencing (NGS) on Ion Torrent PGM and S5, and Illumina MiSeq and Next-Seq, along with experimental design and data analysis. The NGS service includes library preparation for multiple applications including amplicon-based and capture-based targeted sequencing, RNA-Seq, and Exome-Seq. The capillary sequencers also enable microsatellite genotyping and fragment analysis for VNTR, SNaPshot, and Human Cell Line authentication. The molecular biological services include PCR, cloning, subcloning, mutagenesis, construct preparation, and plasmid DNA preps at different scales. The Penn Genomic Analysis Core Molecular Profiling Facility provides full service whole genome and targeted molecular profiling of DNA and RNA on multiple platforms. The Core supports quantitative RNA profiling (gene expression) on Affymetrix GeneChips and high-throughput Gene Titan instruments, Fluidigm BioMark HD, and ABI QS 12K real-time PCR machine. DNA profiling (genotyping) is offered on Affymetrix SNP GeneChip and high-throughput Gene Titan instruments, Fluidigm BioMark HD, and ABI QS 12K. Agilent aCGH platform provides genome-wide chromosomal analysis. The users benefit from consultation and training available throughout their projects, including during experimental design and budget development, sample accrual, data management and analyses, and manuscript preparation. The Cell Center Services Facility provides basic cell culture training and services in various cell culture and related procedures (e.g. Mycoplasma and Endotoxin testing). The services include cell culture at various scales, expansion of primary cells, seed cell cultures from on-site cell bank, cell storage, large scale growth of hybridoma and other cell lines followed by antibody purification by protein G column or recombinant protein production, EBV induced transformation of lymphocytes. It offers hybridoma generation by cell fusion and screening, and the transfection of mammalian cells. The facility prepares specialized cell culture media, Drosophila media, agar plates, and various tissue culture and molecular biological reagents.

<https://genetics.med.upenn.edu/cores/genomic-analysis-core/>

<https://genetics.med.upenn.edu/cores/cell-center-services/>

Penn Health-Tech (PSOM)

Brian Litt, MD/PhD, Faculty Director; Glory Durham, MPH, Associate Director; Hannah Spector, Administrative Coordinator

10:40 a.m. - 10:55 a.m.

Presentation Time

<https://bluejeans.com/359701492>

12:55 p.m. - 1:15 p.m.

"Office Hour" Q&A Time

Penn Health-Tech is an interdisciplinary center launched in 2017 to advance medical device innovation across the Perelman School of Medicine and the School of Engineering and Applied Sciences. We do this in two primary ways: helping to forge collaborative connections among Penn researchers and providing seed funding to incubate novel ideas to advance healthcare.

<https://healthtech.upenn.edu/>



Penn Vector Core Facility (PSOM)

Dr. Kenton Woodard, Associate Director

11:05 a.m. - 11:20 a.m.

Presentation Time

1:25 p.m. - 1:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/359701492>

With over a decade of experience in the production of viral-based vectors, the Penn Vector Core Facility has become an important technological resource for investigators, both within and external to Penn, interested in the use of viral-based vectors for gene transfer. The main objective of the core facility is to provide investigators access to state-of-the-art adeno-associated viral vector technology for preclinical studies and other basic research applications.

<https://gtp.med.upenn.edu/core-laboratories-public/vector-core>

Proteomics Core Facility (CHOP)

Lynn Spruce, Interim Technical Director; Hossein Fazelinia, Bioinformatics Scientist III; Hua Ding, Research Associate II

11:05 a.m. - 11:20 a.m.

Presentation Time

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/490081660>

The Children's Hospital of Philadelphia Research Institute Proteomics Core Facility (PCF) provides state-of-the-art proteomics services for investigators at CHOP, University of Pennsylvania, and outside institutions. A wide range of state-of-the-art quantitative proteomics experiments comprise the Core of our services. These include, but are not limited to, post-translational modification analysis, protein identification, and targeted (e.g. co-immunoprecipitation) or comprehensive (e.g. protein expression profiling) proteome analysis. Proteome analysis may employ a number of different isotope-labeling strategies to enable quantitative measurements for deep proteome coverage or multiplexed targeted analysis of protein abundances. Quantitative analysis of phosphoproteomes, lysine acetylomes, ubiquitylomes and glycoproteomes together with whole proteome analysis are some of our signature areas of expertise. An efficient and comprehensive urine proteomic analysis pipeline is also well established in the Lab. At the heart of all we do, are detailed quality control procedures to assure consistent peak performance of sample preparation and instrument analytical performance. Workflows for all the aforementioned proteome analyses are unique to each project and can involve optimization of a range of multi-dimensional separation techniques coupled to the appropriate mass spectrometer. For all but the most routine services, a strong interaction with PCF staff is encouraged throughout all phases of a project: planning, execution, and data reduction/interpretation. A full range of statistical and bioinformatics analysis can be tailored to the specific needs of larger, more involved projects as required.

<https://www.research.chop.edu/proteomics-core-facility>



Quantitative Proteomics Resource Core Facility (PSOM)

Joseph Cesare, Research Specialist

11:30 a.m. - 11:45 a.m.

Presentation Time

<https://bluejeans.com/490081660>

The Quantitative Proteomics Resource Core (QPRC) provides investigators with access to the most advanced high-resolution MS-based proteomics technologies. These approaches are implemented with a broad variety of mass-spectrometry-based experiments to characterize and quantify proteins from biological samples from a wide variety of sample types, from purified proteins to complex mixtures such as cell lysate, tissue, and biofluid (plasma, serum, and urine).

https://med-upenn.corefacilities.org/service_center/show_external/4404

Raymond G. Perelman Center for Cellular and Molecular Therapeutics Research Viral Vector Core – RVC Core (CHOP)

Danhong Cao, Senior Resource Coordinator; Arjun Ramamurthi, Research Assistant

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/359701492>

The Research Vector Core provides state-of-the-art technology support for investigators requiring viral-based vectors for gene transfer in basic research and preclinical studies. The core utilizes molecular biology techniques and follows Good Laboratory Practice (GLP) guidelines to engineer and produce premium quality recombinant AAV and Lentiviral (LV) vectors at a variety of scales. The Core works closely with investigators to develop vectors for individual experiments.

https://chop.ilab.agilent.com/service_center/4963?tab=about



Research Information Services (RIS) (CHOP)

John Knab, Senior Director; Bob Del Campo, Assistant Director; Nick Kight, Outreach Manager; Allen Ladd, Infrastructure Services Manager; Scott Glasser, Associate Director, Web Strategy; Michael Abanyie, IS Support Supervisor; David Schlich, Application Services Manager; Sun Yang

10:40 a.m. - 10:55 a.m.
Presentation Time

1:55 p.m. - 2:15 p.m.
"Office Hour" Q&A Time

<https://bluejeans.com/651563432>

The RIS team is a technology partner focused on fulfilling the Research Institute's mission to drive scientific breakthroughs by providing expert advice alongside innovative and effective technology-based solutions. RIS supports administrative units and researchers with a wide portfolio of services that are accessible via the RIS website, a centralized resource for Research Institute faculty and staff. Services may also be requested through the IS Service Desk. RIS services include study technologies advisor; hardware support for desktops and laptops; website development, technical support for websites and other web-based applications; guidance in device purchase and disposal; support in managing file shares or shared folders; assistance with server backup services and obtaining data center hosting or database service; high-speed file transfer; and much more.

<https://www.research.chop.edu/research-information-services>

Research Institute Shipping Core (RISC) (CHOP)

Katina Frangakis, Manager

2:25 p.m. - 2:45 p.m.
"Office Hour" Q&A Time

<https://bluejeans.com/530604934>

The Research Institute Shipping Core (RISC) is a fee-for-service facility available to all CHOP faculty and staff for safe and compliant shipments of biologic specimens, dry ice, and related dangerous goods. This comprehensive service includes proper classification, packaging, labeling, and documentation, as required by federal regulations, and tracking information through delivery. RISC provides shipping training to Research Institute staff members who choose to ship independently of the Shipping Core (Certified Shippers). Shipping training is required for anyone shipping biological substances and/or dry ice independently of RISC. RISC offers the sale of compliant biologic and dry ice shipping systems to Certified Shippers.

<https://www.research.chop.edu/shipping>



Rodent Metabolic Phenotyping Core Facility (RMPC) (PSOM)

Jennifer Rojas, PhD, Technical Director

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/383890768>

The Rodent Metabolic Phenotyping Core Facility (RMPC, formerly MPPMC) is a state-of-the-art metabolic core directed by Dr. Joseph Baur and Dr. Jennifer Rojas. Our Facility offers cutting edge technology and phenotyping services to allow investigators of the Penn Diabetes Research Center (DRC) to study metabolism in preclinical rodent models. Services include measurements of body composition (fat and lean mass) using NMR and DEXA, energy balance (food intake, locomotor activity, energy expenditure) using indirect calorimetry, and other in vivo metabolic phenotyping services (glucose clamps, insulin and glucose tolerance tests, telemetric monitoring). The Core employs three highly skilled surgeons, Qingwei Chu, MD, MS; Xiaoyan Yin, MD; and Jie Wu, MD, MS; each with more than 10 years of experience handling rodents, including the use of metabolic equipment.

<https://www.med.upenn.edu/idom/drc/cores/rodent.html>

Singh Center for Nanotechnology (UPenn)

Eric Johnston, Senior Manager, Research Support & Soft Lithography, Quattrone Nanofabrication Facility

10:15 a.m. - 10:30 a.m.

Presentation Time

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/359701492>

Nanotechnology hub for scientists/researchers that integrates state-of-the-art nanofabrication, electron microscopy, and AFM surface characterization; expert and experienced faculty and staff committed to success of users and fostering new approaches to realizing/implementing nanotechnology application.

<https://www.nano.upenn.edu/>

Small Animal Imaging Facility (SAIF) (CHOP)

Dr. Sergey Magnitsky, Director

9:00 a.m. - 9:15 a.m.

Presentation Time

11:55 a.m. - 12:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/530604934>

The SAIF provides assistance for CHOP and Penn users in need of animal imaging. The facility includes: PET/CT Simens Inveon, 7T MRI Buker, IVIS Spectrum - optical imaging, Vevo 3100 - Ultrasound machine, 9.4 T NMR/MRI system for ex-vivo imaging and spectroscopy.

<https://www.research.chop.edu/small-animal-imaging-facility>



Small Animal Imaging Facility (SAIF) (PSOM)

Jim Delikatny, Director; Stephen Pickup, Technical Director; Weixia Liu, Technical Director of MRI; Ching-Hui Huang, Technical Director of Optical Imaging; Susan Schultz, Technical Director of Ultrasound

9:25 a.m. - 9:40 a.m.

Presentation Time

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/530604934>

The Small Animal Imaging Facility (SAIF) combines state-of-the-art instrumentation and a nationally recognized staff to assist investigators with a wide range of imaging based experimental approaches. The SAIF currently provides a comprehensive suite of imaging modalities including magnetic resonance imaging (MRI), spectroscopy (MRS), optical imaging (including bioluminescence, fluorescence, and near-infrared imaging), computed tomography (CT), positron emission tomography (PET), single photon emission computed tomography (SPECT), and ultrasound (US). In addition, dedicated housing is available for mice and rats undergoing longitudinal imaging studies. Ancillary facilities and resources of the SAIF are devoted to radiochemistry and image analysis.

<https://bit.ly/2RJkqyz>

Stem Cell Xenograft Core Facility (PSOM)

Gwenn Danet-Desnoyers, Director; Tony Secreto, In Vivo Services Manager

10:15 a.m. - 10:30 a.m.

Presentation Time

1:25 p.m. - 1:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/734876686>

The Stem Cell and Xenograft Core Facility is a comprehensive resource laboratory committed to supporting translational research. We offer services centered around two components: an extensive repository of live and fully annotated cells from adult patients with hematologic malignancies (AML, ALL, MPN, MDS), and hematopoietic stem /progenitor cells from healthy donors (BM, CB, and FL). A full array in vivo services and xenograft models (PDX, humanized immune system), in a dedicated BSL-2 barrier space equipped with optical imaging, for applications ranging from immunotherapy, cancer biology, infectious diseases, and regenerative medicine.

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



The Office of Clinical Research (PSOM)

Lorri Schieri, Chief Operating Officer; Tyrone Quarterman, Regulatory Compliance Specialist

9:00 a.m. - 9:15 a.m.

Presentation Time

11:55 a.m. - 12:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/140820286>

The Office of Clinical Research (OCR) seeks to promote human research for the advancement of healthcare while ensuring the highest level of research participant safety and facilitating the highest quality research by: realizing the best research standards through adherence to university and government research policies and regulations; supporting investigators and research teams through process improvement, innovative technologies, and education and training initiatives; propagating best operational practices to maximize the efficiencies of research activities; collaborating with University organizations involved with human research. OCR can provide guidance and expertise with regulatory submissions and exemptions, contract support with external sponsors, research budgets and finance, training, research data management and systems, monitoring, clinicaltrials.gov and inspection support.

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

Transgenic and Chimeric Mouse Facility (TCMF) (PSOM)

Jean Richa, Technical Director

2:55 p.m. - 3:15 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/210879517>

The Transgenic and Chimeric Mouse Facility provides a centralized service to efficiently produce genetically altered mice for basic research. They include transgenic, chimeric, and genome-edited mice carrying transgenes or gene "knockout" and "knock-in" of specific interest. The Core Facility also provides embryo and sperm cryopreservation as well as in vitro fertilization and re-derivation of live and cryopreserved lines, along with long-term storage of cryopreserved samples.

<https://genetics.med.upenn.edu/cores/tcmf/>



Transgenic Core Facility (CHOP)

Adele Harman, Technical Director

11:05 a.m. - 11:20 a.m.

Presentation Time

2:25 p.m. - 2:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/383890768>

When it comes to using a mouse or rat genome to study human disease, you need the best experimental model available to advance your research and propel discovery. That's where we come in. The Transgenic Core at CHOP Research Institute can build you complex mouse or rat models, genetically manipulating the mouse or rat genome to meet your specific research needs. This is accomplished by using cutting-edge and classical genetic engineering approaches. Our Core features state-of-the-art services, including: mouse CRISPR Cas9 mRNA microinjection; rat CRISPR Cas9 mRNA microinjection; mouse CRISPR Cas9 RNP electroporation; DNA/BAC construct microinjection; embryonic stem (ES) cell microinjection; strain rederivation and rescue; and embryo and sperm cryopreservation, importation, and exportation.

<https://www.research.chop.edu/transgenic>

Translational Core Lab (TCL) and Biorepository Resource Center (BioRC) (CHOP)

David Stokes, Technical Director

9:25 a.m. - 9:40 a.m.

Presentation Time

12:25 p.m. - 12:45 p.m.

"Office Hour" Q&A Time

<https://bluejeans.com/651563432>

The TCL provides laboratory testing and specimen processing services to support clinical research and animal studies. Over the years TCL has gathered a breadth of instruments for protein biomarker detection via immunoassay, including clinical grade, research grade, and multiplex. This has made us a "One-Stop Shop" for protein biomarker detection on the CHOP campus. We can test numerous biomarkers and provide a balance in cost, quality, and speed. The BioRC improves the breadth and access to biobanked specimens and information resources across the CHOP community of investigators. With a capacity for approximately 2 million to 3 million samples, the facility serves CHOP's biobanking needs, avoiding specimen duplication, preserving precious materials, and providing organized data and materials. The BioRC operates under the following principles: an Operational Committee, which coordinates central and investigator-specific biobanking resources and programs at CHOP, governs and approves requests to utilize the BioRC; BioRC facilitates integration and enhancement of access to information about biorepository specimens and resources; BioRC assists investigators in developing new projects that require the collection and processing of shareable samples not currently available, or helps investigators with existing projects who would like to migrate storage and management of their shareable banked specimens and data to the BioRC. BioRC institutes and follows best-practice standard procedures for collection, processing, and storage of samples to ensure high quality specimens and data for all CHOP investigators.

<https://www.research.chop.edu/translational>

<https://www.research.chop.edu/biorepository-core>



Ultrasound Service Center (PSOM)

Chandra Sehga, Director; Susan M. Schultz, Senior Research Ultrasonographer

1:25 p.m. - 1:45 p.m.
"Office Hour" Q&A Time

<https://bluejeans.com/530604934>

The goals of the Ultrasound Research Laboratory are to develop new ultrasound technologies and clinical applications, to bridge the gap between technology and clinical applications, and to provide ultrasound imaging resources to other research groups within the Penn community and in other institutions. The Laboratory consists of a core group of scientists, sonographers, and technicians with expertise in ultrasound technology and computer programming. This group works with clinicians in multiple specialties, including radiologists, cardiologists and surgeons. Ultrasound Research Services, an arm of the Laboratory, furnishes a state-of-the-art ultrasound scanner dedicated to research and serves the research community. There is a full-time sonographer and a part-time radiologist on staff to conduct clinical and preclinical imaging. The Research Laboratory has been a valuable resource to several groups working on diverse projects. These include studies involving the measurement of angiogenesis, vascularity, tissue elasticity, contrast agents, and the effects of various physical and pharmaceutical agents on blood flow and tissue vascularity. The studies span a range of clinical areas including research on cancer, cardiovascular disease, and musculoskeletal disease.

<https://bit.ly/2Ei6dWc>

Zebrafish Core (CHOP)

Christoph Seiler, PhD, Director

9:50 a.m. - 10:05 a.m. 12:55 p.m. - 1:15 p.m.
Presentation Time "Office Hour" Q&A Time

<https://bluejeans.com/383890768>

The Zebrafish Core at Children's Hospital of Philadelphia has the mission to offer investigators at CHOP and Penn all necessary resources to perform zebrafish experiments, and also designs and performs experiments to answer scientific questions for researchers. Our special expertise is disease modeling, analysis of disease phenotypes, and drug testing. The ZFC is set up to perform genome-editing using CRISPR/Cas9 techniques, to create transgenic larvae that express fluorophores or modified genes, and to knock-down mRNA message using morpholino oligonucleotides. The Core has its own fully equipped lab to conduct experiments such as drug treatments, genotyping, molecular analysis; and perform whole-mount in-situ hybridization, antibody staining, and histological thin-sectioning. Four micro-injection stations are available for injecting pharmacologic agents, dyes, and agents needed for RNA knock-down and genome editing in freshly fertilized eggs. A state-of-the-art fluorescent microscope and dissecting scope allow imaging, time-lapse analysis, and deconvolution of images.

The ZFC also provides husbandry services. A 576 tank fish facility offers sufficient space for several labs and has the option to be expanded to 1,080 tanks if the need arises. The water system is equipped with a fluidize bed biofilter and is fully automated to provide very stable water conditions and an alarm system that minimizes accidental risks to the animals.

<https://www.research.chop.edu/aquatic-zebrafish>

