

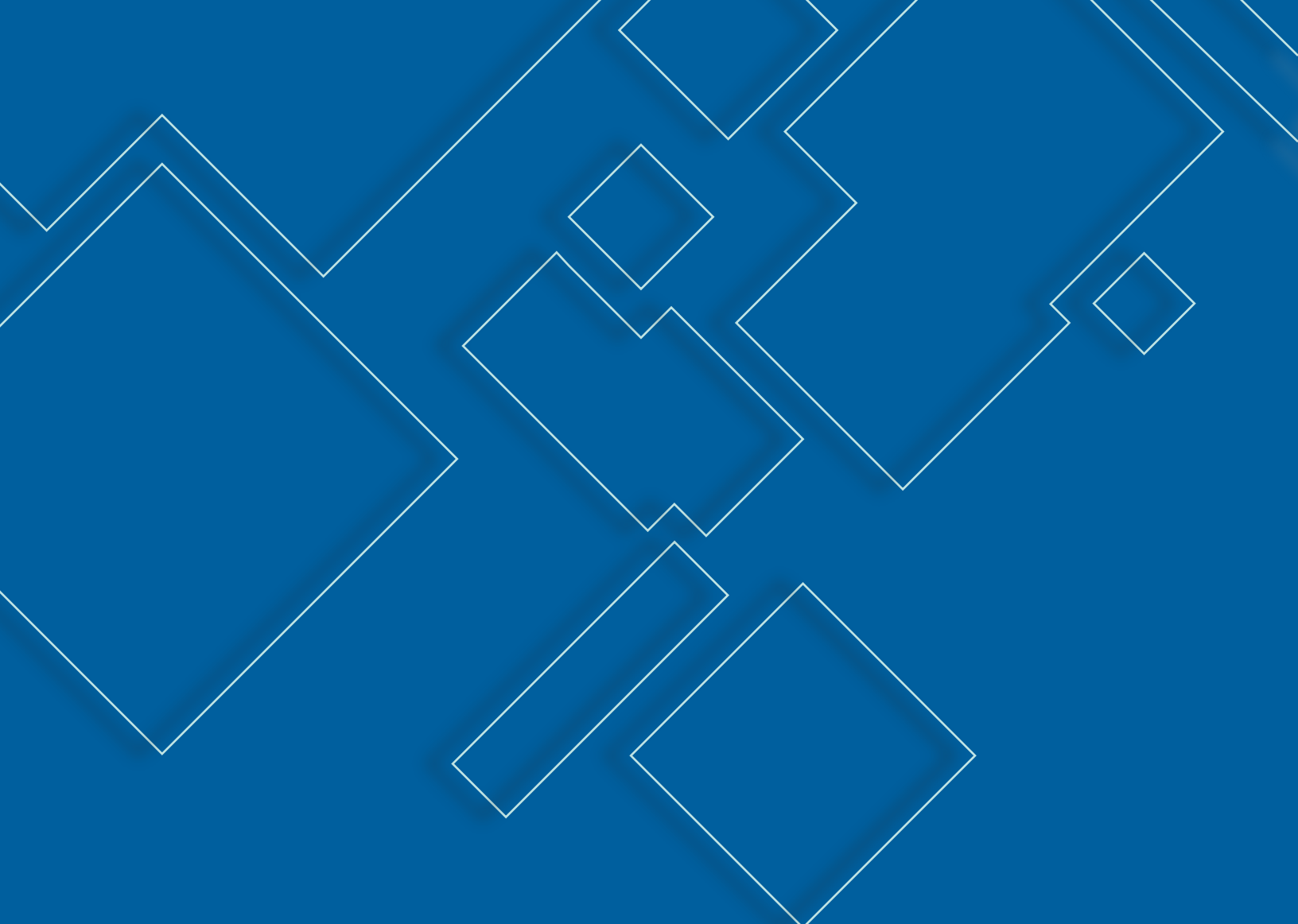


 Mass General Brigham
Brigham Research Institute

Discover Brigham Poster Session

November 8, 2023
12PM - 3:05PM





Agenda

12:00pm Kick-Off

Marshall A. Wolf Conference Center, Hale Building for Transformative Medicine

Join us as Brigham President, Robert Higgins, MD, MSHA and Brigham Research Institute Director, Kathryn Rexrode, MD, MPH welcome attendees, presenters, and as they recognize this year's Research Excellence Award winners.

12:30pm Lunch Available

1st Floor and 2nd Floor Hale Building for Transformative Medicine

1:00 - 3:05pm Poster Session

Café Atrium, Hale Building for Transformative Medicine

1:00pm Round 1

COVID-19

Immunologic, Inflammatory or Infectious Diseases

Lung Research

Women's Health and Sex/Gender Medicine

1:45pm Round 2

Bioinformatics

Biomedical Imaging

Cancer

Genomics

Musculoskeletal, Orthopedics, Sports Medicine

Regenerative Medicine

Sleep and Circadian Rhythm Disorders

Trauma, Burn, Surgical Critical Care

2:30pm Round 3

Cardiovascular, Diabetes, and Metabolic Disorders

Neurosciences

Psychiatry, Mental Health

Visit the website:
discoverbrigham.org/fall2023



Visit the poster site:
<https://poster.bwh.harvard.edu/-discover-brigham-2023/>



Each round will run for 35 minutes followed by a 10-minute break for set up for the next round



You can use the BWH Way Finding Site (maps.brighamandwomens.org) for directions if you are not familiar with the hospital. It's a helpful tool to use to make your way around the hospital during the big day!

Research Excellence Award Winners

The BRI Research Excellence Awards, which promote the research of promising BWH junior investigators and trainees, were established in 2007 with support from a philanthropic gift from the Partners Research Accelerator Program and awarded through a biannual poster competition. The BRI began supporting these awards directly in 2012, with distribution at the annual Research Day/Discover Brigham. This year, recipients of the Research Excellence Awards will be recognized at the BRI's fall poster session, held as part of the larger Discover Brigham event series. Awardees receive a \$1,000 grant to use for scientific conference travel or for research expenses; 150 awards have been made through this mechanism to this date.

The Connors-BRI Research Excellence Award recognizes outstanding work in the fields of women's health and sex/gender medicine.

Elias Bou Farhat, MD

He/Him/His

Round 2: 1:45 - 2:20pm

Benchmarking Mismatch Repair Testing for Patients with Cancer Receiving Immunotherapy

Delphine Franssen, PhD

She/Her/Hers

Round 1: 1 - 1:35pm

Role and Mechanism of Action of MKRN3 in Neuronal Plasticity

Connors-BRI Research Excellence Award

Hia Ghosh, BS

She/Her/Hers

Round 2: 1:45 - 2:20pm

Contemporary Molecular Landscape, Survival and Prognostic Factors in over 4,000 Gliomas

Hong-Gyun Lee, PhD

Round 3: 2:30 - 3:05pm

Droplet-Based Forward Genetic Screening of Astrocyte-Microglia Cross-Talk

Manuel Mekkattu, BSc

He/Him/His

Round 2: 1:45 - 2:20pm

An Innovative Imaging Tool to Improve Visualization During Vascular and Cardiac Surgery

Adam Nelson, PhD

Round 1: 1 - 1:35pm

Immune-Mediated Mechanisms of Intrinsic PARP Inhibitor (PARPi) Resistance in BRCA1-Associated Triple Negative Breast Cancer (TNBC) are Overcome by the Addition of CSF-1R Inhibition and Immune Checkpoint Blockade (ICB)

Maria-Tzousi Papaverigi, MS

She/Her/Hers

Round 3: 2:30 - 3:05pm

A MaGical cASe: A Story of the Cell-Specific Effects of C3-Mediated Neurodegeneration

Ritika Rastogi, PhD

Round 3: 2:30 - 3:05pm

Suicidality Predicts Decreased Help-Seeking Attitudes in College Students: A "Foot-in-the-Door" Effect of Past Service Utilization?

Trevor Tamura, BA

He/Him/His

Round 1: 1 - 1:35pm

Analysis of Emerging Drug Resistance after Nirmatrelvir-Ritonavir Treatment and during Post-Treatment Virologic Rebound

Round 1 1-1:35pm

Research Excellence Award Winner



Connors-BRI Research Excellence Award



Women's Health and Sex/Gender Medicine



1. Adam Nelson, PhD

Immune-Mediated Mechanisms of Intrinsic PARP Inhibitor (PARPi) Resistance in BRCA1-Associated Triple Negative Breast Cancer (TNBC) are Overcome by the Addition of CSF-1R Inhibition and Immune Checkpoint Blockade (ICB)

2. Amanda Fata, BA She/Her/Hers

Impact of an Integrated Approach to Cervical Cancer Screening and Breast Cancer Early Detection on Clinical Breast Exam Provision in Rwanda

3. Annabella Boardman, BA She/Her/Hers

Diversity, Equity, and Inclusion (DEI) Themes in the Content of a Professional Physician Organization's Annual Meetings

4. Catherine Hurley, MS She/Her/Hers

Relationship Between Emotional Intensity and the Onset of Episodic Migraine in Adult Women

5. Fernanda Ortega, MPH

LATCH (Lactation Advocacy To Cultivate Health) Equity Study: A qualitative study to investigate lactation support for Black, Latinx, and Southeast Asian birthing parents

6. Patrick Doyle, BS

Examining Barriers to Practice Among Female Genitourinary Radiation Oncologists: A Nationwide Survey

7. Pooja Prasad, BS She/Her/Hers

Analysis of MED12 Genetic Variants in Uterine Fibroids for Development of a Non-Invasive Blood Test for Early Detection of Uterine Fibroids and Uterine Leiomyosarcoma

8. Angelina Franqueiro, BS

Sex Differences in Psychological Distress and Acute Postoperative Pain among Patients undergoing Video-Assisted Thoracoscopic Surgery



9. Delphine Franssen, PhD She/Her/Hers

Role and Mechanism of Action of MKRN3 in Neuronal Plasticity

10. Emily Rosado, MA She/Her/Hers

Psychological Distress Partially Explains the Greater Emotional and Physical Impact of Postsurgical Pain in Younger Women with Breast Cancer

11. Esther (Ritah) Ogayo, BS She/Her/Hers

Deep Immunoprofiling Demonstrates Racial Differences in the Peripheral Immune System in Women at Risk for Breast Cancer

12. Maria Yemane, BS

The Sex-Specific Interaction of the Microbiome in Multiple Sclerosis

13. Maura De Laney, BS She/Her/Hers

Sex Hormones and Cognition in Postmenopausal Women with Major Depressive Disorder

14. Nichola Haddad, MD She/Her/Hers

Metoclopramide-Induced Psychiatric Illness: A Case Series of Three Perinatal Women

15. Simran Khanna, BA She/Her/Hers

Assessing Co-Occurring Psychosocial Conditions Driving HIV Risk in the Emergency Department

16. Sophia Hu, BA She/Her/Hers

Prospective Neophallus and Forearm Sensory Outcomes Following Innervated Radial Forearm Free Flap Phalloplasty

COVID-19

17. Vicky Falso, BA

Clustering of Chronic Pain Patients using Biopsychosocial Characteristics to Reveal Subgroups with Differential Impact of Pain during COVID-19

Immunologic, Inflammatory or Infectious Diseases

18. Dongtak Lee, PhD He/Him/His

Pathogen Capture and Neutralizing Nasal Spray to Prevent Respiratory Infections

19. Dongzhe Hong, PhD, MsPharm

What Factors Influence Physicians Antimicrobial Drug Prescribing Decisions: A Survey Study of Physician Perspectives

20. Grace Godwin, BA She/Her/Hers

Sleep Disturbances and Associated Depression in a Cohort of Indolent Systemic Mastocytosis Patients

21. Greta Sirek, BA She/Her/Hers

A Community-Engaged Approach to Translate a Vaccine Hesitancy Scale into Haitian Creole

22. Jinzhi Duan, PhD

Microbiota Drives Th17 Cell Response through Activating Epithelium Endoplasmic Reticulum Stress and Purine Metabolism in the Gut

23. Lauren Rimmel, DPT She/Her/Hers

Racial Inequities in Referral and Participation in Outpatient Physical Therapy

24. Nuria Puigmal, PhD She/Her/Hers

Microneedle-Mediated Delivery of Immunomodulators Restores Immune Privilege in Hair Follicles and Reverses Alopecia Areata

25. Rebecca Summit, BA She/Her/Hers

Implementation of a Rheumatology-Based Social Determinants of Health Screening Program to Uncover and Address Needs in a Multihospital Health Care System

26. Tahereh Mina Derakhshan, PhD

She/Her/Hers

Identification and Evaluation of Mast Cell Progenitor Expansion in Nasal Polyposis

27. Toby Lanser, BS He/Him/His

A Single-Cell Transcriptomic Atlas of Monocytes in Progressive, Non-Progressive, and Relapsing-Remitting Multiple Sclerosis



28. Trevor Tamura, BA He/Him/His

Analysis of Emerging Drug Resistance after Nirmatrelvir-Ritonavir Treatment and during Post-Treatment Virologic Rebound

29. Xiaole Yin, PhD She/Her/Hers

The Impact of Dietary Interventions on Metabolomic Profile and Disease Progression in Primary Sclerosing Cholangitis Patients with Inflammatory

31. Jessica Kenison-White, PhD She/Her/Hers

Machine Learning-Based Identification of Environmental Factors that Promote Intestinal Inflammation and IBD

Lung Research

30. Sayeda Yasmin-Karim MD, MS, PhD

She/Her/Hers

Aerosol Delivery of Immunotherapy and Hesperetin Nanoparticles in Murine Lung Cancer Model

Round 2 1:45-2:20pm

Bioinformatics

1. Amir Rouhollahi, PhD He/Him/His

Spatial Distribution of Calcium in Aortic Stenosis Patients Predicts the Risk for Permanent Pace Maker Installation

2. Aniket Zinzuwadia, AB He/Him/His

Tailoring Cardiovascular Risk Prediction Models to Local Populations: A Machine Learning Approach that Preserves Interpretability of the Foundation Model

3. Gurdip Uppal, PhD He/Him/His

Probabilistic Learning of Microbiome Spatial Dynamics from High-Throughput Localization Data

4. Haipeng Zhang, DO, MMSc

Trends in Generative Artificial Intelligence (GenAI) Research and Development Across Mass General Brigham

5. Hyunsun Lee, PhD

Simultaneous Multimodal Single-cell Profiling in T and B Cells from Type 1 Diabetes and Multiple Sclerosis Patients

6. Jessica Hem, BA She/Her/Hers

Analyzing the Impact of an Obesity Diet on Myeloproliferative Neoplasms using a Jak2V617F-Mutant Mouse Model

7. Mahdi Ebnali, PhD

Collaborative Clinician-AI Decision Support for Telemedicine

8. Sandra Haltmeier, BSc She/Her/Hers

Revolutionizing Aortic Aneurysm Monitoring and Dissection Prediction: AI-Powered, Automated, and Interactive Aortic Growth Analysis

Biomedical Imaging

9. Andrew Song, PhD He/Him/His

AI-Driven Efficient Patient Prognosis Based on 3D Pathology Samples

10. Eduard Verheijen, BSc He/Him/His

A Neural Network for Prediction of Surgical Success in Lumbar Spinal Stenosis Patients



11. Manuel Mekkattu, BSc He/Him/His

An Innovative Imaging Tool to Improve Visualization During Vascular and Cardiac Surgery

12. Muhammad Shaban, PhD

Deep Learning Model Imputes Missing Stains in Multiplexed Images

13. Safwan Sarker, BSc He/Him/His

The Usability and Feasibility of Augmented Reality for Home Care Medicine: A Preliminary Analysis

Cancer

14. Antonio Ferreira, PhD

The Human B-Cell Lymphoma Microenvironment at Single-Cell Resolution

15. Brent Carroll, BS He/Him/His

Optimization of a High-Throughput Screening Platform using RNA-Targeting CRISPR-Cas13 for Isoform Specific Knockdown.



16. Elias Bou Farhat, MD He/Him/His

Benchmarking Mismatch Repair Testing for Patients with Cancer Receiving Immunotherapy

17. Emma Keane, BA She/Her/Hers

Positive Affect, Flourishing, Quality of Life, and Psychological Distress in Allogeneic Hematopoietic Stem Cell Transplantation

18. Maeve Dillon-Martin, BS She/Her/Hers

Updates and New Projects within BROADBAND: The BWH Radiation Oncology All-Department Biorepository to Accelerate New Discoveries

19. Michel Alchoueiry, MD, MSc

Clinical and Molecular Characterization of Chromophobe Renal Cell Carcinoma: A Focus on Immunotherapy Based Regimens and the Tumor Immune Microenvironment

20. Pieter Cory, BS

The Role of CTHRC1 in the Pathogenesis of Tuberous Sclerosis

Genomics



21. Hia Ghosh, BS She/Her/Hers

Contemporary Molecular Landscape, Survival and Prognostic Factors in over 4,000 Gliomas

22. Joey Hua-Phan, BA

The All of Us Research Program: Progress at Brigham and Women's Hospital and Nationwide

23. Sattar Khoshkhoo, MD

Hippocampal Somatic Variants Activating Ras-MAPK Genes in Temporal Lobe Epilepsy with Mesial Temporal Sclerosis

Musculoskeletal, Orthopedics, Sports Medicine

24. Adriana Liimakka, BS

Identifying Genetic Polymorphisms Underlying the Arthrofibrosis Phenotype

25. Jillian Mazzocca, BA She/Her/Hers

Lack of Knee Confidence after ACL Reconstruction

26. Matthew Natanson, DPT He/Him/His

The Effects of Instrument-Assisted Soft Tissue Mobilization on Calf Muscle Strain: A Case Report

27. Rohan Jha, SB

Identifying Uncomplicated Post-Operative Progression of Spine Deformity

Regenerative Medicine

28. Seol-Ha Jeong, PhD She/Her/Hers

Computer Vision Enabled Eye-in-Hand Robotic In-situ Bioprinting of Multimaterials for Fast Wound Repair

Trauma, Burn, Surgical Critical Care

29. Omar Albastaki, BA

Nasal Anti-CD3 Modulates Microglia Inflammation, Accelerates Hematoma Resolution by Promoting Microglia Phagocytosis, and Improves Functional Outcomes in a Mouse Model of Intracerebral Hemorrhage

Sleep and Circadian Rhythm Disorders

30. Jessica Love, BA She/Her/Hers

A Comparative Study of US-Based Melatonin Assay Companies - Solidphase vs Salimetrics

Cardiovascular, Diabetes, and Metabolic Disorders

1. Christian Tejada, BS He/Him/His

A Care Transitions Application to Improve Health Outcomes for Hospitalized Patients with Multiple Chronic Conditions: Defining End-User Needs

3. Jonah Hoyt, BS He/Him/His

A Look at Duodenal Mucosal Resurfacing: Rationale for Targeting the Duodenum in Type 2 Diabetes

4. Madhur Sachan, PhD

MicroRNA-1282 as a Cis-Antisense Regulator of Angiogenesis in Diabetic CLI

5. Pourya Medhati, MD He/Him/His

Outcomes and Management of Re-establishing Bariatric Patients

6. Rachel Wasserman, PharmD

Retrospective Evaluation of QTc Drug-Drug Interaction (DDI) Clinical Decision Support (CDS) Alerts and Tisdale Risk Score Calculator Utilization in the Inpatient Setting at Brigham and Women's Hospital (BWH)

7. Sarvesh Chelvanambi, PhD He/Him/His

Single Cell Transcriptional-Epigenetic Profiling and Compartmental Cellular Proteomics Demonstrate that HIV-Nef Extracellular Vesicles Modulate Human Macrophage Heterogeneity to Promote Atherosclerosis

8. Shruti Rawal, PhD She/Her/Hers

miR-369-3p Ameliorates Diabetes-Associated Atherosclerosis by Regulating Macrophage Succinate-GPR91 Signaling

9. Soheila Ali Akbari Ghavimi, PhD She/Her/Hers

Targeting Integrin-TGF β Interaction in Marfan Syndrome

Neurosciences

10. Aaron Warren, PhD He/Him/His

Optimal Targets, Connectivity, and Tissue Integrity for Deep Brain Stimulation in Patients with Disorders of Consciousness

11. Adriana Saba, MD She/Her/Hers

Unveiling Extensive Cerebral Amyloid Angiopathy in the Brains of Down Syndrome Dementia Patients Using Leqembi

12. Brijendra Singh, PhD He/Him/His

Complement C3 Lowering in Young Inducible Conditional Knockout Mice Protects against the Age-Associated Cognitive Decline

13. Chen Zhang, PhD He/Him/His

Lipophorin Receptors Genetically Modulate Neurodegeneration Caused by Psn Knockdown in the Aging Drosophila Brain

14. Marilia Garcia De Oliveira, PhD She/Her/Hers

Nasal Administration of Anti-CD3 Monoclonal Antibody Delays Disease Progression in the SOD1 Mouse Model of ALS by Disrupting Disease-Associated Microglial Signature

15. Gannon McDonough, BS He/Him/His

Somatic Genetic Profiling of PRNP in Heidenhain Variant and Sporadic Creutzfeldt-Jakob Disease



16. Hong-Gyun Lee, PhD

Droplet-Based Forward Genetic Screening of Astrocyte-Microglia Cross-Talk

17. Lovemore Kunorozva, PhD He/Him/His

Common Variants Reveal Novel Insight into Sleep-Related Phenotypes

18. Mahsa Khayatkhoei, MD, MBA She/Her/Hers

In vitro Model for Investigating the Effect of Multiple Sclerosis Monocytes on Cellular-Scale Cortical Network Function.



19. Maria-Tzousi Papavergi, MS She/Her/Hers

A MaGical cASe: A Story of the Cell-Specific Effects of C3-Mediated Neurodegeneration

20. Martine Grenon, MSc

Temporal Characterization of the APP/PS1;hAPOE4 Mouse Model of Alzheimer's Disease

21. Praveen Bathini, PhD He/Him/His

Exploring the Link Between Amyloid Immunotherapy, ARIA, and Complement Activation

22. Steven Cicero, BS He/Him/His

Glial Activity Load on PET (GALP) Reveals Persistent 'Smoldering' Inflammation in MS despite Disease Modifying Treatment: [F-18]PBR06 study

23. Yupeng Tu, PhD

A Big Trafficking Machinery, A Small Molecule, and A Story of the Two

Psychiatry, Mental Health

24. Alexander Wu He/Him/His

Acceptability and Perceptions of Psychedelics as Treatment in Individuals with Substance Use and Other Psychiatric Disorders

25. Caitlin Wizda, BA She/Her/Hers

Converting Behavioral Health ED Boarding Time into Treatment Time: Initiating Occupational Therapy in the ED

26. Emma Galante, BS She/Her/Hers

The Effects of Comorbid Anxiety on Cognitive Performance in Bipolar Disorder

27. Genevieve Alice Woolverton, PhD

She/Her/Hers

Psychological Stress Predictors of Problematic Internet Use (PIU) during the COVID-19 Pandemic in a Racially Diverse Sample of Young Adults

28. Jahnvi Prabhala, BA She/Her/Hers

Informing Acceptability and Feasibility of Digital Phenotyping for Personalized HIV Prevention among Marginalized Populations Presenting to the Emergency Department

29. Katharine Burns, BA She/Her/Hers

Subjective Cognitive Complaints in Bipolar Disorder and Depression do not Correlate with Objective Measures of Cognitive Functioning

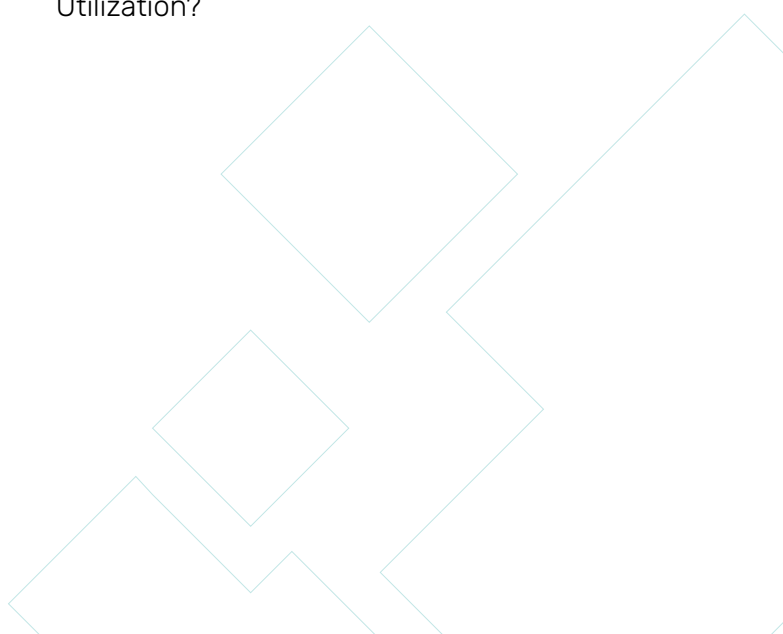
30. Michelle Guo, MD She/Her/Hers

Barriers, Facilitators, and Preferences for a Positive Psychology Intervention for Caregivers of Patients Undergoing Hematopoietic Stem Cell Transplantation



31. Ritika Rastogi, PhD

Suicidality Predicts Decreased Help-Seeking Attitudes in College Students: A "Foot-in-the-Door" Effect of Past Service Utilization?





Brigham Research Institute

<https://www.discoverbrigham.org/bri/>

The BRI's overarching mission is to accelerate discoveries that improve human health; supporting strategies include fostering groundbreaking, interdepartmental, and interdisciplinary research, ranging from basic departmental studies to clinical innovations. The BRI strives to provide a clear voice (internally and externally) for the entire BWH research community, raise the profile of research at BWH, develop mission-centric collaborations with external entities and engage the scientific community in fundraising.



Office for Research Careers

<https://www.discoverbrigham.org/orc/>

Our mission is to support the professional needs of the research community at the Brigham. We strive to support research trainees and faculty across the academic continuum by providing resources to support and promote career and professional development, enhance the training experience, and foster effective mentoring.

As an integral part of the BRI, the ORC supports the BWH Postdoctoral Association and often collaborates with the Center for Diversity and Inclusion to offer myriad opportunities to the diverse research community.



Discover Brigham Series

<https://www.discoverbrigham.org/go/>

For over a decade, Discover Brigham has been an annual event featuring scientific talks, keynote speeches, virtual lab tours, poster sessions, and more. Now, we are expanding Discover Brigham into a series of events focused on research, discovery and innovation. These events will take place throughout the year and be hosted by a number of different groups, all under the 'Discover Brigham' event series.