

2023 PROGRAM

BRIGHAM RESEARCH CORES AND RESOURCES FAIR

Monday, April 24th
● 12:00 – 1:30 PM
Hale Café Atrium

The cores and resources are organized by table numbers, and most tables have representatives from two different cores or resources. You can turn to the last page to view the map.

● TABLE 1

ALL OF US RESEARCH PROGRAM

The All of Us Research Program is a large research program from the National Institutes of Health (NIH) that is gathering health data from one million (or more!) people living in the U.S. to accelerate health research. This will be done by considering how individual differences in biology, lifestyle, and environment affect health. All of Us hopes to enable individualized prevention as well as treatment and care by enabling thousands of health research studies worldwide.

The program's Data Browser offers a summary view of genetic data from participants. Using this tool, anyone can search for specific genes or variants, see aggregate counts of their frequency, and see the genetic ancestry of participants with each variant.

✉ allofus@partners.org  @AllOfUsNE

 JoinAllOfUs.org/mgb

● TABLE 1

BONE DENSITY AND BODY COMPOSITION RESEARCH CORE

The Brigham and Women's Hospital's (BWH) Bone Density and Body Composition Research Core is part of the Skeletal Health and Osteoporosis Center and Bone Density Unit at 221 Longwood Avenue. This research core uses dual energy x-ray absorptiometry (DXA) to provide high quality measures of bone mineral density (BMD, VFA and TBS) and body composition (fat, lean tissue, and visceral adiposity). Dr. Meryl S. LeBoff, the Director of this research core and Chief of the Calcium and Bone Section, and the staff have been performing clinical research scans for over 30 years and are committed to maintaining the highest standards of quality control to advance interdisciplinary health sciences research.

✉ cyu@bwh.harvard.edu

 researchcores.partners.org/bone/about

 **Mass General Brigham**
Brigham Research Institute

● TABLE 2

BRIGHAM AND WOMEN'S DIGITAL INNOVATION HUB (iHub)

The iHub supports digital innovation across our system through three key service areas:

- **Advise:** We provide ideation, market insights, process improvement, and design services to support all MGB staff as they develop ideas to improve the care we provide.
- **Connect:** We provide connections to key stakeholders and help navigate internal processes to keep projects moving forward. We foster community around digital innovation, making connections throughout MGB and with external innovation ecosystems.
- **Transform:** We transform care delivery by building & managing digital innovation projects, training future healthcare leaders, establishing best practices in digital innovation, and by exploring emerging technologies.

✉ apikcingis@bwh.harvard.edu  @BWHiHub

 bwhihub.org/

● TABLE 2

BRIGHAM AND WOMEN'S HOSPITAL: GENOMICS AND BIOINFORMATICS HUB

At Brigham and Women's Hospital Genomics and Bioinformatics hub we provide assistance on many tasks, to focus on a few:

- **Research:** Transcriptional regulation, function genomics and non-coding RNAs (e.g. miRNA, circRNA, eRNA, piRNA) in neurological diseases, AI and data integration.
- **Service:** Next generation DNA/RNA sequencing, single-cell genomics, standard and customized NGS data analysis, and external data resources.
- **Training:** Hands-on bioinformatics training including tools and resources, statistics and machine learning, data visualization and presentation.

✉ acicalo@bwh.harvard.edu

 bioinformatics.bwh.harvard.edu/

● TABLE 3

BRIGHAM RESEARCH ASSAY CORE LABORATORY

The BRAC Laboratory aims to provide a comprehensive menu of state-of-the-art high-quality research assays to the Partners and non-Partners research communities at competitive costs. The BRAC Laboratory seeks to meet the needs of its investigators with new and relevant technologies, and evolving research support. BRAC is a CDC and CLIA certified laboratory and is accredited by the Joint Commission.

✉ brac@partners.org

🌐 brighamandwomens.org/research/brac

● TABLE 4

BWH CENTER FOR DIVERSITY AND INCLUSION

The Center for Diversity and Inclusion (CDI) strives to enhance workforce diversity by providing career advancement and professional development opportunities for our faculty members and trainees. We also promote increased recruitment and retention among all diverse faculty, trainees and students.

✉ tgelsomino@bwh.harvard.edu

🌐 cdi.brighamandwomens.org/

● TABLE 4

BWH FACULTY DEVELOPMENT & WELL-BEING

The BWH Faculty Development & Well-being team aims to influence three key factors (adapted from the Stanford BWell MD model) which are correlated with reduced burnout and increased professional fulfillment:

- Culture – Addressing areas that support collaboration, connection, community & caring for one another.
- Systems Improvement – Addressing opportunities to improve efficiency to reduce administrative burden and inefficient operations and are able to work “smarter”.
- Personal Well-being – Includes those efforts that will support individuals, including providing easy access to behavioral health services as well as supporting a variety of other personal well-being initiatives.

✉ ebertkau@bwh.harvard.edu

🌐 fdw.brighamandwomens.org/

● TABLE 5

BWH INVESTIGATIONAL DRUG SERVICES PHARMACY

The Brigham and Women’s Hospital Investigational Drug Service (IDS) is a division of the Department of Pharmacy Services and is devoted to the coordination of human drug research activities at BWH. Our service line includes developing procedures to ensure timely and safe drug dispensing, maintaining inventory of investigational drugs, blinding and randomizing drug studies, serving as an information resource regarding investigational drugs and study protocols, meeting with principal investigators and study groups, participating in protocols as co-investigators and reviewing protocols as members of the Partners Healthcare Human Research Committee.

✉ vthai@bwh.harvard.edu

● TABLE 5

BWH YOUNG PROFESSIONALS

The BWH Young Professionals Board consists of 24 BWH employees who volunteer their time to cultivate a sense of community among young professionals, build inclusivity in the workplace, foster future leaders, and improve hospital policies/procedures. The Board committees collaborate to plan and execute events and programs focused on professional development, networking, community service, as well as sports and other special interests.

✉ clsullivan@bwh.harvard.edu

🌐 <https://rb.gy/9ns9w>

● TABLE 6

CANARY NATURAL LANGUAGE PROCESSING PLATFORM

Canary is a free / open-source platform for development of natural language processing (NLP) tools. It is a GUI-based software that is oriented towards researchers, clinicians and analysts without computer science background to empower them to create their own NLP tools. Canary supports many advanced NLP features, such as extraction of concept-value pairs (e.g. left ventricular ejection fraction) and identification of concepts distributed across multiple sentences; all RPDR file formats are supported. Canary has been downloaded by hundreds of users across the world and has been used in a number of research studies, including several at BWH and MGH.

✉ aturchin@bwh.harvard.edu

🌐 canary.bwh.harvard.edu/

● TABLE 6

CENTER FOR CELLULAR PROFILING

The Center for Cellular Profiling (CCP) is dedicated to identifying biomarkers, cell types and studying their mechanisms in patient samples with these conditions. We help researchers in the CCP and a broad field in BWH, and also the broader Harvard Medical School (HMS) Community like Boston Children's Hospital, Dana Farber Cancer Institute as well as industry clinical research companies. We have developed a pipeline to collect and analyze patient samples and utilized cutting edge technologies like Flow Cytometry, Single Cell Sequencing provided by 10X Genomics, as well as Spatial Transcriptomic services provided by 10X Genomics and Nanostring.

✉ singlecell@bwh.harvard.edu

🌐 ccp.bwh.harvard.edu/

● TABLE 7

CENTER FOR CLINICAL INVESTIGATIONS

The Center for Clinical Investigation (CCI) is the home for clinical research at BWH. The CCI provides outpatient and inpatient clinical facilities. We support both adult and newborn research services for research investigators or industry collaborators translating promising clinical research ideas into successful protocols. Our mission is to maximize BWH's ability to conduct clinical research as effectively and accurately as possible. We provide a full range of research support, facilities, and services to meet the demands of investigators through the protocol start up, implementation, data analysis, and reporting phases of clinical research activities.

✉ cci@partners.org

🌐 brighamresearchcci.org/

● TABLE 7

DF/HCC MOUSE ENGINEERING CORE

The Mouse Engineering Core provides gene targeting and microinjection services using state-of-the-art facilities and equipment. The Core has extensive experience generating transgenic mice using DNA constructs (including BAC DNAs) and lentiviral constructs. We also offer CRISPR injections for DNA engineering in vivo. We have a track record of success generating KO/KI mice by performing gene targeting, or by expanding targeted ES cells from consortia. The Core works with investigators to achieve optimal outcomes for each project.

✉ mouseengineeringcore@gmail.com

🌐 <https://shorturl.at/nvHMP>

● TABLE 8

GENE TRANSFER VECTOR CORE

The Gene Transfer Vector Core (GTVC) is a viral vector core facility located at Schepens Eye Research Institute that offers the production of high titer, research-grade recombinant adeno-associated virus (rAAV). The GTVC is an integral part of the Grousbeck Gene Therapy Center, Ocular Genomics Institute of Harvard Medical School, and Massachusetts Eye and Ear Infirmary.

Our primary goal is to provide high-quality viral vectors and supporting services to the research community in Boston and beyond to support preclinical gene therapy studies.

✉ gtvc@meei.harvard.edu

🌐 researchcores.partners.org/svectr/about/

● TABLE 8

GLOBAL PROFESSIONALS AND SCHOLARS

We provide immigration resources for MGB sponsored visa holders and their departments.

✉ npalatas@partners.org

🌐 pips.partners.org/

● TABLE 9

HARVARD CATALYST BWH OFFICE HOUR

Harvard Catalyst offers weekly Biostat office hours virtually for investigators who need statistical consultations. It is every Tuesday 1-2pm by zoom. There are several biostatisticians available to answer your statistical questions including but not limited to assistance for grant preparation, analysis planning and advices and protocol review for IRB submission. It is free and no reservation required.

✉ rmaurer@bwh.harvard.edu

🌐 <https://shorturl.at/awzDL>

● TABLE 9

HARVARD MEDICAL AREA CYTOF ANTIBODY RESOURCE AND CORE

Harvard Medical Area CyTOF Antibody Resource and Core seeks to provide researchers with metal-labeled antibodies for single cell analysis using Mass Cytometry. Our service offers up to 48 metal catalogue with over 400 unique mouse and human markers at cost. Markers of interest not listed in our catalogue are available upon request. Additional services include CyTOF panel design, experimental layout/design, protocol troubleshooting/advice, and assistance with data analysis/cleanup.

✉ jpulford@bwh.harvard.edu

🌐 lederlab.bwh.harvard.edu/cytof-core/

● TABLE 10

HMS IMMUNOLOGY FLOW CYTOMETRY CORE

The HMS Department of Immunology's Flow Cytometry Facility provides flow cytometric analysis and cell sorting services to HMS investigators and users from affiliated institutions as well as commercial/biotech labs.

✉ flowcore-list@hms.harvard.edu

🌐 <https://shorturl.at/cqyE0>

● TABLE 10

ICCB-LONGWOOD SCREENING FACILITY

The ICCB-Longwood Screening Facility is a high throughput small molecule and functional genomics core at HMS. There are over 500,000 compounds and natural product extracts available for screening, as well as siRNA, miRNA and sgRNA libraries targeting the entire human and mouse genomes. Instruments available for experiments in microplate format include bulk reagent dispensers, automated pipettors, acoustic dispensers high content microscopes, plate readers, cytometers, and qPCR instruments. In addition to high throughput screening efforts, ICCB-L supports custom automation projects and makes equipment available to scientists conducting experiments in microplate format.

✉ jennifer_smith@hms.harvard.edu

🌐 iccb.med.harvard.edu/

● TABLE 11

MASSACHUSETTS HOST-MICROBIOME CENTER & CRIMSON CORE

The Massachusetts Host-Microbiome Center promotes further understanding of host-microbiome interactions in health and disease, emphasizing a focus on function to define causative effects of the microbiota in vivo and to harness this knowledge in developing new therapies, diagnostics and further commercial applications.

The Crimson Core supports research studies and clinical trials. Core services include gnotobiotic study husbandry and processing, microbial and molecular processing, 16S phylotyping, genome sequencing, project development, the provision of discarded collars, remnant clinical samples, buffy coat processing, microbial isolate processing, CLIA testing, pharmacokinetic processing, storage for clinical trials, and prospective sample collection.

✉ tjanicki@bwh.harvard.edu

🌐 metagenomics.partners.org/

● TABLE 11

MGB BIOBANK AND BIOBANK GENOMICS CORE

The MGB Biobank is an ongoing research program enrolling patients across Mass General Brigham for collection of samples for a variety of research projects. To date, more than 137,000 participants have consented to join the MGB Biobank. MGB Biobank Banked Samples (plasma, serum, and DNA) collected from consented patients, and has genotype data for ~65,000 subjects from the genome-wide genotyping arrays. The Biobank Genomics Core (BGC) offers end-to-end support for your translational and clinical sequencing and genotyping projects.

✉ biobank@partners.org

🌐 personalizedmedicine.partners.org/

● TABLE 12

MGH DF/HCC HISTOLOGY CORE

The MGH DF/HCC Histology Core provides histological & immunochemical services to the research community. Special stains include Masson Trichrome, PAS, TUNEL, Sirius Red, etc.

✉ jckim@mgh.harvard.edu

🌐 <https://shorturl.at/jplN9>

● TABLE 12

MICRON CORE

The Microscopy Resources On the North Quad (MicRoN) core is a light microscopy core established by the Departments of Genetics, Immunology and Microbiology, and it is open to all HMS researchers, including Affiliated hospitals and biotech companies. MicRoN is a non-traditional decentralized or “floating” microscopy core. All the instruments housed in the facility are embedded within the Departments of Microbiology, Immunology, and Genetics in NRB and HIM. We find that this model generates a greater interaction among trainees from the three departments and encourages a more collaborative environment.

✉ paula_monterollopis@hms.harvard.edu

🌐 micron.hms.harvard.edu/ 🐦 @MicRoNHMS

● TABLE 13

MOUSE BEHAVIOR CORE

The Mouse Behavior Core (MBC) is a fee-for-service core that provides training and guidance to investigators on best research practices for mouse behavioral research. The MBC is outfitted with multiple rooms of equipment for behavioral testing in mice. Available assays include models of anxiety, depression, learning and memory, attention, social interaction, motor activity and coordination, and a 24 hr/day system that monitors locomotor activity, food intake, and metabolic measures. The surgical suite is outfitted with two stereotaxic frames. Housing is available in an adjacent vivarium.

✉ Barbara_Caldarone@hms.harvard.edu

🌐 behavior.hms.harvard.edu/

● TABLE 13

NASCENT TRANSCRIPTOMICS CORE AT HMS

The Nascent Transcriptomics core is a community resource for analysis of nascent transcription that offers insights into gene regulation and highly sensitive identification of regulatory regions (e.g. enhancers) that are challenging to detect by other RNA sequencing methods. We offer streamlined services for Precision Nuclear Run-on (PRO-seq) and Transient Transcriptome sequencing (TTseq; a 4sU labeling method) where users submit samples and receive useful, analyzed data. We offer free consultations to discuss experimental and data analysis plans.

✉ seth_goldman@hms.harvard.edu

🌐 ntc.hms.harvard.edu/

● TABLE 14

NEUROTECHNOLOGY STUDIO

The NeuroTechnology Studio (NTS) is a platform of advanced instrumentation and expert support for brain research at BWH. Its overall mission is to advance understanding of brain function and brain disease by providing Brigham researchers with access to cutting-edge technologies, in areas that include microscopic imaging, cell screening, molecular profiling, and medicinal chemistry. The NTS will ensure that BWH remains at the forefront of these new developments. In addition to equipment, the Studio's expert technical staff provide training workshops and individual consultation to users, ensuring that they are able to use these powerful instruments to their full advantage.

✉ lding@bwh.harvard.edu

🌐 <https://shorturl.at/iruv5>

● TABLE 14

OFFICE OF MEDIATION, COACHING, OMBUDS AND SUPPORT SERVICES (OMCOSS)

The Office of Mediation, Coaching, Ombuds and Support Services (OMCOSS) offers free and confidential support services to all BWH faculty, staff and trainees, including professional coaching and support navigating conflict.

✉ pgalowitz@bwh.harvard.edu

● TABLE 15

PEPTIDE/PROTEIN CORE FACILITY

The primary goal of the Peptide/Protein Core Facility is to provide advanced peptide/protein technology services to the MGH research community. The Core Facility, established originally as a resource for the Endocrine Unit and the Partners AIDS Research Center is now formally established as an institution-wide resource. The Core Facility primarily provides services of peptide synthesis and purification. It also provides protein/peptide sequencing, amino acid analysis and mass spectral analysis. Investigators from throughout the MGB consult with the staff of the Core Facility to facilitate the most effective use of the resources.

✉ khatria@helix.mgh.harvard.edu

🌐 researchcores.partners.org/pepcor/about

● TABLE 15

POSTDOCTORAL ASSOCIATION (BWH PDA)

The BWH PDA is a team of postdocs who work with the BRI and ORC to enhance the training experience for all postdocs in the BWH community.

The BWH PDA aims for the betterment and support of Postdoctoral Fellows (Postdocs) at Brigham and Women's Hospital (BWH) by creating a sense of community and providing access to resources. The Association delivers a platform that encourages professional endeavors and promotes the career goals of its affiliates. It serves as a voice for postdoctoral researchers at the Brigham and advocates for institutional support to address challenges facing the postdoc community.

✉ bwhpda@partners.org 🐦 [@BWH_PostDocs](https://twitter.com/BWH_PostDocs)

🌐 discoverbrigham.org/pda

● TABLE 16

PROVE CENTER

The mission of the PROVE Center is to expand the collection, analysis and utilization of patient-reported outcome measures (PROMs). The PROVE Center focuses on using innovative methods to study outcomes that matter the most to patients and their caregivers. Through collaboration with clinicians, researchers, patient advocates, health informatics experts and policymakers, we seek to amplify the patient voice in research, healthcare decision-making and patient care delivery.

✉ ahiggins@bwh.harvard.edu

🌐 prove.bwh.harvard.edu/

● TABLE 16

THE HARVARD CRYO-EM CENTER FOR STRUCTURAL BIOLOGY

The Harvard Cryo-Electron Microscopy Center for Structural Biology, founded in 2018, is a collaboration between Harvard Medical School, Dana-Farber Cancer Institute, Boston Children's Hospital, and Massachusetts General Hospital, offering state-of-the-art Cryo-EM instrumentation and expertise through a team of six scientists. Our core mission is to enable researchers of all experience levels to efficiently incorporate structural determination as a powerful part of their scientific research. We strive to optimize research productivity while training users to become expert electron microscopists.

✉ cryoem@crystal.harvard.edu 🐦 [@HC2EM](https://twitter.com/HC2EM)

🌐 cryoem.hms.harvard.edu/

● CORES AND RESOURCES TABLE LISTING

- | | |
|--|--|
| 1. All of Us Research Program
Bone Density and Body Composition Research Core | 9. Harvard Catalyst BWH Office Hour
Harvard Medical Area CyTOF Antibody Resource/Core |
| 2. Brigham and Women’s Digital Innovation Hub (iHub)
BWH: Genomics and Bioinformatics Hub | 10. HMS Immunology Flow Cytometry Core
ICCB-Longwood Screening Facility |
| 3. Brigham Research Assay Core Laboratory | 11. MA Host-Microbiome Center & Crimson Core
MGB Biobank and Biobank Genomics Core |
| 4. BWH Center for Diversity and Inclusion
BWH Faculty Development & Well-being | 12. MGH DF/HCC Histology Core
MicRoN Core |
| 5. BWH Investigational Drug Services Pharmacy
BWH Young Professionals | 13. Mouse Behavior Core
Nascent Transcriptomics Core at HMS |
| 6. Canary Natural Language Processing Platform
Center for Cellular Profiling | 14. NeuroTechnology Studio
Office of Mediation, Coaching, Ombuds and Support
Services (OMCOSS) |
| 7. Center for Clinical Investigations
DF/HCC Mouse Engineering Core | 15. Peptide/Protein Core Facility
Postdoctoral Association (BWH PDA) |
| 8. Gene Transfer Vector Core
Global Professionals and Scholars | 16. PROVE Center
The Harvard Cryo-EM Center for Structural Biology |

