26th Annual Celebration
December 1, 2021

Eleanor and Miles Shore Faculty Development Awards Program

HARVARD
MEDICAL SCHOOL

HARVARD
School of Dental Medicine

Eleanor and Miles Shore
Faculty Development Awards Program
2021 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 2021 Recipients

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

Kelly L. Graham, MD (2016 recipient)
Assistant Professor of Medicine
Beth Israel Deaconess Medical Center

Shelly Greenfield, MD (1999 recipient)
Professor of Psychiatry
McLean Hospital

Hadine Joffe, MD (1999, 2000 and 2005 recipient)
Professor of Psychiatry
Brigham and Women's Hospital

Reading of the Memorial Minute of Dr. Lynne M. Reid, MD
Harry P. Kozakewich, MD
Professor of Pathology
Boston Children's Hospital

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). Reflecting on the 25th Anniversary of the program in 2020, we are proud of the continued support of over 60+ sponsored faculty awards each year.

Emily L. Aaronson, MD
Assistant Professor in Emergency Medicine
Massachusetts General Hospital

Massachusetts General Hospital Department of Emergency Medicine Fellowship

Mentor: Vicki A. Jackson, MD

Project Title: Acceptability and Efficacy of an Emergency Department Palliative Care Geriatric Intervention for Older Adults

Project Description: EDs face significant challenges related to the aging of the US population. Though individuals over the age of 65 years currently comprise 17% of the US population, that figure will increase to 22% by 2050. As a result, there is a critical need to improve access to high quality palliative and geriatric care in the Emergency Department (ED). Although there is broad consensus on the importance of introducing palliative care and geriatric concepts into the emergency visit, no clear model for how to do this has emerged. This study will design, implement and evaluate the impact of a geriatric/palliative care NP in the ED.

Mallika Anand, MD
Instructor in Obstetrics, Gynecology and 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: The Effectiveness of Temporary Pudendal Nerve Block in the Multimodal Treatment of Dyspareunia

Project Description: Approximately one-fifth of adult U.S. women experience dyspareunia (pain with vaginal penetration). Pelvic floor physical therapy (PFPT) is an evidence-based treatment that can treat dyspareunia in the setting of pelvic floor tension myalgia (muscle pain) related to vaginismus (vaginal tightening) and vulvodynia (vulvar pain). However, a subset of patients experience discomfort with PFPT. For such patients, an extravaginal treatment – fluoroscopically-guided pudendal nerve block – may provide temporary relief of dyspareunia and enable the patient to engage in PFPT. Our pilot study will assess the effectiveness of pudendal nerve block in decreasing dyspareunia, improving sexual function indices, and enabling completion of a PFPT program.

Abigail W. Batchelder, PhD, MPH
Assistant Professor in Psychiatry
Massachusetts General Hospital

Claflin Distinguished Scholar Award

Mentor: Conall O'Cleirigh, Ph.D

Project Title: Addressing Internalized Stigma and Shame as Barriers to Engagement in HIV Care among Men who Have Sex with Men with Substance Use Disorders

Project Description: Less than 40% of people diagnosed with HIV in the US receive optimal care in part due to stigma related to HIV, substance use, and sexual orientation. Interventions that reduce internalized stigma are needed to improve engagement in HIV self-care among people living with HIV, substance use disorders, and other stigmatized identities. Dr. Batchelder is currently completing a pilot randomized controlled trial to assess the feasibility and acceptability of a novel text-enhanced psychotherapy intervention that she developed to address these barriers among sexual minority men living with HIV and substance use disorders who are sub-optimally engaged in care.

Abraham F. Bezuidenhout, MBChB
Instructor in Radiology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Radiology Award for Translational Sciences

Mentor: Leo L. Tsai, MD, PhD

Project Title: Cholecystokinin stimulated MRCP to evaluate patients with Sphincter of Oddi dysfunction

Project Description: We will investigate the utility of non-invasive dynamic cine magnetic resonance cholangiopancreatography (cine MRCP) in combination with a cholecystokinin challenge in confirming the diagnosis of sphincter of Oddi dysfunction as well as further differentiating the underlying etiology as anatomic or functional abnormalities. In the long run, this approach may yield a paradigm shift in enabling decisions for sphincterotomy to be made on the basis of the presence of an anatomic or functional deficit, rather than on ancillary findings or clinical subtypes.

Shilpa N. Bhupathiraju, PhD
Assistant Professor in Medicine
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Medicine Fellowship

Mentor: A. Heather Eliassen, ScD

Project Title: Metabolomic Signatures of a Healthy-Plant Based Diet and Associations with Cardiometabolic risk in a cohort of South Asians

Project Description: South Asians, who include people from India, Nepal, Pakistan, Sri Lanka, and Bangladesh, are one of the fastest growing ethnic groups in the US. A majority are vegetarian due to their cultural traditions and religious beliefs. Although the health benefits of a plant-based diet are widely known, South Asians are more likely to develop heart disease and diabetes than other racial groups. This apparent inconsistency may partly be due to the healthfulness of plant-based foods consumed by South Asians. Using data from the MASALA study, we will measure biomarker signatures of a healthy plant-based diet and will understand mechanisms through which a healthy plant-based diet lowers diabetes and heart disease risk.

Jordan D. Bohnen, MD
Assistant Professor in Surgery
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Surgery Fellowship

Mentor: Tara S. Kent, MD

Project Title: Implementation of a smartphone-based platform to increase the frequency, timeliness, and quality of operative performance assessments among surgical trainees: a randomized controlled trial with crossover methodology

Project Description: In this randomized controlled trial, we investigate: i) the effectiveness of a novel smartphone-based platform in increasing the frequency, timeliness, and quality of operative performance assessments for surgical trainees; and ii) trainee satisfaction with operative performance feedback when provided via a smartphone based application, versus an existing enterprise level electronic feedback platform. We further establish baseline measures of surgical resident autonomy and operative performance within a large academic General Surgery residency program as a benchmark for future educational quality improvement efforts.

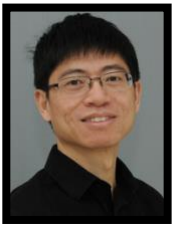
Rebecca E. Cash, PhD
Assistant Professor in Emergency Medicine
Massachusetts General Hospital

Massachusetts General Hospital Department of Emergency Medicine Fellowship

Mentor: Carlos A. Camargo, Jr., MD, DrPH

Project Title: Quantifying the characteristics and value of emergency medical services in the U.S.

Project Description: The goals of this project are to provide a better description of the emergency medical services (EMS) workforce and evidence to support the concept of EMS as an essential public health function in the U.S. Using a nationally representative dataset, we propose to 1) describe the distribution, characteristics, and temporal trends of the EMS workforce; and 2) quantify the association between EMS personnel density and county-level population health outcomes. This work supports on-going efforts in the EMS and emergency medicine community to understand workforce capacity and dynamics, as well providing evidence of the public health value of EMS.



Yihe Chen, MD
Instructor in Ophthalmology
Schepens Eye Research Institute

Alice J. Adler Fellowship of the Schepens Eye Research Institute

Mentor: Reza Dana, MD

Project Title: $CD44^{high}CD4^{+}$ T cells-mediated immunological memory drives chronic autoimmune uveitis

Project Description: Chronic uveitis is often a treatment-resistant disease, leading to irreversible vision loss in a significant number of patients, particularly in the working-age population. Our laboratory recently established a novel mouse model of chronic autoimmune uveitis with the aim to develop a deeper understanding of the cellular and molecular mechanisms of the disease. Herein, we plan to investigate the pathogenic functions of 'immunological memory', a process mediated by long-lived memory white blood cells ($CD44^{high}CD4^{+}$ T cells), in causing chronic uveitis. We hope this project will foster the development of novel therapeutic approaches specifically targeting the underlying cause of disease chronicity.

Kristine Cornejo, MD
Assistant Professor in Pathology
Massachusetts General Hospital

Massachusetts General Hospital Department of Pathology Fellowship

Mentor: Chin-Lee Wu, MD, PhD

Project Title: BK (Polyoma) Virus-Associated Urothelial Carcinoma in Post-Transplant Patients: Clinicopathologic Correlation with Tumor Cell Origin and Survival Outcomes

Project Description: BK polyomavirus (BKV) infection is acquired during childhood and remains latent in epithelial cells of the kidneys and urogenital tract until conditions of immunosuppression trigger viral reactivation. BKV-associated urothelial carcinomas (BKV-UC), has recently been reported in post-solid-organ transplant patients and appears to be associated with a poor prognosis. The goals of this study are to: 1) identify a cohort of BKV-UC in post-transplant patients and review the clinicopathologic features, 2) perform next-generation sequencing to determine whether identifying tumor cell origin (donor vs recipient) may be predictive of patient outcomes and 3) potentially aid treatment decisions as there is no determined therapeutic algorithm/recommendation for patients with BKV-UC.

Elena Crestani, MD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Talal M. Chatila, MD

Project Title: Novel Predictive Biomarkers of Food Allergy in Children

Project Description: Food allergies are increasing among children in the US and globally. However, their management remains limited by the lack of accurate biomarkers to help with diagnosis before any allergic reaction has occurred and to predict disease severity and resolution over time. This project aims at investigating two novel biomarkers of food allergy, called RELMb and TSLPR, which can help with both diagnosing food allergy and with identifying children at higher risk for severe anaphylactic reactions to foods. The application of these biomarkers has the potential to improve the clinical management of food allergic children and increase their safety.

Kathleen J. Cullion, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

Harvard Medical School Award

Mentor: Daniel S. Kohane MD, PhD

Project Title: Light triggered nanoparticles for the treatment of venous malformations

Project Description: Venous malformations (VMs) consist of malformed veins that do not work correctly. Treatment options for children suffering with VMs are limited. Treatment with sirolimus has proven efficacious; however, systemic drug delivery was associated with treatment-limiting side effects. Therefore, I propose an innovative strategy using nanoparticle drug delivery systems to deliver sirolimus. Nanoparticles can maximize drug delivery and minimize systemic toxicity because they can be designed to specifically dwell within the malformed veins that comprise VMs. I hypothesize the blood vessels that comprise VMs will be leaky, allowing for nanoparticles to preferentially penetrate and deliver drug to the malformed vessels.

Neil Dani, PhD
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: Mechanisms of Choroid Plexus Secretion in the Developing Brain

Project Description: The choroid plexus is a vital brain barrier that has been historically overlooked. In this project, we will employ newly developed live imaging technologies to understand how the choroid plexus actively participates in the development of the cerebral cortex. Ultimately, we hope these studies will illuminate how serotonin, an important neurotransmitter in the brain, may impact choroid plexus contributions to brain development.

Michelle Davis, MD
Instructor in Obstetrics, Gynecology and Reproductive Biology
Brigham and Women's Hospital

Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship

Mentor: Colleen M. Feltmate, MD

Project Title: The impact of pretreatment frailty assessment in gynecologic oncology on peri-operative and cancer outcomes

Project Description: The aim of the study is to evaluate the utilization of a pre-treatment frailty index on treatment related outcomes. We plan to perform a randomized controlled trial utilizing a frailty index calculator to determine the impact on peri-operative morbidity as well as patient reported and cancer related outcomes.

Huma Farid, MD
Instructor in Obstetrics, Gynecology and Reproductive Biology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Gynecology and Obstetrics Fellowship

Mentor: John L. Dalrymple, MD

Project Title: Cultivating an Academic Medicine Physician: A Multi-Pronged Approach to Craft a Comprehensive Faculty Development Curriculum

Project Description: Academic faculty in obstetrics and gynecology do not receive formal training or guidance on vital aspects of academic medicine other than patient care despite studies demonstrating the benefits of formal faculty development. This project aims to develop a robust faculty development curriculum through a multi-pronged, inclusive approach.

Jessica Garbern, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Richard S. Lee, MD

Project Title: Quiescence and maturation of pluripotent stem cell-derived cardiomyocytes

Project Description: Stem cell approaches to treat heart failure will require production of mature cardiomyocytes to improve systolic heart function. However, cardiomyocytes derived from pluripotent stem cells remain functionally immature using current differentiation protocols. Successful translation of cell therapies for cardiovascular disease will require improved methods to mature stem cell-derived cardiomyocytes. In this proposal, I will investigate if induction of a quiescent state (non-proliferative, dormant state) promotes maturation of cardiomyocytes while senescence (a form of cellular aging) prevents maturation of cardiomyocytes derived from stem cells.

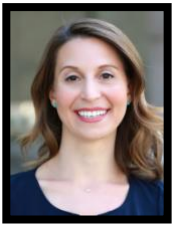
Alina N. Gavrila-Filip, MD
Assistant Professor in Medicine
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Medicine Fellowship

Mentor: Janet Mullington, PhD

Project Title: The Thyroid Axis and Brown Adipose Tissue Interaction in Thermogenesis in Humans

Project Description: It is known that metabolically active brown fat (brown adipose tissue, BAT) is present in adult humans and burns energy for thermogenesis. This study is designed to evaluate the effect of the thyroid axis, specifically the thyroid-stimulating hormone (TSH) on brown fat. If we prove that the TSH stimulates brown fat, this could lead to the development of new therapies for obesity. This is particularly relevant for public health, since we are in the midst of worldwide epidemics of obesity and diabetes.



Nina B. Gold, MD
Instructor in Pediatrics
Massachusetts General Hospital

Massachusetts General Hospital Department of Pediatrics

Mentor: Robert C. Green, MD

Project Title: Genotype-first approach to identification of individuals with inherited errors of metabolism in the Mass General Brigham and Penn Medicine biobanks

Project Description: Inherited metabolic disorders (IMD) are genetic conditions which cause considerable impact on patient health, including neurologic, cardiac, kidney, and liver disease. Many IMD are treatable with dietary modifications and medication. Some individuals with IMD receive delayed diagnoses, thereby limiting their access to therapy and prolonging irreversible progression of their symptoms. Using data from the Mass General and Penn Medicine biobanks, which have not previously collaborated on a project of this nature, the objective of this study is to identify individuals with undiagnosed IMD and to gain an understanding of factors which contribute to the development of mild symptoms.

Fernando Guastaldi, PhD
Instructor in Oral and Maxillofacial Surgery
Massachusetts General Hospital

Massachusetts General Hospital Department of Surgery Faculty Development Fellowship

Mentor: Mark A. Randolph, MASc and Robert W. Redmond, PhD

Project Title: Combinatorial Approach to Cartilage Regeneration in the Temporomandibular Joint (TMJ)

Project Description: After chronic low back pain, temporomandibular disorders (TMD's) are the second most common musculoskeletal condition affecting 5 to 12% of the population, with an annual health cost estimated at $4 billion worldwide. Temporomandibular joint osteoarthritis (TMJOA) is a subtype of TMD characterized by slow and progressive degeneration of the mandibular condyle cartilage and bone, dramatically impacting function and quality of life. To overcome this clinical issue, we propose a novel approach that combines the use of fractional laser treatment with dynamic Self-Regenerating Cartilage (dSRC) to repair TMJ defects.

Jennifer L. Guerriero, PhD
Instructor in Surgery
Brigham and Women's Hospital

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

Mentor: Elizabeth Mittendorf, MD, PhD

Project Title: Elucidating mechanisms of immune evasion in hormone receptor (HR) positive breast cancer

Project Description: Immunotherapy (IT), which activates an immune cell called a T-cell to fight tumors, is now a pillar of cancer care. Unfortunately, hormone receptor positive (HR+) breast cancer has shown minimal response. HR+ breast cancer accounts for roughly 70% of breast cancer cases and even with optimal therapy, HR+ breast cancer patients have a lifelong risk of recurrence. Therefore, new treatment strategies are urgently needed. It has been well documented that there are limited T-cells in HR+ breast cancer, which is likely a major factor related to dismal responses to IT. This study seeks to uncover the mechanisms that prevent recruitment of T-cells into HR+ breast cancers, to inform opportunities for novel immunotherapy-based therapeutic strategies.

Maria Gutierrez-Arcelus, PhD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Soumya Raychaudhuri, MD, PhD

Project Title: B cell activation via the B-cell receptor and Toll-like receptor pathways to reveal genetic heterogeneity in Systemic Lupus Erythematosus

Project Description: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that remains among the most difficult to control, and so represents a leading cause of mortality in young women, especially in minority communities. Design of future therapies will require new insights into disease pathogenesis. Here we propose to study how genetic factors for lupus are affecting B cell activation through two different pathways. We will study this by taking two independent unbiased approaches using genomic technologies. We will then evaluate whether this can contribute to clinical heterogeneity in lupus patients. These insights could help the development of personalized therapies.

Melanie S. Haines, MD
Assistant Professor in Medicine
Massachusetts General Hospital

Claflin Distinguished Scholar Award

Mentor: Karen K. Miller, MD

Project Title: Relative Sarcopenia and Cardiometabolic Risk in Adults with Obesity

Project Description: Little is known about the effect of low muscle mass on type 2 diabetes risk in adults with obesity, and we do not know whether more muscle mass or better muscle quality can prevent diabetes. My project is investigating whether relatively low muscle mass (i.e. relative sarcopenia) is associated with higher diabetes risk over time in adults with obesity. In addition, I am investigating whether hormones secreted by muscle in response to exercise are impaired in adults with pre-diabetes and diabetes compared to adults without pre-diabetes or diabetes.

Rebecca M. Harris, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Yee-Ming Chan, MD, PhD and David C. Page, MD

Project Title: Sex-Biased Gene Expression in Humans: Defining the Roles of Sex Hormones and Sex Chromosomes

Project Description: Traits and diseases differ between men and women. Sex hormones and sex chromosomes are the basis for these differences and exert their effects through alterations in gene expression. Using gender transition in transgender patients as a model, I will dissect out the independent and interdependent effects of the sex hormones and sex chromosomes on gene expression and I will identify the reversible effects of sex hormones. Findings from this study could be the basis for identifying sex-specific biomarkers and medical therapies. Additionally, this study will deepen our understanding of the physiological changes associated with medical therapy for transgender individuals.

Shijie He, PhD
Instructor in Surgery
Massachusetts General Hospital

Massachusetts General Hospital Department of Surgery Faculty Development Fellowship

Mentor: Richard Hodin, MD and Nima Saeidi, PhD

Project Title: A potential target for inflammatory bowel disease (IBD) - Extracellular matrix (ECM) stiffening

Project Description: Gut stiffening is a hallmark of inflammatory bowel disease (IBD), which is caused by the excessive deposition of the extracellular matrix (ECM) during fibrosis and is considered as an irreversible pathological process. Yet, it is unclear how stiffening plays role in regulating the ISC fate. The Innovation of this proposal is the combination of our novel ex vivo quasi-3D gut organoid culture system. We aim to elucidate the underlying mechanism by which gut stiffening regulates the ISC fate, and, as final goals, to kick off new translational modalities for mitigating the gut stiffening-induced epithelial deterioration for treating IBD patients.

Jamie Jacobs, PhD
Assistant Professor in Psychiatry
Massachusetts General Hospital

Claflin Distinguished Scholar Award

Mentor: Joseph Greer, PhD and Jennifer S. Temel, MD

Project Title: Symptom-Targeted Randomized Intervention for Distress and Adherence to Adjuvant Endocrine Therapy after Breast Cancer

Project Description: Adjuvant endocrine therapy (e.g., tamoxifen, aromatase inhibitors) is critical for recurrence prevention in hormone-sensitive breast cancer. However, rates of adherence to this medication are suboptimal and no effective behavioral interventions exist to support adherence and mitigate known barriers to adherence. Therefore, this mixed-methods study aims to first develop and then test the feasibiliy, acceptability, and preliminary efficacy of a brief, small group-based, behavioral telehealth intervention to improve adherence, reduce distress, and enhance symptom self-management for women taking adjuvant endocrine therapy after breast cancer.

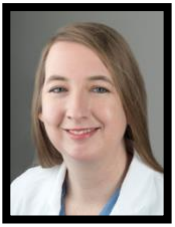
Camilo Jaimes Cobos, MD
Assistant Professor in Radiology
Boston Children's Hospital

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

Mentor: Ali Gholipour-Baboli, PhD

Project Title: White Matter Microstructure in Fetuses with Congenital Heart Disease

Project Description: Children born with congenital heart disease suffer from life-long neurocognitive disabilities. Increasing evidence points to prenatal onset of abnormalities in brain development. Diffusion MRI offers comprehensive evaluation of white matter integrity that is substantially more sensitive than other modalities; importantly, newborns with CHD already show abnormal white matter microstructure. The recent development of motion robust fetal diffusion MRI sequences holds the prospect of investigating abnormalities in white matter development and maturation as they emerge.



Elisa M. Jorgensen, MD
Instructor in Obstetrics, Gynecology and 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: Impact of surgical excision of endometriosis on pain and quality of life: a prospective study

Project Description: Endometriosis is a common disease in which cells similar to the endometrium grow in other locations, leading to chronic pain and infertility. Surgery is the gold standard of diagnosis and treatment, but there is little data on optimal approach or long-term outcomes in endometriosis surgery. We seek to prospectively follow pain, quality of life, and absenteeism in women following excision of endometriosis. We hypothesize that surgical excision of endometriosis results in both immediate (6 weeks) and sustained (6 months) improvements in self-reported outcomes; additionally, we will use this study to report on long-term (5 year) outcomes in the future.

Kimberly Keefe-Smith, MD
Instructor in Obstetrics, Gynecology and Reproductive Biology
Brigham and Women's Hospital

Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship

Mentor: Elizabeth S. Ginsburg, MD and Mark D. Hornstein, MD

Project Title: Premature Ovarian Insufficiency: Cause and Effect

Project Description: Premature ovarian insufficiency (POI), defined as menopause before the age of 40, affects ~1% of women. Although some causes of POI are well known (karyotype abnormalities, Fragile X premutation, exposure to gonadotoxic therapies, and autoimmune disease), ~75% of cases do not have a known cause. Additionally, POI has a profound impact on the overall health, emotional well-being, and reproductive options for women diagnosed. The goal of this project is to explore causes of idiopathic POI to inform our knowledge of ovarian aging and to assess the effect of the POI diagnosis on individuals with the goal of improving future outcomes.

Marcy A. Kingsbury, PhD
Assistant Professor in Pediatrics
Massachusetts General Hospital

Claflin Distinguished Scholar Award

Mentor: Staci Bilbo, PhD

Project Title: The Effects of Maternal Condition at Birth for Gut-Brain Crosstalk and Neurobehavioral Outcomes in Offspring

Project Description: We are looking at autism risk and cognitive deficits in children. In our translational mouse model, we demonstrate that the combined exposure to diesel exhaust particles and maternal stress during pregnancy alters the development of the nervous and gastrointestinal systems of offspring and gives rise to pronounced social behavioral deficits. We can rescue theses social behavior deficits in affected offspring by fostering them to non-exposed non-stressed mothers at birth. Our goal is to determine if maternal breast milk is normalizing gastrointestinal and nervous system development in affected offspring, leading to healthy social behaviors.

Rachel S. Knipe, MD
Instructor in Medicine
Massachusetts General Hospital

Massachusetts General Hospital Department of Medicine Fellowship

Mentor: Benjamin D. Medoff, MD

Project Title: Endothelial S1PR1 Signaling in Vascular Permeability and the Development of Pulmonary Fibrosis

Project Description: Pulmonary fibrosis is a progressive, scarring disease of the lungs which causes significant morbidity and mortality, for which there are limited effective therapies. This project explores the role of the endothelial dysfunction, and specifically vascular permeability in the development of pulmonary fibrosis, through genetic overexpression of an endothelial receptor which recognizes the bioactive lipid S1P. The short-term goal of this project is better understanding of the effect of endothelial S1PR1 on pulmonary fibrosis and the long-term goal is to use this understanding to develop novel therapeutics to improve the health of patients with pulmonary fibrosis.

Elysia Larson, ScD, MPH
Assistant Professor in Obstetrics, Gynecology and Reproductive Biology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Gynecology and Obstetrics Fellowship

Mentor: Karestan Koenen, PhD

Project Title: Identifying opportunities to address perinatal mood disorders

Project Description: Depression and anxiety are two of the most common complications of pregnancy and the postpartum period. However, there is a dearth of data around the ideal time to offer counseling interventions for their prevention. This study will use a prospective longitudinal cohort to identify prevalent and incident depression and anxiety during the perinatal period, and identify gaps in screening and therapeutic services. These findings will be used to design quality improvement interventions and support policies to improve screening and treatment for perinatal depression and anxiety.

Sarah Lassey, MD
Instructor in Obstetrics, Gynecology and Reproductive Biology
Brigham and Women's Hospital

Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship

Mentor: Sarah E. Little, MD

Project Title: Shortened Protocols for Combined Agent Cervical Ripening

Project Description: The purpose of our study is to compare different methods of combined agent cervical ripening for labor induction. We plan to perform a randomized non-inferiority study including misoprostol with cervical balloon and oxytocin with cervical balloon.

Rafael Machado Rezende, PhD
Instructor in Neurology
Brigham and Women's Hospital

Brigham and Women's Hospital Faculty Career Development Award

Mentor: Howard L. Weiner, MD

Project Title: Treatment of Autism Spectrum Disorders with Oral Administration of Fecal Micro-RNAs

Project Description: Autism Spectrum Disorder (ASD) is a serious neurodevelopmental condition. Intestinal dysbiosis is associated with ASD symptoms. Therapies for treating ASD are limited. We found that cells in the gut play an important role in shaping the microbiota by secreting small non-coding RNAs named fecal micro-RNAs (miRNAs). MiRNAs are stable in the gut and promote the growth of specific beneficial microbes, which make them an interesting approach to modulate ASD-associated dysbiosis. We will use mouse models of ASD to investigate whether oral administration of specific fecal miRNAs can serve as a therapeutic tool to treat ASD behavioral and gastrointestinal symptoms.

Venkat Magupalli, PhD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Hao Wu, PhD

Project Title: Program in Cellular and Molecular Medicine; Mechanisms Underlying Sustained Cytokine Release in the Hyperactive Macrophage State

Project Description: Inflammasomes are central apparatus that recruit and activate caspase-1, leading to processing of pro-inflammatory cytokines (IL-1β, IL-18) and gasdermin D to induce cytokine release and an inflammatory cell death. Optimal inflammasome signaling not only defends the host against pathogens but also promotes effective clearance of damaged cells and tissue repair. Interestingly, macrophages also exhibit a hyperactive state, characterized by preferential IL-1β without cell death. Mechanistically, the hyperactive state resembles severe COVID-19 and macrophage activation syndrome, which are characterized by cytokine storm. Therefore, understanding the mechanism underlying sustained cytokine secretion would have broad clinical implications.

Amar Majmundar, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Friedhelm Hildebrandt, MD

Project Title: Molecular pathogenesis, disease modeling and treatment of NOS1AP variant-associated nephrotic syndrome.

Project Description: The project explores a novel genetic cause of childhood nephrotic syndrome, a major cause of chronic kidney disease in pediatrics, using cell and mouse models. The goal of the project is to discover the pathways by which *NOS1AP* patient mutations cause dysfunction in the kidney filtering cells, podocytes, and determine if these pathway defects can be counteracted to ameliorate podocyte dysfunction in cells and mice.

Eizo Marutani, MD
Instructor in Anaesthesia
Massachusetts General Hospital

Massachusetts General Hospital Department of Anaesthesia Fellowship

Mentor: Fumito Ichinose, MD, PhD

Project Title: Therapeutic effects of a novel hydrogen sulfide scavenger in inflammatory bowel disease

Project Description: Inflammatory bowel disease (IBD) is a progressive, chronic inflammatory disorder that may affect all or part of the gastrointestinal tract. In the US, three million people are living with IBD. Therapies for IBD consist mainly of immunosuppression, which is complicated by adverse side effects. Novel effective therapeutic approaches are needed to treat IBD. Recent studies identified abnormal elevation of fecal hydrogen sulfide, a toxic gaseous molecule produced by fecal bacteria, as a cause of IBD. In the current project, we will examine pathogenic roles of H_2S and therapeutic capacity of a novel hydrogen sulfide-scavenger against IBD using a murine experiment.

Kate Millington, MD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Yee-Ming Chan, MD, PhD

Project Title: Defining the role of sex steroids in cardiovascular disease risk

Project Description: Men and women have different rates of cardiovascular disease. It is not clear if this difference is because of differences in hormones (e.g., estrogen in women and testosterone in men) or other factors. This study examines the role of hormone treatment in transgender youth, whose chromosomal makeup is different from their sex steroid exposure, to isolate the effects of hormones on cardiovascular risk. The study will benefit transgender youth by allowing clinicians to better inform patients regarding the risks and benefits of treatment and benefit all people by elucidating the role of hormones in cardiovascular risk.

Lidia M. Moura, MD
Assistant Professor in Neurology
Massachusetts General Hospital

Claflin Distinguished Scholar Award

Mentor: Deborah L. Blacker, MD

Project Title: The Comparative Effectiveness and Safety of Anticonvulsants Among Older Adults

Project Description: Over the past 25 years, thousands of Americans have received anticonvulsants to prevent seizures, exponentially increasing drug use. Although these are lifesaving drugs, they can also be life-threatening because of serious side-effects, like falls and somnolence. Even though there is a delicate balance between benefit and harm, there are no rigorous trial data to guide decisions about when and how to prescribe anticonvulsants after a stroke.

Marwan Moussa, MBChB
Instructor in Radiology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Radiology Award for Translational Sciences

Mentor: Muneeb Ahmed, MD

Project Title: Combined tumor ablation and nanodrug immunomodulation to promote anti-tumor immunity

Project Description: Killing tumors by extreme temperatures, thermal ablation, releases tumor identifying proteins, called antigens, attracting immune cells to the killed tumor. In the tumor bed immune cells process the antigens and learn to recognize tumor cells as harmful. Primed with this new skill immune cells set out to seek and destroy other live tumor cells. This phenomenon is, however, short lived and weak. We investigate adding immunoboosting drugs packaged in micro-carriers that specifically traffic to the tumor when combined with ablation. This may strengthen and improve this phenomenon allowing the immune cells to have a lasting protective effect against cancer.

Karen Ocwieja, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Lee Gehrke, PhD

Project Title: Single cell sequencing in human tissue culture models of congenital Zika syndrome

Project Description: Several pathogens including Zika virus disrupt fetal development leading to devastating outcomes such as microcephaly. This study seeks to identify molecular and cellular mechanisms by which Zika virus perturbs formation and growth of cerebral tissue. We make use of stem-cell derived cerebral organoids, so called "mini brains" grown in a dish, that mimic fetal brain development. By improving our knowledge of the cellular pathways required for normal brain development, this work will ultimately facilitate discovery of novel therapeutics to prevent both pathogen-induced and non-infectious congenital microcephaly.

Courtney L. Ondeck, MD
Instructor in Ophthalmology
Massachusetts Eye and Ear

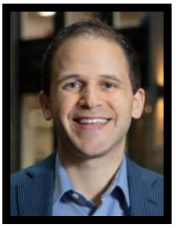
Massachusetts Eye and Ear Fellowship

Mentor: Joseph B. Ciolino, MD and David S. Friedman, MD, PhD

Project Title: Latanoprost Eluting Contact Lens for Treating Glaucoma and Ocular Hypertension

Project Description: In the United States, approximately 3 million people have glaucoma, or a sustained increase in intraocular pressure (IOP) causing damage to the optic nerve and painless loss of vision. Although latanoprost, a first line glaucoma medication, is effective in lowering IOP, adherence to drops remains poor. Non-adherence can contribute to disease progression. Providing a safe, effective method of sustained drug delivery to reliably improve compliance has been major area of unmet need for the treatment of glaucoma.

We have developed a latanoprost-eluting contact lens (L-CL) which consists of a thin drug-polymer film encapsulated within the periphery of a hydrogel. Prior animal studies have shown that when worn continuously, L-CL provided sustained drug release and lowered IOP more than commercial eye drops. Our goal is to perform a first-in-human study to evaluate the safety, feasibility, and efficacy of L-CLs.



Alon Peltz, MD
Instructor in Population Medicine
Harvard Pilgrim Health Care Institute

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

Mentor: Ann Chen Wu, MD

Project Title: Developing a Framework for Equitable Application of Prediction Algorithms

Project Description: Studies have shown that many data algorithms used in health care settings are prone to racial bias. This mixed-methods study will aim to quantify the degree of racial bias in a widely used risk-prediction algorithm applied to identify adults and children who may benefit from enhanced care management services and to develop organizational guiding principles for more equitable application of prediction algorithms.

Milena Petranovic, MD
Instructor in Radiology
Massachusetts General Hospital

Massachusetts General Hospital Department of Radiology

Mentor: Justin F. Gainor, MD

Project Title: Identifying Baseline Imaging Features Associated with Development of Pneumonitis in Patients Receiving Immune Checkpoint Inhibitors for Non-Small Cell Lung Cancer

Project Description: Immune checkpoint inhibitors have revolutionized the treatment of advanced lung cancer with dramatic and sometimes durable responses. However, they also come with serious immune related adverse events such as pneumonitis, which can be dose limiting and potentially life-threatening. Our project seeks to identify features on baseline chest imaging that can help predict the risk of development of pneumonitis. We will do this by evaluating whether certain interstitial lung abnormalities predispose to development of pneumonitis and by extracting high-dimensional imaging features from standard medical images to analyze for patterns that may be linked to adverse events.

John Prensner, MD, PhD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Pratiti Bandopadhayay, PhD, MBBS and Todd R. Golub, MD

Project Title: Non-canonical proteins as driver genes in MYC-driven medulloblastoma

Project Description: Medulloblastoma is a highly aggressive pediatric brain cancer, and patients with this disease often relapse and experience poor outcomes. The focus of my research is to identify the key genes that this cancer relies upon, with the hope that this knowledge may inform treatments in the future. As part of this work, I have uncovered an unexpected role for a new class of proteins, termed "non-canonical" because they were not included as part of the known human genome. In this project, I will work to understand what these proteins are, and why they are critical to medulloblastoma.

Esther Rheinbay, PhD
Assistant Professor in Medicine
Massachusetts General Hospital

Claflin Distinguished Scholar Award

Mentor: Gad A. Getz, PhD

Project Title: Landscape of cancer drivers linked to the Y chromosome

Project Description: It has long been recognized that certain cancer types afflict female and male patients disproportionately. There are several reasons for this disparity, including environmental factors and different copy number of the sex chromosomes X and Y. Although we have learned much from large-scale tumor 'omics' profiling, the role of genetic cancer drivers on chromosome Y is unclear, mainly due to technical issues. I propose to close this knowledge gap by improving current methods to address technical challenges and discover novel driver genes on the sex chromosomes through analysis of thousands of adult and pediatric tumors.

Katarina J. Ruscic, MD, PhD
Member of the Faculty in Anaesthesia
Massachusetts General Hospital

Massachusetts General Hospital Department of Anaesthesia Fellowship

Mentor: Timothy P. Padera, PhD

Project Title: Investigation of Ion Channel Mediated Lymphatic Vessel Contraction

Project Description: Marked lymphatic dysfunction results in lymphedema, affecting hundreds of millions of people worldwide. Lymphatic disease is also present in many other states, including after bacterial infection, under general anesthesia, and during critical illness. The molecular mechanisms behind lymphatic contraction, which is needed to propel lymph throughout the body, is poorly understood. I am studying whether particular types of proteins in the membrane of lymphatic muscle cells, voltage-gated sodium channels, are key to lymphatic pumping and can be targeted by drugs to improve lymphatic function in disease states.

Kelly A. Sagar, MS
Instructor in Psychiatry
McLean Hospital

McLean Hospital Fellowship

Mentor: Staci A. Gruber, PhD

Project Title: Examining the Cognitive Impact of a High-CBD Product in Bipolar Disorder

Project Description: Many patients with bipolar disorder (BPD) do not achieve full symptom alleviation or experience side effects from conventional medications, underscoring the need for alternative treatment strategies. Cannabidiol (CBD) is a non-intoxicating compound with potential therapeutic properties, including anti-anxiety effects, which is considered safe and well tolerated. The current project represents an additional arm of a clinical trial, and will specifically examine the cognitive impact of adjunctive therapy with a high-CBD product in patients with BPD. As patients with BPD often experience cognitive difficulties, it is imperative to assess potential changes in cognitive performance associated with any novel treatment.

Rebecca Sandlin, PhD
Assistant Professor in Surgery
Massachusetts General Hospital

Claflin Distinguished Scholar Award

Mentor: Mehmet Toner, PhD

Project Title: Cryopreservation of malaria parasites to enable global access to clinical specimens

Project Description: The goal of this work is to develop methods to cryopreserve malaria parasites that enable transfer of patient isolates from field to laboratory. Successful completion of this work will improve vaccine and drug development assays that rely on live parasites.

Ronen Schneider, MD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: Friedhelm Hildebrandt, MD

Project Title: Mechanistic characterization of newly discovered DAAM2-related nephrotic syndrome

Project Description: Nephrotic Syndrome (NS), the leakage of protein through the kidney, is often resistant to standard steroid therapy and is termed "steroid resistant nephrotic syndrome" (SRNS). Children with SRNS often develop renal function failure, which requires dialysis and renal transplantation for survival since no other treatment modalities are currently available. Podocytes are kidney cells of which function relies on an intact network of filaments called the 'actin- cytoskeleton'. I have discovered that mutations in the actin formation regulator DAAM2 lead to SRNS. My aim is to characterize the mechanism behind DAAM2-mediated SRNS. Better understanding of this pathomechanism is the basis for new drug discoveries for this currently incurable disease.

Shahla Siddiqui, MD, MSc
Instructor in Anaesthesia
Beth Israel Deaconess Medical Center

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

Mentor: Bala Subramaniam, MBBS

Project Title: Compassionate Care in the Intensive Care Units

Project Description: There is a decreasing state of compassion in health systems across developed countries. Compassion is the recognition, empathic understanding of and emotional resonance with the concerns, pain, distress or suffering of others coupled with motivation and relational action to ameliorate these conditions. This will be a survey of ICU clinician members of the Society of critical care medicine and the European Society of Intensive Care medicine using a modified version of the Schwartz Compassionate Care Scale® assessing a broader understanding by eliciting free text comments on three ICU case vignettes, and 3 focus group discussions of volunteers to discuss background determinants of lack of compassion. We hope to use this broader understanding to devleop educational tools for compassion understanding and training as well as plan further studies to find a bridge between clinicains and patients or their families in delivering compassionate care in the ICU for critically ill patients.

Siddharth Srivastava, MD
Assistant Professor in Neurology
Boston Children's Hospital

Boston Children's Hospital Department of Neurology Faculty Development Fellowship

Mentor: Annapurna Poduri, MD

Project Title: Investigating the Genetic Landscape of Cerebral Palsy

Project Description: As the most common childhood-onset motor disability, cerebral palsy (CP) affects 764,000 individuals in the United States alone and accounts for lifetime healthcare expenses of $1.4M/person. In ~20% of cases, the cause is unknown, raising concern for a genetic disorder, including treatable conditions where a molecular diagnosis may positively alter a child's developmental trajectory. This study will determine the genetic landscape of CP, including potentially treatable conditions; develop rules to predict which individuals with CP are likely to have a genetic disorder; and contribute to an emerging scientific understanding of the pathophysiology of CP that will impact a large population.

Bryan A. Stenson, MD
Instructor in Emergency Medicine
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Emergency Medicine Fellowship

Mentor: David Te-Wei Chiu, MD

Project Title: Understanding Bottlenecks and Demand/Capacity Mismatch in an Academic Emergency Department

Project Description: Staffing and provider productivity are essential components of ED throughput. Patient flow depends on matching patient arrivals with provider productivity, and mismatch of these variables causes bottlenecks which can lead to increased length-of-stay and door-to-provider metrics. Current models assume a constant rate of patients-per-hour for providers; however, this metric decreases in a stepwise manner throughout a shift. By using a model that matches true provider behavior, we can make scheduling adjustments to reduce the hour where patient demand and provider capacity are mismatched. This has the potential to improve door-to-provider intervals, length-of-stay and overall patient flow.

Balaji K. Subramanian, PhD
Instructor in Medicine
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Medicine Fellowship

Mentor: Martin R. Pollak, MD

Project Title: Novel Higher-Order Actin Assembly System to Study Glomerular Kidney Diseases

Project Description: Glomerular Kidney Diseases are notoriously steroid-resistant, characterized by actin derangement in podocytes and a lack of any targeted therapies to correct them. This unfortunate situation reflects the absence of representative biomimetic models for studying podocytes. The proposal addresses this deficiency by developing a novel actin assembly system to study the unique higher-order actin arrangement of podocytes. We will validate the system to establish the mechanism of Focal segmental glomerulosclerosis. We expect that the system developed through this study will shift the research standards for various glomerular diseases from current generic actin polymerization tests to a precise experimental system for podocytes.

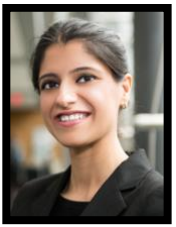
Eleonora Tamilia, PhD
Instructor in Pediatrics
Boston Children's Hospital

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

Mentor: P. Ellen Grant, MD

Project Title: New Method to Deconstruct the Epileptogenic Brain Network and Assist Epilepsy Surgery Planning

Project Description: For children with drug-resistant epilepsy, surgery is the best treatment to stop seizures, but requires precise identification of the brain region that generates seizures. Identifying this region is challenging, even when using intracranial recordings of brain activity. We aim to develop a new method that augments the traditional interpretation of intracranial recordings by extracting new information otherwise "invisible" to the human reader. Our method will localize pathological brain regions but also appreciate how they interact and combine this twofold information to predict postsurgical outcome. This will provide clinicians with a complementary tool to plan surgery and estimate prognosis.



Shenam Ticku, BDS, MPH
Instructor in Oral Health Policy and Epidemiology
Harvard School of Dental Medicine

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

Mentor: Christine A. Riedy, PhD

Project Title: Providers' Attitudes toward Mental Health Screening for Adolescents in a Dental Setting

Project Description: The prevalence of anxiety and depression disorder has been exacerbated by the advent of the pandemic caused by the novel coronavirus (COVID-19). The multiple points of contact provided by a dental visit to a pediatric dentist and an orthodontist offer a unique opportunity to engage and screen adolescents for mental health conditions. The aim of this study is to assess the current landscape and attitudes of dental providers on incorporating screening for depression and anxiety disorders. Additionally, we will also evaluate challenges and facilitators around incorporating mental health screening and referrals among pediatric dental and orthodontic practice.

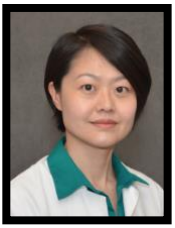
Monika M. Vyas, MBBS
Instructor in Pathology
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center Department of Pathology Fellowship

Mentor: Raul S. Gonzalez, MD

Project Title: Clinicopathologic Features of Extra-Pancreatic Gastrointestinal Grade 3 Well-Differentiated Neuroendocrine Tumors

Project Description: The WHO classification of gastrointestinal (GI) neuroendocrine neoplasms was updated in 2019 to incorporate a new class, grade 3 (G3) in the well-differentiated neuroendocrine tumor (WD-NET) category. The G3 WD-NETs (Ki67 index >20% or >20 mitoses per 10 high-power fields), which were previously regarded as poorly differentiated neuroendocrine carcinomas (PD-NEC), have been shown to have a better overall survival and variable response to platinum based therapy as compared to PD-NECs. While pancreatic G3 WD-NETs are known to be morphologically and genetically distinct from PD-NECs, the data on extra-pancreatic GI G3 WD-NETs is limited. The aim of this study is to evaluate a multi-institutional cohort of extra-pancreatic G3 WD-NETs and elucidate their morphologic features. The clinical behavior and outcome of these neoplasms will be compared with the low grade (G1, G2) WD-NETs and PD-NECs of the respective GI sites.



Jia Yin, MD, PhD
Assistant Professor in Ophthalmology
Massachusetts General Hospital

Claflin Distinguished Scholar Award

Mentor: Patricia A. D'Amore PhD and Reza Dana, MD

Project Title: Neuroregulation of Corneal Angiogenesis

Project Description: Blood vessels and sensory nerves often exist in proximity in the human body. The cornea is a transparent and protective layer covering the rest of the eye. The cornea normally has no blood vessels and abundant nerves. The relationship between blood vessels and nerves are underpinnings of common corneal diseases, but their direct relationship has not been extensively studied. The proposed research seeks to understand how sensory nerves regulate abnormal blood vessel development in the cornea during inflammation, and to develop therapies to treat abnormal blood vessel growth and sensory nerve loss.

JiaDe Yu, MD
Assistant Professor in Dermatology
Massachusetts General Hospital

Massachusetts General Hospital Department of Dermatology Fellowship

Mentor: Jin Mo Park, PhD

Project Title: Molecular Marker-Based Diagnosis of Allergic Contact Dermatitis

Project Description: Allergic contact dermatitis (ACD) is common in adults and children leading to significant morbidity but the gold standard diagnostic test (patch testing) is subjective. No current treatments are available and allergen avoidance is curative. The biologic underpinnings of ACD is not well understood. The goal of our project is to elucidate molecular markers that can differentiate between allergic contact dermatitis (specifically to what allergen) and other mimickers such as irritant contact dermatitis and atopic dermatitis. The knowledge learned from this research will aid in the development of novel, molecular methods of diagnosis and targeted treatments for ACD.

Brian Yun, MD
Assistant Professor in Emergency Medicine
Massachusetts General Hospital

Massachusetts General Hospital Department of Emergency Medicine Fellowship

Mentor: Ali S. Raja, MD

Project Title: Evaluation of a COVID-19 Emergency Department Observation Protocol

Project Description: As SARS-CoV-2 is novel, few care pathways have been established. As patients with COVID-19 can decompensate later in their disease course, it's unclear when a patient needs to be admitted into the hospital. It's also not possible to admit every patient with COVID-19. Applying lessons learned from the first surge, we created a COVID-19 Emergency Department observation protocol for patients with COVID-19 at risk for decompensation. The ED can use this protocol in the ED Observation unit to efficiently observe patients and intervene if a patient decompensates. Our goal is to evaluate this protocol and describe clinical and operational outcomes.

Yang (Claire) Zeng, MD, PhD
Instructor in Medicine
Dana-Farber Cancer Institute

Dana-Farber Cancer Institute Fellowship

Mentor: William Shih, PhD

Project Title: In situ vaccination by neoantigen-capturing DNA origami platform for enhanced anti-tumoral Th1 immune response

Project Description: The rationale for in situ vaccination (ISV) is that cancer is highly mutational, and in vitro screened neoantigens do not represent the entire tumor antigen pool. Previous studies have demonstrated that potential immunogenic neoantigens may be more hydrophobic. DNA origami provide a finely tuned adjuvant presentation system for enhanced Th1-polarized immune response and antigen cross-presentation. We propose to develop a DNA origami Barrel-based ISV system fabricated with adjuvants and neoantigen-capturing hydrophobic motifs for improved cancer vaccine efficacy. We hypothesize that the Barrel structure with optimally spaced adjuvants will induce an improved anti-tumoral Th1 immune response targeting a range of neoantigens.

Lei Zhao, MD, PhD
Assistant Professor in Pathology
Brigham and Women's Hospital

Brigham and Women's Hospital Department of Pathology Fellowship

Mentor: Mark Redston, MD

Project Title: Integrated Clinicopathologic and Genomic Analysis to Predict Response to Neoadjuvant Treatment in Esophageal Cancer

Project Description: The standard therapy for patients with locally advanced esophageal cancer is neoadjuvant chemoradiation followed by surgical resection. Although this approach significantly improves survival in some patients, we are unable to further personalize patients' treatment plans as there is no reliable way to predict whether a patient will respond to the standard neoadjuvant chemoradiation before surgery . In this study, I plan a multifactorial analysis to identify clinicopathologic and molecular genetic factors that can predict treatment response and to establish an integrated classification model that can guide personalized treatment decisions for esophageal cancer patients.

2021 Award Recipients by Institution

Beth Israel Deaconess Medical Center

Department of Anesthesia John Hedley-Whyte Research Fellowship
Shahla Siddiqui, MD, MSc

Department of Emergency Medicine Fellowship
Bryan A. Stenson, MD

Department of Gynecology and Obstetrics Fellowship
Mallika Anand, MD
Huma Farid, MD
Elisa M. Jorgensen, MD
Elysia Larson, ScD, MPH

Department of Medicine Fellowship
Alina N. Gavrila-Filip, MD
Balaji K. Subramanian, PhD

Department of Pathology Fellowship
Monika M. Vyas, MBBS

Department of Radiology Fellowship
Abraham F. Bezuidenhout, MBChB
Marwan Moussa, MBChB

Department of Surgery Fellowship
Jordan D. Bohnen, MD

Boston Children's Hospital

Department of Neurology Faculty Development Fellowship
Siddharth Srivastava, MD

OFD/BTREC/CTREC Faculty Career Development Fellowship
Elena Crestani, MD
Neil Dani, PhD
Jessica Garbern, MD, PhD
Maria Gutierrez-Arcelus, PhD
Rebecca M. Harris, MD, PhD
Camilo Jaimes Cobos, MD
Venkat Magupalli, PhD
Amar Majmundar, MD, PhD
Kate Millington, MD
Karen Ocwieja, MD, PhD
John Prensner, MD, PhD
Ronen Schneider, MD
Eleonora Tamillia, PhD

Brigham and Women's Hospital

Department of Medicine Fellowship
Shilpa N. Bhupathiraju, PhD

Department of Pathology Fellowship
Lei Zhao, MD, PhD

Department of Surgery Junior Fellowship in honor of Robert T. Osteen, MD
Jennifer L. Guerriero, PhD

Faculty Career Development Award
Rafael Machado Rezende, PhD

Obstetrics and Gynecology Foundation Fellowship
Michelle Davis, MD
Kimberly Keefe-Smith, MD
Sarah Lassey, MD

Dana-Farber Cancer Institute
Dana-Farber Cancer Institute Fellowship
Yang (Claire) Zeng, MD, PhD

Harvard Medical School
Harvard Medical School Award in honor of Robert Barbieri, MD
Kathleen J. Cullion, MD, PhD

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

Harvard School of Dental Medicine
Harvard School of Dental Medicine Fellowship in Honor of Aina M. Auskaps, DMD
Shenam Ticku, BDS, MPH

Massachusetts Eye and Ear
Massachusetts Eye and Ear Fellowship
Courtney L. Ondeck, MD

Alice J. Adler Fellowship of the Schepens Eye Research Institute
Yihe Chen, MD

Massachusetts General Hospital
Claflin Distinguished Scholar Awards
Abigail W. Batchelder, PhD, MPH
Melanie S. Haines, MD
Jamie Jacobs, PhD
Marcy A. Kingsbury, PhD
Lidia M. Moura, MD
Esther Rheinbay, PhD
Rebecca Sandlin, PhD
Jia Yin, MD, PhD

Department of Anaesthesia Fellowship
Eizo Marutani, MD
Katarina J. Ruscic, MD, PhD

Department of Dermatology Fellowship
JiaDe Yu, MD

Department of Emergency Medicine Fellowship
Emily L. Aaronson, MD
Rebecca E. Cash, PhD
Brian Yun, MD

Department of Medicine Fellowship
Rachel S. Knipe, MD

Department of Pathology Fellowship
Kristine Cornejo, MD

Department of Pediatrics Fellowship
Nina B. Gold, MD

Department of Radiology Fellowship
Melina Petranovic, MD

Department of Surgery Faculty Development Fellowship
Fernando Guastaldi, PhD
Shijie He, PhD

McLean Hospital
McLean Hospital Fellowship
Kelly A. Sagar, MS

2021 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 and Professor of Population Medicine,
Harvard Pilgrim Health Care Institute

Aarti Asnani
Assitant Professor of Medicine, Beth Israel Deaconess Medical Center

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

Carol K. Bates
Associate Dean for Faculty Affairs, 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

Michele R. Hacker, ScD
Associate Professor of Obstetrics, Gynecology and Reproductive Biology, Beth Israel Deaconess Medical Center

Theresa A. Hadlock
Professor of Otolaryngology Head and Neck Surgery, Massachusetts Eye and Ear

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

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

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

Paul L. Nguyen
Professor of Radiation Oncology, Brigham and Women's Hospital

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

Annapurna Poduri
Professor of Neurology, Boston Children's Hospital

Tamara D. Rozental
Professor of Orthopedic Surgery, Beth Israel Deaconess Medical Center

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

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.

Robert Barbieri, MD

Robert L. Barbieri is Kate Macy Ladd Distinguished Professor of Obstetrics, Gynecology, and Reproductive Biology and former Chair of the Department of Obstetrics, Gynecology, and Reproductive Biology at Brigham and Women's Hospital, Harvard Medical School. He is currently serving as the BWH Chief of Obstetrics. He specializes in infertility, reproductive surgery, and OB/GYN. His clinical interests include endometriosis, hirsutism, menopause, and menstrual abnormalities. He is editor-in-chief of Obstetrics and Gynecology at UpToDate.

Jane D. Claflin

Jane Claflin was an extraordinary benefactor and dedicated volunteer leader at Massachusetts General Hospital where she served as trustee, fund-raiser, friend, and cheerleader. She was the force behind the MGH programs that support women in their professional careers and a major reason the MGH opened a backup childcare 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 was 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 M. Reid, MD

Dr. Lynne M. Reid was 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 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 1300 awards through the last 26 years of the program