25th Annual Celebration
December 1, 2020

Eleanor and Miles Shore Faculty Development Awards Program

HARVARD
MEDICAL SCHOOL

HARVARD
School of Dental Medicine

Eleanor and Miles Shore
Faculty Development Awards Program
2020 Virtual Reception
4:30 to 5:30 PM

Welcome
Carol K. Bates, MD
Associate Dean for Faculty Affairs

Historical Perspective
Eleanor Shore, MD
Senior Consultant to the Office for Clinical and Academic Affairs, Harvard Medical School

Recognition of 2020 Recipients

Panel
Anne Becker, MD (Moderator & 1997 recipient)
Dean for Clinical and Academic Affairs

Jean Emans, MD
(Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship)
Mary Ellen Avery Professor of Pediatrics, Boston Children's Hospital

Nancy Tarbell, MD (Claflin Distinguished Scholar Awards)
C.C. Wang Professor of Radiation Oncology, Massachusetts General Hospital

Lisa Diller, MD (1996 recipient)
Professor of Pediatrics, Dana Farber Cancer Institute

Mary Loeken, PhD (1998 recipient)
Associate Professor of Medicine (Physiology), Joslin Diabetes Center

Ann Poduri, MD, MPH (2006 recipient)
Associate Professor of Neurology, Boston Children's Hospital

Reading of the Memorial Minute of Dr. Miles Shore, MD
Jules Dienstag, MD
Interim Dean for Faculty Affairs

Closing Remarks
George Q. Daley, MD, PhD
Dean of the Faculty of Medicine

History of Program

In 1995, The Fiftieth Anniversary Program for Scholars in Medicine was established to celebrate the 50th anniversary of the admission of women to Harvard Medical School (HMS) and to acknowledge the important contributions of women to the School. As part of this celebration, a fellowship program was established to help junior faculty, women and men, at the point in their careers when they must teach, do research, compete for grants, publish, or practice (if a clinical faculty member) at the same time they may be assuming increased family or other responsibilities.

In 1996, recipients of the first ten awards were honored in celebration. The program was renamed in 2004 to honor the efforts of Dr. Eleanor Shore, former Dean for Faculty Affairs, and Dr. Miles Shore, Bullard Professor of Psychiatry, Emeritus, on behalf of the 50th Anniversary Program for Scholars in Medicine.

Today, the program continues to honor the Shores' pioneering efforts and lasting dedication to the development of junior faculty as the Eleanor and Miles Shore Faculty Development Awards Program (Shore Program). As we celebrate the 25th anniversary of the program in 2020, we are proud of the support of over 60+ sponsored awards to our faculty.

Banu Ahtam, DPhil
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentors: P. Ellen Grant, MD; Yoshio Okada, PhD; Stella Kourembanas, MD

Project Title: How seizure activity affects brain connectivity in the immature brain

Project Description: Pediatric epilepsy is a common neurological disorder. Approximately 30-40% of children with epilepsy may require brain surgery to stop their seizures. Although surgical strategies have assumed focal targets responsible for generating epileptogenic activity, the idea of epilepsy as a localized region of abnormality has evolved into a disorder of abnormal neural networks, associated with underlying pathophysiology of seizure generation. This study aims to determine the effects of epileptic activity on structural and functional connectivity of the brain during the early stage of development, as well as to determine whether connectivity measures can explain the neurodevelopmental status of the patient

Lissa C. Baird, MD
Member of the Faculty of Neurosurgery
Boston Children's Hospital

Boston Children's Hospital Department of Neurosurgery Fellowship

Mentor: Edward Smith, MD

Project Title: Molecular profiling of pediatric craniopharyngioma to identify prognostic subgroups and therapeutic targets

Project Description: Craniopharyngioma is one of the most complex neurosurgical pathologies affecting the pediatric population, with high treatment-related morbidity. Recurrent mutations in BRAF V600E and CTNNB1 have been reported in adult and mixed populations, however no unique description of the molecular profile of pediatric craniopharyngiomas has been described. This project proposes to establish the molecular profile for pediatric patients treated for craniopharyngioma at Boston Children's Hospital in order to identify therapeutic targets and prognostic associations for this disease. Targeted molecular therapy may minimize the need for aggressive surgical and radiotherapeutic treatments, resulting in decreased disease morbidity and improved quality of life.

Andrea S. Bauer, MD
Assistant Professor of Orthopedic Surgery
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: Peter Waters, MD

Project Title: GUPI: Growing Up with a Plexus Injury

Project Description: Brachial Plexus Birth Injury (BPBI) is the most common birth injury and the most common cause of upper limb paralysis in children, with an incidence of 1-2 per 1,000 live births. This study will be the first to generate multi-dimensional function and patient-reported outcome (PRO) data in a large and diverse population of children with BPBI. This data will immediately address a critical knowledge gap that is essential to patient-centered care and to health advocacy in this population. Importantly, this study initiates a critical step of inclusion of the patient perspective that is pivotal to shifting care in BPBI from opinion- to evidence-based.

Leslie A. Benson, MD
Instructor in Neurology
Boston Children's Hospital

Boston Children's Hospital Department of Neurology Faculty Development Fellowship

Mentor: Mark Gorman, MD

Project Title: Exploring the pathophysiology of ROHHAD Syndrome with establishment of a biorepository

Project Description: Our collaborative team is studying whether an autoimmune attack on the nervous system may be the cause for ROHHAD syndrome. There are reports of markers of nervous system inflammation and response to immune suppressing treatments in ROHHAD patients, yet the cause is unknown. Additionally, ROHHAD obesity is poorly understood and difficult to treat. Thus we are interested in storing extra blood, spinal fluid and tumor tissue to explore these hypotheses. This approach to ROHHAD research is different from prior research focused on genetics. The hope is to identify biomarkers, clarify disease mechanisms and ultimately make progress toward better, targeted treatments.

Regan Bergmark, MD
Instructor in Otolaryngology Head and Neck Surgery
Brigham and Women's Hospital

Brigham and Women's Hospital Faculty Career Development Award

Mentor: Joel Weissman, PhD

Project Title: Disparities in Access to Experienced Surgeons

Project Description: More than 10 million inpatient surgeries and 11 million ambulatory surgeries are done annually in the United States, with large disparities in utilization and outcomes based on race/ethnicity and socioeconomic status (SES). The extent to which disparities in surgical care may be mediated by referral patterns is largely unknown. This proposal aims to characterize disparities in access to experienced, high-volume surgeons based on race/ethnicity and socioeconomic status in the US Medicare population, using head and neck cancer as a model disease. We will additionally interview patients at Brigham and Women's Hospital and Boston Medical Center about patient perspective on surgical referral patterns and choice of surgeon.

Felicity Billings, MD
Instructor in Anaesthesia, Part-time
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Anesthesiology, Perioperative and Pain Medicine Faculty Development Fellowship

Mentor: Richard M. Kaufman, MD

Project Title: Decreasing Blood Product Waste

Project Description: Our hospital inadvertently wastes an extraordinary number of blood products. Initially targeting blood product use in the operating room environment, this project will establish the scope of blood wastage and develop multiple, actionable initiatives to alter practices. Such initiatives will include creating EPIC alerts for product expiration/return times, uniquely labeling blood products to prevent certain products from being inappropriately stored prior to use, and investigating ways to prolong the viability of specific blood products (e.g., new coolers). Our pilot data on changing the labeling of platelets has created new patterns of use, and has made a significant impact on reducing platelet waste. By initiating monthly plan-do-study-act (PDSA) cycles, we will implement and track initiatives, and adjust our responses through feedback to individuals and groups of providers, and hopefully alter the use and waste patterns of these life-saving blood products.

Pui Susan Cheung, MD
Instructor in Medicine
Massachusetts General Hospital

Massachusetts General Hospital Department of Medicine Fellowship

Mentor: Dennis Brown, PhD

Project Title: Characterization of Novel Signaling Pathways involved in Water Balance Disorders

Project Description: Water homeostasis is essential for survival, and our bodies have developed an intricate system to tightly regulate water balance. When this delicate balance is disrupted, patients can present with severe dehydration on one end of the spectrum and excessive water retention on the other, resulting in irreversible organ damage including death. Current available treatments aiming to treat disorders of water balance carry significant toxicity, and thus are not safe for long- term use. Recently, we found alternative pathways to regulate water balance, and the goal is to further dissect the pathways to uncover targeted therapy for safer and more effective treatment.

Supattriya Chutinan, DDS
Instructor in Restorative Dentistry and Biomaterials Sciences
Harvard School of Dental Medicine

Harvard School of Dental Medicine Fellowship in honor of Aina M. Auskaps, DMD

Mentor: German Gallucci, DMD

Project Title: Outcome Measurement of Caries Management Decision Tree Implementation at HSDM Teaching Clinic

Project Description: Caries Management Decision Tree (CMDT) was developed to help the student providers and clinical instructors in setting the standardized caries management plan for individual patients. Ultimately we hope this tool can help patients to reduce caries incidence and arrest caries progression. Quality improvement method which is intended to support the redesign of care processes based on a system of learning, incremental change, and the incorporation of empirically supported best practices from evaluating performance and outcome measures, will be used to measure the outcome of CMDT implementation. Historical and new implementation data will be compared.

Clarissa Z. Cooley, PhD
Instructor in Radiology
Massachusetts General Hospital

Massachusetts General Hospital Department of Radiology

Mentor: Lawrence Wald, PhD

Project Title: Point-of-Care MRI for Neonatal Intensive Care Unit

Project Description: There is clear value of MRI for diagnostic neonatal brain imaging. However, the nature of these large, expensive, potentially dangerous instruments limits accessibility and requires that patients be transported to a radiology suite. This is highly limiting for vulnerable neonatal intensive care unit (NICU) patients. To overcome these obstacles, we propose the development of a portable, quiet MRI device dedicated to point-of-care (POC) neonatal brain imaging. The proposed scanners will be transported to the NICU isolette, prioritizing minimal handling and manipulation of the patient and enabling true POC diagnostics and monitoring.

Beth A. Costine-Bartell, PhD
Assistant Professor of Neurosurgery
Massachusetts General Hospital

Claflin Distinguished Scholar Awards

Mentors: Ann-Christine Duhaime, MD and Kevin Staley, MD

Project Title: Identifying Therapeutic Targets for Pediatric Severe Traumatic Brain Injury

Project Description: The majority of severe traumatic brain injury (TBI) during infancy is due to abuse. Abusive head trauma results in a high rate of mortality and morbidity, including post-traumatic epilepsy, cerebral palsy, and intellectual disability. We study specific brain damage patterns that commonly result from abusive head trauma to understand the factors and cellular cascades that contribute to ongoing brain tissue damage even after the child arrives at the hospital. By understanding the pathophysiological cascades induced by severe TBI, we seek to identify therapeutic targets and ultimately reduce the extent of brain damage, death, and disability resulting from abusive head trauma.

Alex Cuenca, MD
Assistant Professor of Surgery
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: James Markmann, MD PhD

Project Title: The role of group 2 innate lymphoid cells (ILC2) in allograft tolerance

Project Description: While pediatric transplant allograft survival has improved over the last several decades, this has resulted in prolonged exposure to immunosuppressive medications. Therefore strategies to reduce or eliminate these regimens are needed. Innate lymphoid cells (ILC) are a novel tissue resident immune cell population with immunomodulatory properties however, their role in allograft tolerance or rejection is unknown. The proposed research will aim to elucidate the role of the ILCs in allograft tolerance as well as insight into their use as a cellular therapeutic to control allograft rejection.

Laura E. Dodge, ScD
Assistant Professor of Obstetrics, Gynecology & Reproductive Biology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Gynecology and Obstetrics Fellowship

Mentor: Michele R. Hacker, ScD

Project Title: A prospective cohort to examine the long-term effects of assisted reproductive technologies

Project Description: Despite the relatively widespread use of assisted reproductive technologies (ART), questions about its safety remain, as prior studies have struggled to disentangle the effects of ART itself from the effects of underlying infertility. This project will construct a large, diverse prospective cohort of individuals pursuing pregnancy both with and without ART to examine the short-term and long-term health, psychosocial, and financial effects of trying to conceive, as well as the effects of changes in lifestyle behaviors over time. Participants will be recruited through a popular fertility app, and we will test various enrollment and retention strategies to maximize cohort size and engagement within this context.

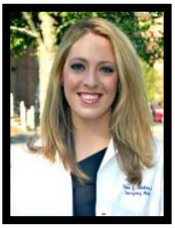
Sarah Rae Easter, MD
Assistant Professor of Obstetrics, Gynecology & Reproductive Biology
Brigham and Women's Hospital

Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship

Mentor: Julian N. Robinson MD

Project Title: A patient-centered approach to obstetric risk stratification

Project Description: The rising rate of severe maternal morbidity and mortality is a public health crisis. Referring pregnant patients to hospitals with the resources and personnel to address their anticipated needs is one proposed approach to improve maternal outcomes. This risk-appropriate maternity care draws on examples from the trauma and neonatal literature but fails to account for the psychosocial considerations unique to childbirth in its implementation. The aim of the current project is to design and pilot a multidisciplinary transport review process incorporating the perspective of the patient to minimize fragmentation of care and optimize the delivery of risk appropriate maternal care.



Laura G. Ebbeling, MD
Instructor in Emergency Medicine
Mount Auburn Hospital

Mount Auburn Hospital Department of Emergency Medicine Faculty Development Fellowship

Mentor: Christopher Fischer, MD

Project Title: Mount Auburn Hospital Emergency Department Geriatric Accreditation

Project Description: The US population is aging rapidly leading to an increasing numbers of seniors making contact with the healthcare system. We plan to establish the Mount Auburn Emergency Department as a Center of Excellence in geriatric emergency care. This program was developed by the American College of Emergency Physicians as a way to ensure that these senior patients receive well-coordinated, quality care during every emergency department visit since this population has unique needs. Our goal is to improve the care we provide through staffing, education, policy changes, transitioning care, and ensuring that appropriate resources are available for our older patients.

Martha J. Falkenstein, PhD
Instructor in Psychology in the Department of Psychiatry
McLean Hospital

McLean Hospital Fellowship

Mentors: Christian Webb, Phd and Courtney Beard, MD

Project Title: Personalized Prognostic Prediction of "Real World" Treatment Outcome in OCD & Related Disorders

Project Description: There is a critical need to identify predictors of outcome in exposure therapy for treatment-refractory patients with obsessive-compulsive related disorders (OCRDs) in real world clinical settings. The current project will leverage advances in machine learning, applied to ongoing clinical data collection within McLean Hospital OCD Institute, to predict treatment outcome prognosis among patients engaging in exposure therapy in a naturalistic setting. The long-term goal of this work is to improve the efficiency and effectiveness of exposure therapy in community settings for OCRDs, with the ultimate goal of enhancing response and thus reducing the public health burden of these disorders.

Ryan M. Fame, DPH
Instructor in Pathology
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: Maria K. Lehtinen, PhD

Project Title: Interaction between metabolism and ion transport in the cerebrospinal fluid (CSF) niche

Project Description: The brain and spinal cord are filled with and surrounded by a clear fluid— the cerebrospinal fluid (CSF). CSF components support proper brain development and can be targeted for clinical intervention. CSF volume and ion composition are tightly regulated. Excess CSF volume or pressure results in the debilitating condition of hydrocephalus. CSF ions support immature neurons that use electrical signals to regulate their development. The choroid plexus (ChP) tissue is specialized for CSF secretion, but what controls CSF generation and composition are only partially known. I will study how the ChP uses energy differently over development to regulate CSF ion composition and volume.

Rosario Fernandez-Godino, PhD
Assistant Professor of Ophthalmology
Massachusetts Eye and Ear

Alice J. Adler Fellowship of the Schepens Eye Research Institute

Mentor: Eric A. Pierce, MD PhD

Project Title: Unraveling common pathways for complement activation in inherited and age-related macular degenerations.

Project Description: Inherited and age-related macular degenerations are important causes of vision loss. Inherited macular degenerations (IMD) are relatively rare and caused by single mutations, while age-related macular degeneration (AMD) is the most common type of blindness and is contingent on environmental and genetic risk factors. Both IRDs and AMD start with yellow spots called drusen in the fundus of the eye associated with protein/lipid deposition and complement activation. The clinical similarities may indicate common underlying mechanisms of drusen formation. We will use cell-based models to study the common pathways that lead to drusen formation and complement activation in IMDs and AMD.

Meredith E. Gansner, MD
Instructor in Psychiatry
Cambridge Health Alliance

Harvard Medical School Award in honor of Lynne M. Reid, MD, MBBS

Mentors: Nicholas Carson, MD and John Torous, MD, MBI

Project Title: Understanding the Relationship Between Problematic Internet Use and Adverse Mental Health Outcomes in Youth with Psychiatric Co-morbidities: A Digital Phenotyping Study in a Sample of Clinical Adolescents

Project Description: The amount of time teenagers spend on screens has increased dramatically in the last decade. There are growing concerns that this screen time may be associated with aggression, depression, anxiety, and suicidal behavior. However, little is known about the factors that mediate these associations. Our study aims to investigate these factors using the novel methodology of digital phenotyping to characterize the relationship between Internet dependence and negative mental health outcomes, and to identify future targets for treatment of Internet-related pathologies.

Stephanie H. Guseh, MD
Instructor in Obstetrics, Gynecology & Reproductive Biology
Brigham and Women's Hospital

Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship

Mentor: Kathryn Gray, MD, PhD and Louise Wilkins-Haug, MD, PhD

Project Title: Phenotypic and molecular characterization of pregnancy complicated by fetal anomalies

Project Description: Major structural anomalies affect 2-3% of all pregnancies and are the predominant cause of perinatal mortality and childhood disability. Some of our precision in counseling families regarding the impact of these anomalies is contingent on our ability to make (or exclude) an underlying genetic diagnosis. Current standards of care rely on invasive, diagnostic testing and often require time-consuming sequential testing (microarray, gene panel testing, and potentially exome sequencing) in order to make a diagnosis. The goals of this current study are to evaluate and improve the precision and efficiency with which we are able to make prenatal diagnoses. We aim to validate commercially available non-invasive methods of detecting monogenic disorders and to aid in the method development of genome sequencing on cffDNA for additional single gene disorders.

Zeinab Hajjarian, PhD
Instructor in Dermatology
Massachusetts General Hospital

Massachusetts General Hospital Department of Dermatology Fellowship

Mentor: Seemantini Nadkarni, PhD

Project Title: Optical imaging of mechanical properties in breast tissue microenvironment

Project Description: Breast cancer is the second cause of cancer-related death among women, annually claiming over 500,000 lives, worldwide. The emergence of tumors is traditionally considered the consequence of genetic mutations. Therefore, increased stiffness of breast lumps is regarded as a passive bystander, used for diagnosis. However, new findings indicate that altered stiffness of tissue at small scales precedes and actively drives the clinical manifestation of the disease. Despite exciting potentials for prevention and early diagnosis, currently, there are no tools available for identifying the subtle micro-mechanical changes of tissue. Here we introduce and apply a novel optical imaging technology to investigate this hypothesis.

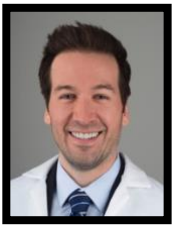
Grant D. Hogue, MD
Instructor in Orthopedic Surgery
Boston Children's Hospital

Boston Children's Hospital Musculoskeletal Career Development Fellowship

Mentor: Brian Snyder, MD

Project Title: Randomized Controlled Trial of Lowest Instrumented Segment in Neuromuscular Scoliosis Patients Undergoing Posterior Spinal Fusion

Project Description: The current standard instrumentation for posterior spinal fusion in neuromuscular scoliosis is from the second thoracic (T2) vertebra to the pelvis. There have been retrospective series of 12, 20, and 55 patients reported in the literature of surgical constructs that stop short of the pelvis; at the fifth lumbar (L5) vertebra. Previous studies have been underpowered and unable to build a framework whereby we can determine which patients require fusion to the level of the pelvis. A lowest instrumented vertebra of L5 leads to less intraoperative blood loss, less operative time, and fewer postoperative complications. By performing a randomized controlled trial, we will be able to best determine which patients require fusion to the pelvis and create a surgical care pathway to guide surgeons as they care for these patients.



John J. Kowalczyk, MD
Instructor in Anaesthesia
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Anesthesia John Hedley-Whyte Research Fellowship

Mentors: Philip E. Hess, MD and Yunping Li, MD

Project Title: Comparison of Non-Invasive Continuous Arterial Blood Pressure to Invasive Arterial Blood Pressure Measurement in Pregnant Women with Placenta Accreta

Project Description: The main purpose of this study is to investigate a technique to measure blood pressure in women undergoing cesarean delivery. Four of the five leading cause of maternal death require close blood pressure monitoring. One of the leading causes, maternal bleeding occurs frequently in mother's with placenta accreta, where the placenta invades abnormally into the uterus. To prevent harm to mother or baby, delivery typically occurs between 34 and 37 weeks by cesarean section. It is important to monitor these patients closely and it is typically done with a special monitor placed in the artery. Continuous non-invasive arterial blood pressure may allow monitoring with each beat of the heart, but without the need to enter the artery and possible avoid discomfort and complications. We would like to compare CNAP to invasive arterial blood pressures in awake women undergoing cesarean section.

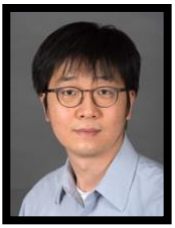
Li Lan, MD, PhD
Assistant Professor of Radiation Oncology
Massachusetts General Hospital

Claflin Distinguished Scholar Awards

Mentor: Daniel Haber, MD PhD

Project Title: Targeting telomeres in cancer therapy

Project Description: Tight control of DNA damage detection and DNA repair is critical in maintaining genome integrity and preventing cancer. We aim to increase our understanding of the mechanisms underlying how cancer cells maintain the end of chromosomes, telomeres. Hereto we set out to reveal novel factors, modifications, and novel insights into the mechanisms critical in guiding appropriate DNA damage signaling activity and/or promoting the processing of exposed telomeres. Subsequently these factors are mechanistically studied to uncover their activity at telomeres. Together this will increase our understanding of the molecular mechanisms operating cancer survival.



Dongwon Lee, PhD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: Matt Sampson, MD

Project Title: Cell-type-specific cis-regulatory element maps for kidney genomic discovery

Project Description: Genetic factors play an essential role in both controlling normal kidney function and the development and progression of kidney diseases. This research proposal aims to discover the genomic basis of kidney diseases from the perspective of transcriptional regulation in a tissue- and cell-type-resolved manner. We will build a unified framework to illuminate the transcriptional regulatory network by rigorously assembling existing and emerging single-cell genomics data. The underlying genetic and molecular mechanisms uncovered in this study will help us better understand how dysregulated gene expression contributes to kidney diseases.

Hojun Li, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentors: Scott Armstrong, MD, PhD, Alan Cantor, PhD, MD, Harvey Lodish, PhD, and Vijay Sankaran, MD, PhD

Project Title: Mechanistic underpinnings of progenitor cell proliferative potential

Project Description: The goal of this project is to determine the mechanisms by which progenitor cells balance dual requirements to proliferate and generate a sufficient number of cells to populate an organ, as well as eventually differentiate so that the produced cells can perform the specific functions of that organ. The red blood cell system is well-established as a tissue where both insufficient production and impaired differentiation result in anemia, thus this project will probe the molecular mechanisms by which glucocorticoid steroids induce a phenomenon where red blood cell maturation is slowed, while increasing total numbers of red blood cells produced.

Sara A. McKinney, MD
Instructor in Obstetrics, Gynecology & Reproductive Biology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Gynecology and Obstetrics Fellowship

Mentors: Michele Hacker, ScD and Raj Patel. MD

Project Title: Vulvovaginal Medicine: A Comprehensive Curriculum to Master the Basics

Project Description: The current vulvovaginal curriculum in many obstetric and gynecology training programs lacks standardization and formalized teaching. There is substantial variation in exposure to vulvovaginal clinics, self-teaching, and access to traditional training methods. In actual practice, generalists are regularly exposed to vulvovaginal conditions, including pain disorders, dermatoses, and infections. However, providers often feel inadequately trained to manage these conditions. The goal of this project is to supplement traditional training methods with video modules of six core topics and empower trainees and generalists to appropriately, comfortably, and effectively evaluate and treat a variety of fundamental vulvovaginal conditions.

Torsten B. Meissner, PhD
Instructor in Surgery
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Surgery Fellowship

Mentor: Elliot Chaikof, MD, PhD

Project Title: Scalable Engineering of Hypoimmunogenic Living Blood Vessels

Project Description: Clinical outcomes after both surgical and interventional therapy for peripheral and coronary artery disease remain compromised and a tissue engineered living blood vessel that can be translated into the clinic does not exist. Breakthroughs in stem cell biology, materials science, and bioprinting technology offer an opportunity to develop a scalable and cost-effective approach for the production of tissue engineered blood vessels.

Sarah U. Morton, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentors: Christine Seidman, MD and Jonathan Seidman, PhD

Project Title: Computational Prioritization of Coding and Non-Coding Variants in Congenital Heart Disease

Project Description: Congenital heart disease is the most common anomaly at birth, affecting ~1% of infants. Variations in a person's DNA, termed genetic variants, contribute significantly to the risk of congenital heart disease. To date, studies that focus on genetic variants in just a portion of DNA detect a damaging genetic variant in only 50% of patients. Whole genome sequencing, a new innovation, can detect additional genetic variants. Comparing genetic variants between people with and without congenital heart disease will test the hypothesis that these additional variants contribute to congenital heart disease, and identify new genes and genomic regions associated with congenital heart disease.

Matthew R. Naunheim, MD
Assistant Professor of Otolaryngology Head and Neck Surgery
Massachusetts Eye and Ear

Massachusetts Eye and Ear Fellowship

Mentors: Gregory Randolph, MD and Mark Shrime MD, PhD, MPH

Project Title: Preference phenotypes in thyroid nodule management: a patient segmentation approach

Project Description: Many surgical conditions are "preference sensitive," insofar as multiple options for further treatment are acceptable. In thyroid nodule management, there is vast variation in treatment. Furthermore, patient preferences regarding surgical and observational treatment are not well understood. This project aims to qualitatively and quantitatively assess preferences regarding care for thyroid nodules, employing discrete choice experimentation techniques. We hypothesize that patients with thyroid nodules can be segmented into groups by their attitudes towards risk and preferences toward treatment into "preference phenotypes" which can help physicians more appropriately target interventions towards individual patients.

Christa Nehs, PhD
Assistant Professor of Surgery
Massachusetts General Hospital

Massachusetts General Hospital Department of Anesthesia Fellowship

Mentor: Patrick Purdon, PhD

Project Title: Metabolic interventions to improve anesthesia outcomes in the elderly

Project Description: The elderly are more susceptible to complications from general anesthesia including post-operative delirium and post- operative cognitive dysfunction. This may be due to metabolic changes in the aged brain including mitochondrial dysfunction and insulin resistance. The ability of the brain to use glucose declines with age but the brain's ability to use ketones remains. Ketones not only provide energy to the brain but also have potent signaling and anti-inflammatory effects, suggesting they could be neuroprotective during anesthesia. This project aims to develop metabolic interventions to improve anesthesia safety in the elderly and eventually to treat neurodegenerative diseases like Alzheimer's disease.

Debby Ngo, MD
Instructor in Medicine
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Medicine Fellowship

Mentors: Robert Gerszten, MD and Richard Schwartzstein, MD

Project Title: Systemic Biomarkers Associated with Smoking and COPD in an African American Population

Project Description: Beyond behavioral and socioeconomic risk factors, the genetic and biological mediators that facilitate the early development and progression of COPD in African American (AA) individuals remain unclear. In this application, we propose to leverage proteomic profiling in the Jackson Heart Study (JHS) to identify novel disease markers and provide biological insights into smoking susceptibility, COPD pathogenesis and progression in AAs. We will validate our findings in the AA and White participants in multiple independent cohort studies. As the epidemiology of COPD changes, a better understanding of specific racial differences may facilitate novel, improved targeted strategies to prevent and treat COPD.

Amy O'Connell, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: David Breault, MD, PhD

Project Title: Wnt2b in Susceptibility to Necrotizing Enterocolitis

Project Description: Wnt2b is critical in supporting stem cells in the intestine and is particularly important in recovery from injury. Other studies suggest that Wnt2b expression is low during the time that the developing, immature gut is susceptible to necrotizing enterocolitis, a devastating and deadly disease of premature infants. We want to investigate whether Wnt2b is critical during the period when humans and mice are most susceptible to NEC, in order to determine whether natural changes in Wnt2b levels play an important role in the pathogenesis of this disease. Our hope is that this work leads to new strategies for preventing NEC in premature infants.

Deepa T. Patil, MD
Associate Professor of Pathology
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Pathology Fellowship

Mentor: Jerrold R. Turner, MD, PhD

Project Title: Role of T cell infiltrates and epithelial dysfunction in immune checkpoint inhibitor-induced enterocolitis

Project Description: Immune checkpoint inhibitor (ICI) therapies have revolutionized oncology. While enhancing antitumor T-cell response, they also allow healthy tissues to be targeted by self-reactive T cells. The intestinal injury often requires stopping ICI treatment, thereby limiting their therapeutic utility. Our goal is to immunohistochemically characterize T cells and epithelial transport and barrier proteins in ICI enterocolitis and its mimics: GVHD, MMF colitis, lymphocytic colitis, and IBD. Stains will be quantified using multiplex immunofluorescence imaging. This study will provide novel insight into T cell response and epithelial function in ICI enterocolitis and facilitate development of interventions that prevent or reverse these toxicities.

Yifeng Peng, PhD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentors: John Kheir, MD and Brian Polizzotti, PhD

Project Title: Real-time Non-Invasive Monitoring of Intravascular and Intracardiac Pressure using Caged Microbubbles as Novel Ultrasound Acoustic Reporters

Project Description: Monitoring intravascular and intracardiac pressure often requires invasive procedures during cardiac catheterization by transducing a catheter within the location in question. We propose to develop new IV injectable microbubbles (MBs) that allow real-time and non-invasive pressure monitoring using ultrasound. These MBs are modelled after Helmholtz Resonator and consist of a porous shell encapsulating a gas core (dubbed as Caged MBs) that produce tunable acoustic response that is sensitive to hydrostatic pressure change in vivo. This technology may permit non-invasive measurement of intravascular and intracardiac pressure using clinical ultrasound at patients' bedsides without anesthesia or in outpatient settings.

Giselle K. Perez-Lougee, PhD
Assistant Professor of Psychology in the Department of Psychiatry
Massachusetts General Hospital

Eleanor and Miles Shore Family Award

Mentor: Elyse R. Park, PhD

Project Title: A Stress Management and Resiliency Program for Adolescent and Young Adult Cancer Survivors Transitioning into Posttreatment Survivorship

Project Description: Adolescent and young adult cancer survivors (AYAs; ages 15-39) are confronted with a unique set of challenges that come with receiving a life-threatening diagnosis during a developmentally sensitive life period; however, there are no programs that tackle the key transitional concerns AYAs face following treatment completion. The consequences of unaddressed stress after treatment is widespread; it can contribute to distress, immune dysfunction, and lower quality of life, placing AYAs at higher risk for cancer-related health problems and early mortality. This study proposes to improve the long-term emotional and physical health of AYA by designing a program that increases their capacity to manage the challenges of life after cancer treatment.

Camille E. Powe, MD
Assistant Professor of Medicine
Massachusetts General Hospital

Claflin Distinguished Scholar Awards

Mentors: Jose C. Florez, MD, PhD and Ravi Thadhani, MD

Project Title: Longitudinal Studies of Maternal Beta-Cell Function

Project Description: Gestational diabetes mellitus (GDM), high levels of glucose in the blood during pregnancy, is associated with a markedly increased risk of future maternal type 2 diabetes (T2D). Despite this, too few women with a history of GDM are screened for T2D or prescribed effective preventative therapy. Identification of women who have the highest risk of future T2D during pregnancy would allow for more timely and effective T2D prevention. However, incomplete knowledge about the physiology underlying GDM and long-term progression to T2D hinders this approach. My Claflin project aims to fine tune prediction of T2D after pregnancy by evaluating women with beta-cell dysfunction during pregnancy, assessing chronicity, underlying genetics, and risk of future T2D.

Liza M. Quintana, MD
Instructor in Pathology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Pathology Fellowship

Mentor: Laura Collins, MD

Project Title: Mammary Desmoid-Type Fibromatosis: A 15-Year Single Institution Experience

Project Description: Desmoid-type fibromatosis (DTF) is a rare clonal proliferation of fibroblasts/myofibroblasts. DTF are locally aggressive and have the potential for local recurrence but do not metastasize. Breast DTF is similar to DTF elsewhere and represents approximately 0.2% of all breast tumors. The etiology is unknown, however, there is an association with prior trauma and genetic factors (e.g. Gardner-type familial adenomatous polyposis). Treatment paradigms are shifting toward observation rather than excision for DTF of other sites, as such we sought to review our institutional experience with this rare neoplasm in the breast to determine if observation is possible and if there are features that predict recurrence after excision.

Srivatsan Raghavan, MD, PhD
Instructor in Medicine
Dana Farber Cancer Institute

Dana-Farber Cancer Institute Fellowship

Mentors: William Hahn, PhD MD and Brian Wolpin, MD

Project Title: Identifying functional determinants of therapeutic response in pancreatic cancer using patient-derived organoid models

Project Description: Pancreatic cancer remains a deadly disease with few effective therapies, and only 15% of patients carry potentially targetable genomic alterations. As such, there is a critical need for new strategies to identify novel therapeutic targets and to guide treatment selection for patients. We have established a robust translational pipeline to develop and test therapeutic agents in patient-derived organoid models. Here, we propose to examine whether these models can be used to predict patient-specific therapeutic responses and to identify new therapeutic vulnerabilities in pancreatic cancer.

Erika Rangel, MD
Assistant Professor of Surgery
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Surgery Junior Fellowship in honor of Robert T. Osteen, M.D.

Mentor: Zara Cooper, MD

Project Title: Pregnancy complications and Infertility in Female Surgeons: Impact on Surgeon Burnout and Attrition

Project Description: Surgeons struggle to integrate professional and personal obligations, with early career women particularly vulnerable to work-home conflicts and risk of burnout and attrition. This study assesses the risk of infertility and pregnancy complications among female surgeons. Perceptions of stigma, financial strain, and workplace support are studied for their influence on the decision to delay childbearing. The impact of adverse pregnancy outcomes on career satisfaction and burnout will be determined. These findings will help define the need for financial and professional support for women surgeons starting families early in their careers to foster a healthy lifestyle and sustain a long career.

Sharon Reale, MD
Instructor in Anaesthesia
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Anesthesiology, Perioperative and Pain Medicine Faculty Development Fellowship

Mentor: Lawrence C. Tsen, MD

Project Title: Supporting and Advancing Women in Anesthesiology

Project Description: "Burnout" and low "work/life satisfaction" are significant, nationwide issues particularly for female anesthesia providers; moreover, data on female anesthesiologists demonstrate limited career and academic advancement. The goal of this proposal is to determine the perceptions and realities of work engagement.

Emily Reiff, MD
Instructor in Obstetrics, Gynecology & Reproductive Biology
Brigham and Women's Hospital

Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship

Mentor: Sarah Little, MD, MPH

Project Title: External validation of a model to predict preterm delivery within seven days to optimize antenatal steroid administration

Project Description: Neonatal outcomes are optimized in pregnancies with exposure to antenatal steroids 24 hours to 7 days prior to delivery between 24 and 34 weeks. A minority of preterm deliveries have optimal steroid exposure. We previously built a model to predict preterm delivery within seven days in women urgently presenting for obstetric evaluation. Our goal with this project is to externally validate the model.

Uma M. Sachdeva, MD, PhD
Assistant Professor of Surgery
Massachusetts General Hospital

Massachusetts General Hospital Department of Surgery Faculty Development Fellowship

Mentor: Yolonda Colson, Phd MD

Project Title: Development of 3D esophageal organoid and organotypic culture systems for study of esophageal cancer metabolism and responses to stress

Project Description: The initial goal of this project is to learn the techniques for developing 3D organoid and organotypic culture models of esophageal cancer, both squamous cell cancer and adenocarcinoma, from mouse and human tissues under the co-mentorship of Dr. Anil Rustgi at Columbia University and Dr. Yolonda Colson at the MGH. These novel systems will be used to study the basic biology of esophageal cancer and carcinogenesis, with a specific investigation into alterations in metabolism that allow these cancers to develop and grow within the harsh environment of the upper GI tract.

Eric A. Secemsky, MD
Assistant Professor of Medicine
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Medicine Fellowship

Mentor: Robert W. Yeh, MD

Project Title: Individualizing Treatment Decisions for Patients with Symptomatic Peripheral Artery Disease

Project Description: Invasive procedures to open arteries supplying the legs for patients with pain and peripheral artery disease (PAD) include risks of complications and uncertainty around individual benefits. Alternative therapies like supervised exercise and medications may provide similar symptomatic improvement in select PAD patients. There are currently no tools available to identify patients most likely to benefit from a specific treatment strategy. The proposed work leverages complementary methods in advanced statistics and decision science to address this gap in knowledge, enabling clinicians and patients to make more informed, personalized, and goal-concordant decisions about PAD care.

Maitriyi J. Shah, MD
Instructor in Anaesthesia
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Anesthesiology, Perioperative and Pain Medicine Faculty Development Fellowship

Mentor: Beverly K. Philip, MD

Project Title: Integration of Education for Policymaking and Advocacy Specific to the Anesthesiology Resident

Project Description: This project will provide an integrated resident experience in the form of didactic educational sessions and direct participation in local, state, and national legislative initiatives. Dr. Shah, the fellow, is the current President of the Massachusetts Society of Anesthesiologists, and Dr. Philip, the mentor, is the current President of the American Society of Anesthesiologists. The purpose is to engage and inform residents about incorporating policy making and advocacy opportunities as an active part of their future careers. This award will help support 2-3 residents to attend the American Society for Anesthesiologists Legislative Conference, as well as create a review article to serve as a model and template for anesthesiology departments to establish a curriculum that promotes advocacy and policymaking.

David S. Shulman, MD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: Steven DuBois, MD

Project Title: Evaluation of targeted therapy and precision biomarkers in patients with Ewing sarcoma

Project Description: Ewing sarcoma is an aggressive bone cancer that affects adolescents. The first goal of this research is to confirm that identifying tumor DNA in a patient's blood using a specialized test can help us identify patients who are unlikely to be cured with standard treatments and may in fact need new treatment strategies. The second goal of this project is to determine whether patients who have had their disease come back will benefit from a new combination of targeted cancer drugs, palbociclib and ganitumab. We believe that these drugs will provide benefit and will use blood samples and imaging to track response to treatment.

Meghan E. Sise, MD
Assistant Professor of Medicine
Massachusetts General Hospital

Claflin Distinguished Scholar Awards

Mentors: Raymond Chung, MD and Ravi Thadhani, MD

Project Title: Personalized approaches to predicting nephrotoxicity in patients receiving immune checkpoint inhibitors and chimeric antigen receptor T-cell therapies for advanced malignancies

Project Description: Effective cancer therapy may be derailed by kidney failure that occurs as a side effect of many anti-cancer therapies. My goal is to define better approaches to non-invasively predict which patients are having adverse kidney injury from cancer immunotherapies (immune checkpoint inhibitors and chimeric antigen receptor T-cell therapy) to ultimately predict and prevent this important complication.

Dennis Spencer, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital Division of Gastroenterology and Nutrition Shore Grant Fellowship

Mentor: Seth Rakoff-Nahoum, PhD MD

Project Title: Modification of Gut Microbiome Antibiotic Resistance through Dietary Glycans

Project Description: There is an established link between how nutrients like dietary glycans effect the composition of the microbiome, but little is known about how specific carbohydrates alter the colonization resistance or general susceptibility to antibiotics of resident bacteria. Growing evidence supports a role for nutritional status and metabolism in bacterial antibiotic susceptibility. We recently began to explore the antibiotic susceptibility of the diverse glycan utilizer Bacteroides ovatus during cultivation in defined medium with specific carbohydrate sources. My preliminary data has revealed carbohydrate-specific differences in susceptibility to the glycopeptide antibiotic Vancomycin. Given these early findings as well as Bacteroides' extraordinary capacity to recognize and metabolize a wide range of glycan sources, we hypothesize that specific glycans can determine antibiotic susceptibility in Bacteroides. With ongoing experiments to identify which sugars alter resistance to specific antibiotics across Bacteroides species, we may ultimately devise targeted antibiotic-specific prebiotic strategies to promote colonization resistance against opportunistic enteric infection.

Margaret A. Stefater, MD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: Nicholas Stylopoulos, MD

Project Title: Role of Intestinal Luminal and Epigenetic Factors to Mediate Intestinal Metabolic Remodeling After Gastric Bypass Surgery

Project Description: Roux-en-Y gastric bypass surgery (RYGB) is a powerful type 2 diabetes (T2D) treatment, although mechanisms for this effect are not yet fully defined. After RYGB, intestinal remodeling appears to contribute to T2D remission; we hypothesize that this results from nutritional re-routing eliciting epigenetic changes (i.e., changes in gene structure that affect gene expression but not the genetic sequence itself). To test this, we will look at tissue epigenetic changes, and ask whether changes can be reversed with manipulation of environment, using intestinal "mini-guts," or "organoids." We hope to elucidate mechanisms for metabolically-significant intestinal remodeling that could be mimicked therapeutically.

Leanna Sudhof, MD
Instructor in Obstetrics, Gynecology and Reproductive Biology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Gynecology and Obstetrics Fellowship

Mentors: Michele Hacker, ScD and Blair Wylie, MD

Project Title: Understanding the Vulnerabilities of Patients Admitted to the Antepartum Unit at BIDMC: An Assessment of Emotional Wellbeing and Financial Toxicity

Project Description: Pregnant patients hospitalized with pregnancy complications face significant uncertainty and at times prolonged hospitalizations, lasting weeks to months. They also tend to have a higher rate of mood disorders and lower socio- economic status. We have devised a comprehensive patient survey consisting of validated survey instruments to assess the emotional and financial wellbeing of pregnant patients admitted to the antepartum unit at BIDMC. By completing this project, we hope to better understand the needs of this vulnerable patient population, which will allow us to devise ways to improve their care and their experience in the hospital.

Miho J. Tanaka, MD
Member of the Faculty of Orthopedic Surgery
Massachusetts General Hospital

Massachusetts General Hospital Department of Orthopaedics Shore Fellowship

Mentor: Mitchel B. Harris, MD

Project Title: Women's Sports Medicine Program

Project Description: This award will support the development of a new Women's Sports Medicine Program at MGH, a multidisciplinary program designed to fill clinical and research gaps with the purpose of improving outcomes for female athletes with sports medicine injuries. The multidisciplinary nature of women's sports injuries requires collaborative efforts among multiple departments and divisions, and this program will foster shared clinical, research and educational programs between orthopaedic surgery, physiatry, endocrinology, obstetrics, concussion specialists, eating disorders programs, sports psychology, sports cardiology, radiology and physical therapy.

Viviany R. Taqueti, MD
Assistant Professor of Radiology
Brigham and Women's Hospital

Brigham and Women's Hospital Faculty Career Development Award

Mentors: Giles Boland, MD and Marcelo di Carli, MD

Project Title: Impact of Bariatric Surgery on Novel Biomarkers of Cardiovascular Risk

Project Description: Despite recent advances in biomedical care, deaths from cardiovascular disease (CVD) have increased for the first time in 50 years, in part due to rising rates of obesity. Alarmingly, nearly half of American adults will be obese by 2030, many at increased CVD risk over their lifespan. Bariatric surgery is emerging as a useful treatment for mitigating CVD risk in severely obese patients, with health benefits that often precede substantial weight loss. This study will explore the impact of bariatric surgery on novel biomarkers of CVD risk including: 1) coronary microvascular function, 2) body fat/muscle composition, and 3) gut health to better understand and harness benefits of this increasingly common procedure.

Elizabeth S. Temin, MD
Assistant Professor of Emergency Medicine
Massachusetts General Hospital

Massachusetts General Hospital Department of Emergency Medicine Fellowship

Mentor: James Gordon, MD

Project Title: Simulation Training and Competency Assessment for Advanced Practice Providers

Project Description: Advanced Practice Providers (APPs) have no standardized post-graduate training specific to their area of specialty practice. This necessitates the creation of site specific clinical teaching programs with objective assessments of competence in focused areas of practice to ensure an APP can provide high-quality safe care. I am looking to create a clinical program to use for assessment and credentialing of APPs that could provide a model for ongoing education, credentialing and certification for APPs in any program.

Shannon N. Tessier, PhD
Instructor in Surgery
Massachusetts General Hospital

Claflin Distinguished Scholar Awards

Mentor: Mehmet Toner PhD

Project Title: Liquid biopsies for real-time monitoring of liver transplant recipients

Project Description: In 2017, about 95 lifesaving transplants occurred each day in the USA. One of the most important challenges in solid organ transplantation is the proper monitoring, management, and treatment of transplant recipients, especially with respect to immune rejection versus tolerance. This project aims to improve public health by developing a diagnostic tool to monitor the immunosuppressive state of transplanted organs to promote the correct post-transplant treatment and represent a major step towards the personalization of immunosuppressive therapy.

Gopal Varma, PhD
Assistant Professor of Radiology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Radiology Fellowship

Mentor: David Alsop, PhD

Project Title: Development of the inhomogeneous Magnetization Transfer (ihMT) technique for Magnetic Resonance Imaging (MRI) of tissue microstructure

Project Description: IhMT MRI has gained attention in application to the brain and spine for imaging of myelin, which allows fast conduction of impulses necessary for normal cognition and motor and sensory function. The sensitivity of ihMT MRI is related to local order in the underlying microstructure of a tissue. Other tissues such as muscle and cartilage have local order and have demonstrated measurable signal with ihMT MRI in preliminary experiments. Development of ihMT MRI would provide a non-invasive way to examine disorders associated with changes in microstructure not only in myelin, but other tissues like cardiac muscle and cartilage.

Meagan M. Wasfy, MD
Assistant Professor of Medicine
Massachusetts General Hospital

Claflin Distinguished Scholar Awards

Mentor: Aaron Baggish, MD

Project Title: Profiles of Myocardial Metabolism in "Gray-Zone" Athletic Left Ventricular Hypertrophy versus Hypertrophic Cardiomyopathy

Project Description: Athletes presenting for cardiology evaluation are commonly found to have left ventricular hypertrophy (LVH), thickening of the heart muscle. It can be difficult to tell if LVH in an athlete is due to exercise training itself or an underlying disease called hypertrophic cardiomyopathy (HCM). The distinction is important because HCM is the leading cause of sudden death in young athletes. We will identify if a novel imaging scan can distinguish between healthy LVH due to exercise and dangerous LVH due to HCM. Our goal is to determine if this scan can diagnose which of these two forms of LVH is present in cases of clinical uncertainty.

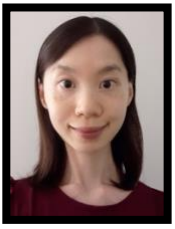
Adam Weinstein, MD
Instructor in Anaesthesia
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Anesthesiology, Perioperative and Pain Medicine Faculty Development Fellowship

Mentor: Douglas Shook, MD

Project Title: Video Simulation Education of Line Placements and Sterile Gowning for Anesthesia Residents

Project Description: This educational improvement project will create an enduring, but updateable, video simulation curriculum for anesthesia residents to learn how to properly dawn/doff personal protective equipment and how to perform and confirm line placements (e.g., central lines and arterial lines) in accordance with current safety initiatives, which include ultrasound guidance. Initial work will involve surveys to junior and senior anesthesia residents and fellows on the most signficant challenges and barriers they experienced as new learners. The second part will involve the creation of a video simulation curriculum for each element that includes common errors, tips for efficiency, and problem-solving techniques. This will involve surveying senior anesthesia staff who have accumulated years of experience and real-world techniques and elements that are seldom found in textbooks.



Hefei Wen, PhD
Member of the Faculty of Population Medicine
Harvard Pilgrim Health Care Institute

Harvard Pilgrim Health Care Institute Department of Population Medicine's Robert H. Ebert, MD Fellowship

Mentor: Frank Wharam, Mb.Bch

Project Title: Impact of Opioid Prescribing Policies for Pain Management in Medicare

Project Description: Inappropriate prescribing of opioids to opioid-naïve patients is a major contributor to the opioid crisis. Since early 2016, more than 30 states have limited initial opioid prescription to a 3 to 14 days' supply–7 days being the most common. In January 2019, CMS imposed a hard safety edit on Medicare Part D, which stops pharmacies from processing an opioid prescription with more than a 7-day supply. This project generates novel and timely knowledge about whether the state prescription limit laws and Medicare safety edits have alleviated excessive opioid prescribing, while ensuring appropriate pain management in the elderly Medicare population.

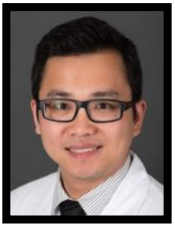
Mary C. Whitman, MD, PhD
Assistant Professor of Ophthalmology
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: Elizabeth Engle, MD

Project Title: The Role of Neurotransmitter Signaling in Oculomotor Development

Project Description: Precise control of eye movements is crucial for vision and social communication. Developmental disorders of eye movements cause loss of vision and are socially devastating. The neural circuitry controlling eye movements is complex, and the mechanisms by which it develops, both normally and abnormally, are unknown. In this project, we are investigating how early in development the ocular motor neurons in the brainstem, which send their axons to the extraocular muscles, start receiving synaptic inputs from other brain regions and how those synapses regulate further development.



Kee Kiat Yeo, MD
Instructor in Pediatrics
Boston Children's Hospital

Boston Children's Hospital OFD/BTREC/CTREC Faculty Career Development Fellowship

Mentor: Katherine E. Warren, MD

Project Title: Adolescent and Young Adult (AYA) Neuro-Oncology Program

Project Description: The outcomes of adolescents and young adults (AYA, aged 15-39) with cancer are poorer when compared to adults and children. Despite this inequality, there is a lack of AYA-specific research – especially with central nervous system tumors. The establishment of an AYA neuro-oncology program at DFCI will allow patients to have access to both adult and pediatric provider, and support the development of a research program dedicated to this population.

Kazuki Yoshida, MD
Instructor in Medicine
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Medicine Fellowship

Mentors: Robert J. Glynn, ScD PhD and Daniel H. Solomon MD

Project Title: Evaluation of causal mediation analysis methods for biomarker research in rheumatic disease epidemiology.

Project Description: Gout is the most common inflammatory arthritis, afflicting 9.2 million Americans. Patients with gout have 2–4 times higher cardiovascular comorbidity burden than those without gout. Increasing interests exist in understanding the mechanisms of this link. Causal mediation analysis is a statistical method developed in the last decade to answer such clinical questions. Software implementations exist. However, little practical guidance exists on how to correctly use them. In this project, I will extensively validate the existing tools to identify the one most appropriate in rheumatic disease biomarker research. I will also develop a software tool to make causal mediation analysis more accessible to the wider clinical research community.

2020 Award Recipients by Institution

Beth Israel Deaconess Medical Center

Department of Anesthesia John Hedley-Whyte Research Fellowship
John J. Kowalczyk, MD

Department of Gynecology and Obstetrics Fellowship
Laura E. Dodge, ScD
Sara McKinney, MD
Leanna Sudhof, MD

Department of Medicine Fellowship
Debby Ngo, MD
Eric A. Secemsky, MD

Department of Pathology Fellowship
Liza M. Quintana, MD

Department of Radiology Fellowship
Gopal Varma, PhD

Department of Surgery Fellowship
Torsten B. Meissner, PhD

Boston Children's Hospital

Division of Gastroenterology and Nutrition Shore Grant Fellowship
Dennis Spencer, MD, PhD

Musculoskeletal Career Development Fellowship
Grant D. Hogue, MD

Department of Neurology Faculty Development Fellowship
Leslie A Benson, MD

Department of Neurosurgery Fellowship
Lissa C. Baird, MD

OFD/BTREC/CTREC Faculty Career Development Fellowship
Banu Ahtam, DPhil
Andrea S. Bauer, MD
Alex Cuenca, MD
Ryan M. Fame, DPH
Dongwon Lee, PhD
Hojun Li, MD, PhD
Sarah U. Morton, MD, PhD
Amy O'Connell, MD, PhD
Yifeng Peng, PhD
David S. Shulman, MD
Margaret A. Stefater, MD
Mary C. Whitman, MD, PhD
Kee Kiat Yeo, MD

Brigham and Women's Hospital

Department of Anesthesiology, Perioperative and Pain Medicine Faculty Development Fellowship
Felicity Billings, MD
Sharon Reale, MD
Maitriyi J. Shah, MD
Adam Weinstein, MD

Department of Medicine Fellowship
Kazuki Yoshida, MD

Department of Pathology Fellowship
Deepa T. Patil, MD

Department of Surgery Junior Fellowship in Honor of Robert T. Osteen, MD
Erika Rangel, MD

Faculty Career Development Award
Regan Bergmark, MD
Viviany R. Taqueti, MD

Obstetrics and Gynecology Foundation Fellowship
Sarah R. Easter, MD
Emily Reiff, MD
Stephanie H. Guseh, MD

Dana-Farber Cancer Institute
Dana-Farber Cancer Institute Fellowship
Srivatsan Raghavan, MD, PhD

Harvard Medical School
Harvard Medical School Award in honor of Lynne M. Reid, MD, MBBS
Meredith E. Gansner, MD

Eleanor and Miles Shore Family Award
Giselle K. Perez-Lougee, PhD

Harvard Pilgrim Health Care Institute
Department of Population Medicine's Robert H. Ebert, MD Fellowship
Hefei Wen, PhD

Harvard School of Dental Medicine
Harvard School of Dental Medicine Fellowship in Honor of Aina M. Auskaps, DMD
Supattriya Chutinan, DDS

Massachusetts Eye and Ear
Massachusetts Eye and Ear Fellowship
Matthew R. Naunheim, MD

Alice J. Adler Fellowship of the Schepens Eye Research Institute
Rosario Fernandez-Godino, PhD

Massachusetts General Hospital
Claflin Distinguished Scholar Awards
Beth A. Costine-Bartell, PhD
Li Lan, MD, PhD
Camille E. Powe, MD
Meghan E. Sise, MD
Shannon N. Tessier, PhD
Meghan M. Wasfy, MD

Department of Anaesthesia Fellowship
Christa Nehs, PhD

Department of Dermatology Fellowship
Zeinab Hajjarian, PhD

Department of Emergency Medicine Fellowship
Elizabeth S. Temin, MD

Department of Medicine Fellowship
Pui Susan Cheung, MD

Department of Orthopaedics Shore Fellowship
Miho J. Tanaka, MD

Department of Radiology Fellowship
Clarissa Z. Cooley, PhD

Department of Surgery Faculty Development Fellowship
Uma M. Sachdeva, MD, PhD

McLean Hospital
McLean Hospital Fellowship
Martha J. Falkenstein, PhD

Mount Auburn Hospital
Department of Emergency Medicine Faculty Development Fellowship
Laura G. Ebbeling, MD

2020 Review Committee

Thanks are due to these individuals for their service and assistance with the growth of the awards program and their review and ranking of the proposed recipients for selection.

Raymond M. Anchan
Assistant Professor of Obstetrics, Gynecology and Reproductive Biology, Brigham and Women's Hospital

Maryam M. Asgari
Professor of Dermatology, Massachusetts General Hospital

Jodi L. Babitt
Associate Professor of Medicine, Massachusetts General Hospital

Carol K. Bates
Associate Dean for Faculty Affairs, Harvard Medical School

Richard T. Born
Professor of Neurobiology, Harvard Medical School

Miriam A. Bredella
Professor of Radiology, Massachusetts General Hospital

Jack D. Burke, Jr.
Professor of Psychiatry, Cambridge Health Alliance

Sunil K. Chauhan
Associate Professor of Ophthalmology, Schepens Eye Research Institute

John L. Dalrymple
Associate Professor of Obstetrics, Gynecology and Reproductive Biology, Beth Israel Deaconess Medical Center

German O. Gallucci
Raymond J. and Elva Pomfret Nagle Associate Professor of Restorative Dentistry and Biomaterials Sciences, Harvard School of Dental Medicine

Neena B. Haider
Associate Professor of Ophthalmology, Schepens Eye Research Institute

Margaret (Marly) Kenna
Professor of Otolaryngology, Boston Children's Hospital

Daniela Kroshinsky
Associate Professor of Dermatology, Massachusetts General Hospital

Tara L. Lauriat
Program Director for Academic Affairs, Office for Faculty Affairs, Harvard Medical School

Mary R. Loeken
Associate Professor of Medicine, Joslin Diabetes Center

Joelle Lomax
Program Director for Academic Affairs, Office for Faculty Affairs, Harvard Medical School

Diana Longden
Administrative Coordinator, The Joint Committee on the Status of Women, Harvard Medical School

Mary Frances Lopez
Assistant Professor of Pediatrics, Boston Children's Hospital

John (Toby) Nagurney
Associate Professor of Emergency Medicine, Massachusetts General Hospital

Caleb Nelson
Associate Professor of Surgery, Boston Children's Hospital

Mizuki Nishino Hatabu
Associate Professor of Radiology, Dana Farber Cancer Institute

Emily Oken
Professor of Population Medicine, Harvard Pilgrim Health Care Institute

Annapurna Poduri
Associate Professor of Neurology, Boston Children's Hospital

Lawrence C. Tsen
Associate Professor of Anaesthesia, Brigham and Women's Hospital

Bethany M. Westlund
Associate Dean for Faculty Affairs, Harvard Medical School

Janey L. Wiggs
Paul Austin Chandler Professor of Ophthalmology, Massachusetts Eye and Ear

Joanne Wolfe
Professor of Pediatrics, Dana Farber Cancer Institute

Faculty Development Program, Office for Faculty Affairs

Carol K. Bates
Associate Dean for Faculty Affairs

Brian R. Crete
Faculty Development Coordinator

Award Honorees

Alice J. Adler, PhD

Dr. Adler was a biochemist at Schepens Eye Research Institute from 1976 to 2001. In January of 1985 she was promoted to Senior Scientist and in 2001 she became Emeritus Senior Scientist/Scientific Advisor. Her work focused on components of the retina and mechanisms of vision. Dr. Adler was the first scientist to identify retinol binding that transports Vitamin A to the space between the photoreceptors, which is needed to create rhodopsin, the visual pigment. Retinal binding also transports Vitamin A to the retinal pigment epithelial cells that store retinol and convert it to a form that the photoreceptors can use. Dr. Adler further identified xanthophyll-binding proteins in the human retina and proposed that they bind to the same site on microtubules (the latter bind taxol, a compound used to treat breast cancer). Her work included studies of age-related macular degeneration and was critical to our understanding of retinal diseases.

Aina M. Auskaps, DMD

Dr. Auskaps was the first woman to earn the degree of DMD from Harvard School of Dental Medicine in 1955. Prior to coming to Harvard, Dr. Auskaps earned a DDS degree in her home country of Latvia. She requalified in Germany in 1945. Dr. Auskaps started at HSDM conducting research in the Department of Biochemistry and Nutrition. Once her DMD degree was completed she returned to the department once again as faculty. Dr. Auskaps also served as the first woman president of the HSDM Alumni Association and received the Distinguished Alumni Award in 1983. She maintained a private family practice for 45 years out of her home in Jamaica Plain, MA. An extensive interview of Dr. Auskaps is available at the Harvard Countway Library, Archives for Diversity and Inclusion.

Jane D. Claflin

Jane Claflin is an extraordinary benefactor and dedicated volunteer leader at Massachusetts General Hospital where she has served as trustee, fund-raiser, friend, and cheerleader. She is the force behind the MGH programs that support women in their professional careers and a major reason the MGH opened a backup child care center. The MGH met Jane Claflin in the late 1950s soon after she, her husband Morton Claflin, and their two sons moved to Boston. One of Mrs. Claflin's passions has been to ensure that the MGH is a welcoming, comfortable, friendly, and supportive place for women. In 1993, she helped create the Women in Academic Medicine Committee, serving as its chair. Her work led to the formation in 1997 of the Office for Women's Careers to support, recruit, and retain women faculty members. Mrs. Claflin focused attention on the difficulty women had in sustaining research productivity during their child-rearing years, which too often limited career advancement. The MGH's Executive Committee on Research responded to the call by establishing funding for junior women faculty to help them through this critical period. The awards were named the Claflin Distinguished Scholar Awards in honor of their greatest champion.

Robert H. Ebert, MD, DPhil, AM

As Dean of Harvard Medical School from 1965 to 1977, Dr. Ebert increased recruitment and enrollment of minority students, established affiliations between HMS teaching hospitals and neighborhood health centers, and created the Division of Health Sciences and Technology, a combined MD-PhD program run collaboratively by MIT and HMS. In 1969, he founded Harvard Community Health Plan, the nation's first academic health maintenance organization. After earning his medical degree from the University of Chicago, he served as a Marine Corps physician, and was one of the American doctors who went to Nagasaki to treat Japanese suffering from radiation sickness and related illnesses after the United States dropped an atomic bomb on that city. Upon his return from the war, Dr. Ebert taught at the University of Chicago. In 1964, he was recruited to Boston to serve as Chief of Medical Services at Massachusetts General Hospital. A year later, he was selected to lead Harvard Medical School. After stepping down as dean of HMS, Dr. Ebert became president of the Milbank Memorial Fund, a foundation that supports projects in medicine and health. In 1992, he helped establish the HMS/Harvard Community Health Plan Department of Ambulatory Care and Prevention as a joint project between the school and the HMO.

Robert T. Osteen, MD

Dr. Osteen is an associate professor of surgery at Harvard Medical School and spent over 30 years at Brigham and Women's Hospital, retiring as a senior surgeon in 2006.Throughout his distinguished career as a prominent surgical oncologist, Dr. Osteen received numerous prizes for excellence in teaching. At the Brigham he oversaw the Department of Surgery education program, chaired the hospital's Cancer Committee, and acted as the Cancer Liaison Physician to the Commission on Cancer of the American College of Surgeons. He contributed to the development of several clinical programs, including the Dana-Farber Cancer Institute's Autologous Bone Marrow Transplant Program, a program for breast conserving surgery, and techniques for implantation and chemotherapy administration through an intra-arterial infusion pump. Through the Commission on Cancer, he helped to develop a National Cancer Database that collects information from approximately 75% of the patients with cancer throughout the United States annually.

Dorothy Rackemann

At Harvard Medical School, Dorothy Rackemann (1918–1996) was the Administrative Assistant to the Dean from 1968 to 1978 and the Assistant Registrar from 1978 to 1991. She also held key roles in both the Vincent Memorial Hospital and The Vincent Club. The former, a free-standing hospital for women established in Boston in 1891, was the precursor of the Vincent Department of Obstetrics & Gynecology at Massachusetts General Hospital. The Vincent Club, founded a year later, remains the fundraising arm of the Vincent organization. Miss Rackemann, as she was known—and "Dodie" as she preferred—served as both President of The Vincent Club and President of the Vincent Memorial Hospital Board of Trustees. Active at the Vincent for more than 50 years, she was described as a "tremendous force in nurturing, clarifying and strengthening the ties between the Vincent and the Massachusetts General Hospital."

Lynne Reid

Dr. Lynne M. Reid is the S. Burt Wolbach Professor of Pathology, Emeritus at Harvard Medical School. After training in Australia, she moved to London and was the first person to serve as Dean of the Cardiothoracic Institute at London University. She came to Harvard in 1976 as Head of the Department of Pathology at Boston Children's Hospital. Her research interests included lung growth and how it is affected by childhood diseases including cystic fibrosis, scoliosis, and respiratory distress syndrome. She also studied chronic bronchitis, emphysema, and pediatric pulmonary and arterial hypertension. The Lynne M. Reid papers are at Countway Library in the Archives for Women in Medicine. Dr. Reid has generously made personal donations to the fellowship program on a nearly annual basis since the start of the program

Eleanor G. Shore, MD, MPH

Dr. Eleanor G. Shore served as the Dean for Faculty Affairs at Harvard Medical School from 1989 to 2005 and has since served as Senior Consultant to the Office of Academic and Clinical Affairs. She trained at Harvard Medical School during the postwar "experimental" era, between 1945 and 1955, when women were admitted on a trial basis. She worked as a primary care physician at the Harvard University Health Services for many years. She served as Assistant to the President of Harvard University for Health Affairs for 8 years during Derek Bok's term as president. Later she served as Deputy Director of the Harvard Medical School Center of Excellence in Women's Health. In 1995 in her role as Dean, she launched the 50th Anniversary Fellowship Program for Scholars in Medicine, which commemorates the admission of women to Harvard Medical School; the program was renamed to honor Drs. Eleanor and Miles Shore in 2004. In 2001, the Association of American Medical Colleges awarded Dr. Shore the History Maker Award for her work to make medical career structures more equitable. Dr. Shore has generously made personal donations to the fellowship program on a nearly annual basis since the start of the program.

Miles F. Shore, MD

Dr. Miles F. Shore, Bullard Professor of Psychiatry, Emeritus was Superintendent and Chief of the HMS Department of Psychiatry at the Massachusetts Mental Health Center from 1975 to 1993. In that role he was responsible for a comprehensive program of research, teaching, and patient care focusing on patients with serious mental illnesses cared for by the public sector. A system of care was developed featuring community programs to replace inpatient care in large institutions. He was a Visiting Scholar at Harvard Kennedy School, teaching courses on the history of mental health policy, leadership, and health policy for physicians. For twelve years he chaired the Promotion and Review Board assessing the progress of HMS students in successfully completing the MD degree. He continued to write on issues of patient safety and disrespect in the culture of medicine. As a strong supporter of faculty development, he personally contributed to the fellowship program on a nearly annual basis since the program began.

Thank you to all of the affiliates, departments, and individual donors who have supported more than 1460 awards through the last 25 years of the program