
HARVARD
MEDICAL SCHOOL

# *Eleanor and Miles Shore 50th Anniversary Fellowship Program for Scholars in Medicine*

*20th Annual Celebration*
*October 5, 2015*

# Eleanor and Miles Shore 50th Anniversary Fellowship Program for Scholars in Medicine 2015 Fellowship Reception

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| 4:00 p.m. | **Arrival** | Light Refreshments |
| 4:20 p.m. | **Welcome** | Maureen T. Connelly, MD, MPH<br>Dean for Faculty Affairs |
| | **Historical Perspective** | Eleanor G. Shore, MD, MPH<br>Senior Consultant to the Office of Academic & Clinical Affairs |
| | **Greetings & Congratulations** | Jeffrey S. Flier, MD<br>Dean of the Faculty of Medicine |
| | **Presentation of Awards** | Carol K. Bates, MD<br>Associate Dean for Faculty Affairs |
| | **Closing** | Nancy J. Tarbell, MD<br>Dean for Academic & Clinical Affairs |
| 5:15 p.m. | **Reception** | |

*The Scholars in Medicine Program was established in 1995 to celebrate the 50th Anniversary of the admission of women to the Harvard Medical School, to acknowledge the important contributions women have made to the School, and to enhance the quality and diversity of the Faculty of Medicine. 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.*

# 2015 Fellowship Recipients

**Petr Baranov, MD,** Instructor in Ophthalmology | Schepens Eye Research Institute

***Alice J. Adler Fellowship of the Schepens Eye Research Institute***

Mentor: Michael J. Young, PhD, Associate Professor of Ophthalmology, Schepens Eye Research Institute

**Project Title:** High-Throughput Screening Assay to Identify Photoreceptor Pro-Survival Molecules

**Project Description:** Retinal degenerative disorders such as retinitis pigmentosa and age-related macular degeneration are characterized by progressive irreversible loss of light-sensitive cells—photoreceptors. The unique structure and physiology of these retinal neurons makes them a difficult target for neuroprotection. I hypothesize that the implementation of an alternative target discovery strategy through high-throughput screening (HTS) of small molecules will identify a novel spectrum of drug candidates resulting in accessible and effective therapies. In this study I aim to combine the advances of pluripotent and retinal stem cell biology with high content imaging. This would allow robust screening of chemicals for photoreceptor neuroprotection.

**Thanh Barbie, MD,** 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: Monica M. Bertagnolli, MD, Richard E. Wilson Professor of Surgery in the Field of Surgical Oncology, Brigham and Women's Hospital

**Project Title:** Therapeutic Targeting of Triple Negative Breast Cancer by Dual Cytokine/MEK Inhibition

**Project Description:** Although triple negative breast cancers (TNBC) are defined by the absence of hormone receptor expression and ERBB2 amplification, they represent a heterogeneous set of cancers. We recently found that inducible expression of the IkB kinase (IKK) related-kinase IKKε and JAK/STAT pathway activation underlies a cytokine signaling network in the immune activated subset of TNBCs. CYT387, a novel potent inhibitor of TBK1/IKKε and JAK signaling, disrupts this circuit. Combined therapy with the MEK inhibitor trametinib is particularly effective, abrogating tumor growth and angiogenesis. The goal of this research is to determine the subset of patients who will respond to this combination therapy.

**Deborah Bartz, MD,** Assistant Professor of Obstetrics, Gynecology, and Reproductive Biology | Brigham and Women's Hospital

***Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship***

Mentor: Lori R. Berkowitz, MD, Assistant Professor of Obstetrics, Gynecology, and Reproductive Biology, Massachusetts General Hospital

**Project Title:** APGO Academic Scholars and Leaders Program

**Project Description:** There is a shortage of family planning providers within the US. Survey research demonstrates that pre-residency intention to provide comprehensive reproductive health is the strongest predictor of future provision of these services. Therefore, medical school training in and exposure to reproductive health plays a critical role in improving the market of willing providers of this necessary care. The APGO Academic Scholars and Leaders Program is an intense 15-month course dedicated to improving the effectiveness of clinical educators. As an APGO Scholar, I will investigate development of attitudes towards reproductive health care in a cohort of senior medical students.

**David Bickham, PhD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Michael Ogden Rich, MD, Associate Professor of Pediatrics, Boston Children's Hospital

**Project Title:** Investigating How Adolescents Use Electronic Media and Communication Technologies as a Strategy for Coping with Symptoms of Depression

**Project Description:** Young people suffering from symptoms of depression spend more time than their peers using electronic media and report that using media helps them cope with negative affect. Although consuming certain types of media has been indicated as contributing to depression, use that provides effective distraction, humor, and connection to peers could serve to help adolescents avoid depression and reduce its impact on their functioning. This research uses Ecological Momentary Sampling to investigate the media use patterns of young adolescents in response to negative affect and the impact of different types of use on immediate changes in experiences of depressive symptoms.

**Riley Bove, MD,** Assistant Professor of Neurology | Brigham and Women's Hospital

***Brigham and Women's Hospital Faculty Development Fellowship***

Mentor: Howard L. Weine, MD, Robert L. Kroc Professor of Neurology, Brigham and Women's Hospital

**Project Title:** How Does Menopause Influence Multiple Sclerosis Course? Exploring Potential Mechanisms through Neuroimaging

**Project Description:** I am seeking to understand the influence that menopause plays on the course of multiple sclerosis (MS). Recently, we observed that clinical MS severity may worsen after menopause. We are now seeking to analyze MRIs from a large number of patients, to explore whether these clinical changes can be explained by accelerated loss of volume in the whole brain, and/or in specific in structures and networks. I am requesting funds for a coordinator and analyst to assemble datasets and MRI images, and help data analysis. These findings will represent the preliminary data required for an NIH K23 grant.

**Justin Chen, MD,** Instructor in Psychiatry | Massachusetts General Hospital

***Harvard Medical School Center for Primary Care Innovation Fellows Program***

Mentor: Albert Yeung, MD, ScD, Associate Professor of Psychiatry, Massachusetts General Hospital

**Project Title:** Adaptation and Replication of a Group-Based Intervention for Depressed Immigrant Patients

**Project Description:** Asian Americans have the lowest rates of mental health services utilization among all racial/ethnic groups in the US. Culture- and immigration-related factors, including limited English proficiency, stigma and shame, and a shortage of culturally sensitive providers all contribute to disparities in treatment and outcomes. Innovative approaches are needed to promote the mental health of this vulnerable, underserved, and difficult-to-engage population. This project attempts to address these challenges by using a group-based stress management intervention for Chinese immigrants led by bilingual/bicultural social workers to flexibly bridge different cultural understandings of mental illness and improve engagement in care.

**Rachel Clark, MD,** Instructor in Obstetrics, Gynecology, and Reproductive Biology | Massachusetts General Hospital

***Dorothy Rackemann Fellowship established by the Vincent Memorial/Massachusetts General Hospital***

Mentor: Marcela del Carmen, MD, Clinical Co-Director of Gynecologic Oncology and Associate Professor of Obstetrics, Gynecology and Reproductive Biology, Massachusetts General Hospital

**Project Title:** #GirlCancer: Utilizing a Novel Social Media Platform to Raise Awareness of Standard of Care Treatment for Epithelial Ovarian Cancer

**Project Description:** Though epithelial ovarian cancer (EOC) remains the most lethal gyncologic malignancy, only one third of US women receive standard of care treatment per National Cancer Center Network Guidelines. Social media/web platforms represent unprecedented opportunity to disseminate information. No websites for ovarian cancer use specific interactions to discuss the improved survival associated with care by a gynecologic oncologist, optimal cytoreduction and IP chemotherapy. The primary aim of this project is to create a novel web platform (#Girlcancer) to increase awareness of NCCN treatment guidelines and deliver specific information on the etiology, diagnosis, treatment and surveillance of EOC.

**Liza Colimon, MD,** Instructor in Obstetrics, Gynecology, and Reproductive Biology | Brigham and Women's Hospital

***Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship***

Mentor: Marc Laufer, MD, Professor of Obstetrics, Gynecology, and Reproductive Biology, Chief of Gynecology, Boston Children's Hospital

**Project Title:** Achieving an Informed Boston and Health Equity: Determining How Women Served in Boston's Community Health Centers access Women's Health Information

**Project Description:** This project will focus on determining how and through which media women served in one of Boston's Major Community Health Centers identify and access women's health information. This information will be utilized to create programs to target improving medical knowledge and health literacy which will ultimately promote Health Equity. This project will also provide us with a representation and insight regarding how different racial groups living in Boston approach medical questions and concerns.

**Stephanie Dougan, PhD,** Assistant Professor of Microbiology and Immunobiology | Dana-Farber Cancer Institute

***Dana-Farber Cancer Institute Fellowship***

Mentor: Harvey Cantor, MD, Baruj Benacerraf Professor of Microbiology and Immunobiology, Cancer Immunology and Virology, Dana-Farber Cancer Institute

**Project Title:** Generation of Transnuclear Mouse Models for Studying the Immune Response to Cancer

**Project Description:** Qa-1 restricted regulatory CD8 T cells have been shown to suppress a variety of immune responses—from autoimmunity to anti-viral and anti-tumor responses. However, relatively little is known about CD8 Tregs due to a paucity of mouse models. We have used somatic cell nuclear transfer to clone embryonic stem cell lines from the nuclei of CD8 Tregs and will generate viable mouse lines from this panel of SCNT-ES cells. Using our unique mouse lines, we will determine the spectrum of immune responses and the spectrum of Qa-1 expressing target cells that can be suppressed by CD8 Tregs of defined specificity.

**Tracy Doyle, MD, MPH,** Instructor in Medicine | Brigham and Women's Hospital

***Brigham and Women's Hospital Faculty Development Fellowship***

Mentor: Ivan O. Rosas, MD, Assistant Professor of Medicine, Brigham and Women's Hospital

**Project Title:** Clinical and Molecular Characteristics of Rheumatoid Arthritis-Associated Interstitial Lung Disease

**Project Description:** Interstitial lung disease (ILD) is a common complication of rheumatoid arthritis (RA) with increasing prevalence and mortality. We propose to create a clinical prediction score composed of clinical risk factors, autoantibodies, functional decrements, and biomarkers to improve identification of subjects with early and advanced disease. The successful completion of this research will provide us with novel non-invasive ways to identify those at risk for RA-ILD as well as a better understanding of the characteristics and natural history of RA-ILD. This will enable closer monitoring and earlier treatment of affected individuals, potentially leading to decreased morbidity and mortality.

**Iann Dunn, MD,** Assistant Professor of Neurosurgery | Brigham and Women's Hospital

***Brigham and Women's Hospital Department of Neurosurgery Fellowship***

Mentor: E. Antonio Chiocca, MD, PhD, Harvey W. Cushing Professor of Neurosurgery

**Project Title:** Circulating Tumor DNA in Brain Tumors

**Project Description:** Tumor DNA shed into the circulation may reflect the full spectrum of genomic changes in a tumor more accurately than tissue biopsies that sample only a portion of the heterogeneous whole. We aim to interrogate DNA shed into the circulation by cancer cells for non-invasive tumor evaluation. Specifically, characterization of circulating tumor DNA dynamics in high-grade gliomas and central nervous system metastases may elucidate changing tumor burden and portend emerging treatment resistance with chemoradiation exposure. We anticipate these efforts will lead to improved understanding of evolving tumor heterogeneity and minimally invasive methods of monitoring of tumor response to treatment.

**Kamryn Eddy, PhD,** Assistant Professor of Psychology in the Department of Psychiatry | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

**Project Title:** Inhibitory Control as a Latent Mechanism of Restricting versus Binge/Purge Type Eating Disorders

**Project Description:** Low weight eating disorders (EDs) develop during adolescence and can be associated with chronicity and premature mortality. While all individuals with low weight EDs restrict, half will "cross over" from primary restriction to bingeing and purging. Compared to pure restriction, concomitant bingeing/purging is associated with the poorest outcomes. The pathophysiology of restricting vs. binge/purge phenotypes is almost entirely unknown. My project examines inhibitory control and neural activation in frontostriatal circuits during a food motivation paradigm as candidate mechanisms that underlie restricting vs. bingeing/purging in adolescents. with low weight EDs.

**Matthew Eisenberg, MD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Pediatric Emergency Medicine Faculty Development Award***

Mentor: Mark Neuman, MD, Associate Professor of Pediatrics, Boston Children's Hospital and Josh Nagler, MD, Assistant Professor of Pediatrics, Boston Children's Hospital

**Project Title:** Development of a Quality Improvement Program for Pediatric Emergency Medicine Fellows
**Project Description:** With my collaborators, we are developing a quality improvement program for pediatric emergency medicine fellows. Over the past year, we created and implemented a didactic curriculum and began work on our first project: implementation of a sedation tracking board to improve efficiency of sedations for fracture reduction. We are now undertaking a second project examining efforts to improve safety of outpatient opiate prescribing in our ED. I will also be pursuing my MPH with a focus on health care management during the upcoming year.

**Anna Farago, MD, PhD,** Instructor in Medicine | Massachusetts General Hospital

***Massachusetts General Hospital Department of Medicine Fellowship***

Mentor: Jeffrey A. Engelman, MD, PhD, Laurel Schwartz Associate Professor of Medicine, Massachusetts General Hospital

**Project Title:** Molecular Characterization of Small Cell Lung Carcinoma Patient-Derived Xenograft Tumors
**Project Description:** Small cell lung carcinoma (SCLC) is an aggressive malignancy with poor overall survival and limited effective treatments beyond first-line chemotherapy. To develop better therapies for patients, improved preclinical models are needed. We are establishing a series of patient-derived xenograft models directly from SCLC patient circulating tumor cells. The goal of this proposal is to characterize the genomic, transcriptional and proteomic features of these models, and to correlate changes in these features with the acquisition of chemotherapy resistance. This will lay the groundwork for using these models to probe and overcome mechanisms of acquired chemotherapy resistance in SCLC.

**Vicki Fung, PhD,** Assistant Professor of Medicine | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

Mentor: John Hsu, MD, MBA, MSCE, Associate Professor of Medicine, Massachusetts General Hospital

**Project Title:** Real-World Evidence on Use of Complex Drug Regimens in Bipolar Disorder
**Project Description:** Many individuals with bipolar disorder are treated with complex drug regimens that include three or more drugs. There is a lack of evidence on the effects of these complex regimens, however, and outcomes remain poor for many patients with bipolar disorder, highlighting the need for additional information to guide treatment decisions. This study will examine how often and which patients respond to treatment with complex drug regimens, as well as the effects of complex regimens on medication adherence.

**Heon Yung Gee, MD, PhD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

**Project Title:** Mutations in FAT1 Cause a Glomerulotubular Nephropathy

**Project Description:** We found that mutations in FAT1 cause a renal disease with the overlapping phenotype of steroid-resistant nephritic syndrome and tubular ectasia. FAT1 is a member of a small family of vertebrate cadherin-like genes, designated FAT1-FAT4 in humans. FAT cadherins play a role in cell migration, lamellipodia dynamics, cell polarity, and cell-cell adhesion. In this application, I proposed to investigate how FAT1 mutations cause a nephropathy. Elucidation of pathogenic mechanisms will be important for new insights and therapeutic approaches toward chronic kidney disease, and potentially contribute to our understanding of the renal disease caused by FAT1 mutations.

**Jatinder Gill, MB, BS,** Assistant Professor of Anaesthesia | Beth Israel Deaconess Medical Center

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

**Project Title:** Development of Vertebral Fragility Fracture Score (VFFS) to Prognosticate and Guide Treatment of Fragility Fractures of the Vertebrae

**Project Description:** This is a prospective observational study of vertebral fragility fractures. The study will establish a vertebral fragility fracture pathway (VFF pathway) based upon institution of best practices and will then correlate clinical presentation to outcomes and develop a vertebral fragility fracture score (VFFS) by weighing the factors found to influence prognosis as well as response to treatment. This will subsequently be validated in a multicenter study. This may lead to standardization of care for this debilitating condition and also provide insights that may lead to further innovative treatment options.

**Rachael Grace, MD,** Assistant Professor of Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Ellis Neufeld, MD, PhD, Egan Family Foundation Professor of Transitional Medicine in the Department of Pediatrics, Boston Children's Hospital

**Project Title:** Biomarkers of Clinical Severity and Treatment Response in Pyruvate Kinase Deficiency

**Project Description:** Erythrocyte pyruvate kinase deficiency (PKD) is a congenital non-spherocytic hemolytic anemia caused by decreased production of erythrocyte ATP. The clinical features are highly variable in affected individuals, and the severity of anemia and erythrocyte PK activity level do not correlate. Currently, there are no established markers of disease severity. Through a robust international Natural History Study and a phase II drug trial, the aims of the proposed study are to identify biomarkers of disease severity and treatment response, which will significantly contribute to our understanding of the pathophysiology of PKD.

**Marie-Louise Jean-Baptiste, MD,** Assistant Professor of Medicine | Cambridge Health Alliance

***Harvard Medical School Center for Primary Care Innovation Fellows Program***

Mentor: Barbara Ogur, MD, Associate Professor of Medicine, Cambridge Health Alliance

**Project Title:** Culturally Tailored Cooking and Nutrition Skills Workshops for Haitian Patients in Cambridge

**Project Description:** The patients bring their own recipes. The nutritionist and physician lead interactive cooking sessions that emphasize important nutritional messages. These workshops are held in a communal kitchen. We monitor for change in life style by using pre and post questionnaires to assess their knowledge. We monitor clinical indicators such as blood sugar, blood pressure, and weight. The Curriculum is done by the mentees. We interviewed the participants on their recipes and engaged them in conversation to explore how to make changes to improve their lives. These interviews will be broadcast in Haitian Creole on a radio program called Health Corner.

**Kate Jeffrey, PhD,** Instructor in Medicine | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

Mentor: F. Nina Papavasiliou, PhD, Associate Professor and Head Laboratory of Lymphocyte Biology, The Rockefeller University

**Project Title:** Understanding the Role of Epigenetic Modulator SP140 in Crohn's Disease

**Project Description:** Crohn's disease (CD) is a chronic, relapsing-remitting form of inflammatory bowel disease thought to be driven by aberrant immune responses to intestinal bacteria. While genetic factors contribute to CD susceptibility, the environment and epigenetic factors clearly play a role. The immune-specific epigenetic regulator SP140 was recently identified to be associated with CD through genome wide association studies (GWAS). Here we will decipher how SP140 regulates bacteria-induced gene expression in innate immune cells. We will examine cells from CD patients carrying this risk mutation and understand how SP140 mis-expression could ultimately promote inflammation leading to CD.

**Rohit Jindal, PhD,** Instructor in Surgery | Massachusetts General Hospital

***Massachusetts General Hospital Department of Surgery Faculty Development Fellowship***

Mentor: Martin L. Yarmush, MD, PhD, Lecturer in Surgery and Bioengineering and Director, Center for Engineering in Medicine, Massachusetts General Hospital

**Project Title:** A Microfluidic Platform for Identifying Dynamic Interaction of Fatty Acids and Alcohol in Steatohepatitis

**Project Description:** Alcohol liver disease (ALD) and non-alcoholic fatty liver disease (NAFLD) are the most common life-style liver diseases caused by excess alcohol and obesity, respectively. With obesity emerging as a global epidemic, there is an ever increasing prevalence of people who consume excess alcohol, and are obese. However, the precise molecular mechanisms through which both contribute to the pathogenesis of liver disease remains unknown. The overall goal of the project is to develop a microfluidic system that integrates 3D model of liver tissue and thereby enable identification of the complex cellular and molecular mechanisms that regulate liver damage induced by fatty acids and alcohol.

**Anne Holland Johnson, MD,** Instructor in Orthopedic Surgery | Massachusetts General Hospital

***Massachusetts General Hospital Department of Orthopedic Surgery***

**Project Title:** Arthroscopic Assessment of Syndesmosis

**Project Description:** Ankle syndesmotic injury and instability are potentially debilitating conditions that pose a challenge for orthopaedic surgeons to accurately diagnose. Most surgeons rely upon intraoperative assessment of stability consisting of manual stress views solely in the coronal plane to definitively diagnose syndesmotic injury following malleolar stabilization. While plain films, stress radiography, CT scans, and MRI offer additional insight into the assessment of syndesmotic stability, each has shortcomings that pose limitations to their utility to orthopaedic surgeons. The goal of this study is to investigate the role for and utility of ankle arthroscopy in the evaluation of syndesmotic injury, and to establish guidelines for reproducible, accurate arthroscopic measurement in the injured and uninjured ankle.

**Rose Mirembe Kakoza, MD,** Instructor in Medicine | Brigham and Women's Hospital

***Harvard Medical School Center for Primary Care Innovation Fellows Program***

Mentor: Lori Tishler, Assistant Professor of Medicine, Brigham and Women's Hospital and Yamini Saravanan, Instructor in Medicine, Cambridge Health Alliance

**Project Title:** Developing an Advanced, Centralized, Multidisciplinary High-Risk Care Management Team in an Academic Primary Care Practice

**Project Description:** Patients with complex care needs not only account for a disproportionate share of health care costs but, sadly, are also at increased risk for lower quality health care and poor health outcomes. Like many academic practices, the Phyllis Jen Center for Primary Care (PJC) at Brigham and Women's Hospital is challenged by how to best care for this population given limited provider availability, limited support staff and frequent primary care turnover among resident PCPs. Building on the clinic's prior short-term, nurse-led ambulatory ICU model, this project has focused on expanding the clinic's complex care team to make it longitudinal and multidisciplinary, including social work, pharmacy, RNs and LPNs to cover 4 key domains: disease management, behavioral health, health coaching and resource facilitation.

**Junne Kamihara, MD, PhD,** Instructor in Pediatrics | Dana-Farber Cancer Institute and Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Judy E. Garber, MD, MPH, Professor of Medicine, Dana-Farber Cancer Institute

**Project Title:** Understanding the Genetic Predisposition of Pediatric Thyroid Cancer

**Project Description:** Why do some children develop cancer? The early onset among pediatric patients suggests that germline genetic factors may play a prominent role. We plan to understand genetic cancer predisposition by studying a cohort of children with thyroid cancer. We will collect family history and perform germline DNA sequencing of the exome and microRNA binding sites in a large cohort of pediatric thyroid cancer patients at high risk. Finding the genes that lead to hereditary cancer risk may lead to the identification of new syndromes, expand existing syndrome definitions, and will serve as a model for studying hereditary cancer predisposition.

**Bevin Kenney, MD,** Instructor in Medicine | Brigham and Women's Hospital

***Harvard Medical School Center for Primary Care Innovation Fellows Program***

Mentor: Somava Stout, MD, Instructor in Medicine, Cambridge Health Alliance; Yamini Saravanan, MD, Instructor in Medicine, Cambridge Health Alliance; and Barbara R. Gottlieb, MD, Associate Professor of Medicine, Brigham and Women's Hospital

**Project Title:** Students as Health Coaches and Change Agents at Brookside Community Health Center

**Project Description:** Our project helped to identify Brookside's "high risk" diabetic patients and had student health coaches help these patients set health goals and understand their illnesses and medications. Patients have most commonly set goals around diet and exercise, mental health and medication adherence and understanding. Students have identified common barriers to meeting these goals, including lack of health literacy, pain and depression. The students will help to develop patient-centered improvements including identifying high yield health coaching interventions and improving coordination of care. The students will measure changes in patient satisfaction, patient confidence, attitude toward encounters with health providers, and relevant clinical markers (HbA1c, BMI, and blood pressure) among those who received health coaching.

**Poornima Kumar, PhD,** Instructor in Psychiatry | McLean Hospital

***McLean Hospital Fellowship***

Mentor: Diego Pizzagalli, PhD, Professor of Psychiatry, McLean Hospital

**Project Title:** The Relationship between Reinforcement Learning Abnormalities and the Emergence of Depressive Symptomology

**Project Description:** Major Depressive Disorder (MDD) is characterized by reduced reward- and increased punishment-learning. Interestingly, reduced reward-learning is reported to persist after remission, whereas punishment processing normalizes when symptoms abate, suggesting that abnormal reward-learning might represent a trait characteristic of MDD. One of the critical risk factors for depression is the presence of subclinical depressive symptoms (dysphoria). The aim of the study is to utilize a combination of electroencephalography (EEG) data during a reinforcement-learning task and state-of-art computational model in dysphorics, currently depressed and healthy individuals. Results will improve our understanding of learning deficits in depression, contributing to the development of early therapeutic interventions.

**Kristen Leeman, MD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Carla Kim, PhD, Associate Professor of Genetics, Boston Children's Hospital

**Project Title:** Regulation of Lung Stem Cell Differentiation in Bronchopulmonary Dysplasia

**Project Description:** Bronchopulmonary dysplasia (BPD) is an important neonatal chronic lung disease leading to lifelong significant morbidities. While defective endogenous lung stem cells are likely at the root of BPD, this may occur as a consequence of defective signaling or structural support provided to stem cells by their microenvironment. I hypothesize that neonatal lung stem cell differentiation is regulated by cell autonomous and microenvironmental factors. This work will be the first to characterize neonatal lung stem cell functions before and after injury and to discover new factors that influence differentiation, leading to potential therapeutic opportunities via stimulation of endogenous progenitor cells.

**Sarah Little, MD,** Instructor in Obstetrics, Gynecology, and Reproductive Biology | Brigham and Women's Hospital

***Brigham and Women's Hospital Obstetrics and Gynecology Foundation Fellowship***

Mentor: Julian Robinson, MD, MB, BS, Associate Professor of Obstetrics, Gynecology, and Reproductive Biology, Brigham and Women's Hospital

**Project Title:** Clinical Predictors of Spontaneous Labor at Term

**Project Description:** We are looking at the clinical predictors of spontaneous labor at term in both a retrospective and prospective fashion. Our goal is to create a predictive model that could be used as a tool in clinical practice for counseling patients about their weekly risk of spontaneous labor. Ultimately, this predictive model may also be used to aid in decision-making about elective inductions at term.

**Carrie Lubitz, MD, MPH,** Assistant Professor of Surgery | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

**Project Title:** Clinical Utility and Cost-effectiveness of a Novel Blood-Based Assay for Circulating BRAFV600E in Patients with Papillary Thyroid Carcinoma

**Project Description:** We aim to apply targeted molecular diagnostic testing to identify thyroid cancer patients who are likely to benefit from more aggressive interventions. The BRAF+ mutation is found in over 50% of papillary thyroid cancer patients and is associated with a poor prognosis. In preliminary data, our group has demonstrated the feasibility of utilizing a blood-BRAF assay in patients with thyroid disorders. A quantitative assay could enhance risk stratification to treatment, assessment of treatment response and improve surveillance following targeted therapies. A sensitive blood-based assay for tumor BRAF+ status may enable more targeted and efficient management of patients with PTC, and ultimately lead to improved patient outcomes.

**Enid Martinez, MD,** Instructor in Anaesthesia | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Nilesh M. Mehta, MD, MB, BS, Associate Professor of Anaesthesia

**Project Title:** Optimizing Measures of Gastric Emptying in Mechanically Ventilated Children

**Project Description:** Delayed gastric emptying is associated with increased risk for aspiration, ventilator-associated pneumonia, and suboptimal enteral nutrition in mechanically ventilated children. Accurate bedside measures of gastric emptying are lacking in this cohort. Identifying accurate bedside measures of gastric emptying facilitate safe provision of optimal enteral nutrition, reduce the risk for respiratory complications, and may improve patient outcomes. In this prospective pilot study, we will compare gastric residual volume, the most common proxy measure for gastric emptying, to a gold-standard, the paracetamol absorption test in mechanically ventilated children. We will also examine the endocrine response to delayed gastric emptying in this cohort.

**Mohamed Masoud, DMSc, BDS,** Lecturer on Developmental Biology | Harvard School of Dental Medicine

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

Mentor: Katherine W. L. Vig, BDS, Member of the Faculty of Developmental Biology, Harvard School of Dental Medicine

**Project Title:** Three Dimensional Dentofaical Photogrammetry: A Novel Approach to Orthodontic Diagnosis—Age and Race Specific Standards

**Project Description:** Orthodontic diagnosis and planning depend heavily on a two-dimensional radiographic exposure of the entire skull (cephalometric radiograph) that is used to determine the position and orientation of the jaws and teeth relative to the cranial base. We have developed a novel, non-radiographic method that involves three-dimensional dentofacial stereo photogrammetry to determine the position and orientation of dental and facial structures relative to the eyes and natural head position. We have developed adult reference values and validated them on an orthodontic population. The objectives of this study are to establish and validate age and race specific reference values for this method.

**Collin May, MD,** Instructor in Orthopedic Surgery | Boston Children's Hospital

***Boston Children's Hospital Musculoskeletal Career Development Fellowship***

Mentor: Daniel Hedequist, MD, Associate Professor of Orthopedic Surgery, Boston Children's Hospital and Benjamin Shore, MD, MPH, Assistant Professor of Orthopedic Surgery

**Project Title:** Identifying Children at Risk for Development of Post-Traumatic Stress Disorder (PTSD) after Surgery for Musculoskeletal Trauma

**Project Description:** The purpose of this project is to test the psychometric properties and ability of the Child Stress Disorders Checklist, Short Form (CSDC-SF) to predict the development of Post-traumatic Stress Disorder (PTSD) in children who have suffered acute musculoskeletal trauma. We hypothesize that the CSDC-SF will demonstrate a cutoff value that will accurately predict PTSD risk. If true, the CSDC-SF could then be used to inform future intervention trials aimed at halting the development of PTSD in this vulnerable population. We additionally aim to evaluate the prevalence of PTSD in this population, and the functional consequences of PTSD on recovery.

**Maitreyi Mazumdar, MD, MPH,** Assistant Professor of Neurology | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: David Christiani, MD, Professor of Medicine, Massachusetts General Hospital

**Project Title:** Why Does Environmental Arsenic Exposure Decrease the Effect of Folic Acid in Spina Bifida Prevention? Investigating Gene-Environment Interactions.

**Project Description:** To better understand the molecular mechanisms linking environmental arsenic exposure and spina bifida, we will examine the role that gene variants play in modifying the adverse effects of arsenic by considering gene-environment interactions. These studies will use data and samples collected in a recently completed epidemiological study in rural Bangladesh that demonstrated decreased effectiveness of folic acid in areas with high levels of arsenic exposure due to contaminated drinking water.

**Rebecca Miksad, MD,** Assistant Professor of Medicine | Beth Israel Deaconess Medical Center

***Dr. Lynne Reid/Drs. Eleanor and Miles Shore Fellowship***

Mentor: G. Scott Gazelle, MD, MPH, PhD, Professor of Radiology, Massachusetts General Hospital and Lowell E. Schnipper, Theodore W. and Evelyn G. Berenson Professor of Medicine, Beth Israel Deaconess Medical Center

**Project Title:** Optimizing Liver Cancer Treatment: A Model to Facilitate Decision-Making

**Project Description:** The overall goal of the proposed research is to improve survival for hepatocellular cancer (HCC) by identifying the optimal treatment for each patient. The prognosis of HCC is poor (average 5-year survival is 12%) and, in contrast to most cancers, mortality is increasing. Because HCC generally develops in cirrhotic livers, liver dysfunction often complicates the disease course. A range of treatments are available (resection, transplantation, liver directed therapy [chemoembolization, radiofrequency ablation and radiation] and systemic therapy). However, comparative data is limited. Through detailed computer modeling, this research aims to compare long-term outcomes in order to identify ideal treatment strategies.

**Caroline Mitchell, MD,** Assistant Professor of Obstetrics, Gynecology, and Reproductive Biology | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

**Project Title:** Identifying Vaginal Lactobacillus Species with Probiotic Potential

**Project Description:** Vaginal colonization with Lactobacillus has been associated with lower rates of recurrent bacterial vaginosis (BV), preterm birth, HIV-1 acquisition and higher rates of pregnancy during in vitro fertilization. However, trying to promote vaginal health with Lactobacillus probiotics has not been widely successful. We will use in vitro models to characterize the functional profile of Lactobacillus isolates that have been proven to be beneficial in vivo, to a) allow better selection of isolates to use as probiotics and b) identify the pathways through which lactobacilli promote reproductive health.

**Elizabeth Morgan, MD,** Assistant Professor of Pathology | Brigham and Women's Hospital

***Brigham and Women's Hospital Department of Pathology Fellowship***

Mentor: Danny Milner, MD, MSc, FCAP, Associate Professor of Pathology, Brigham and Women's Hospital and David M. Weinstock, MD, Associate Professor of Medicine, Dana-Farber Cancer Institute

**Project Title:** Defining the Histologic and Molecular Epidemiology of Lymphoma among HIV-Infected Patients in Malawi

**Project Description:** The histologic and molecular epidemiology of non-Hodgkin lymphoma in HIV-infected patients in resource-poor countries is relatively unknown. By leveraging existing relationships with the University of Malawi College of Medicine (UOMCOM) in Africa, we will utilize the Nanostring nCounter platform to perform state-of-the-art gene expression profiling on formalin-fixed lymphoma specimens from Malawian patients. This genetic analysis is unprecedented for lymphomas from the developing world and will permit integrated analyses to establish: 1) quantitative molecular profiling of multiple lymphoma subtypes in this population, 2) differences between lymphomas from HIV-infected and uninfected patients, and 3) associations between specific gene alterations and demographic factors.

**Akito Nakagawa, PhD,** Instructor in Anaesthesia | Massachusetts General Hospital

***Massachusetts General Hospital Department of Anaesthesia Fellowship***

Mentor: Warren M. Zapol, MD, Reginald Jenney Professor of Anaesthesia, Massachusetts General Hospital

**Project Title:** Development of Small Molecules that Reduce Erythrocyte Sickling

**Project Description:** Sickle cell disease is an inherited disorder of hemoglobin that affects millions of people throughout the world. Under hypoxic conditions, deoxygenated sickle hemoglobin (deoxyHbS) polymerizes to distort sickle red blood cells into a rigid and sickled shape. Sickle red blood cells cause occlusion and thrombosis in small blood vessels to induce pain and organ damage. To reduce sickling, we will develop disulfides that increase oxygen affinity of hemoglobin to reduce deoxyHbS and identify small molecules that directly inhibit polymerization of deoxyHbS. The developed compounds will have a therapeutic potential for treating sickle cell disease.

**Karen O'Brien, MD,** Instructor in Obstetrics, Gynecology, and Reproductive Biology | Beth Israel Deaconess Medical Center

***Beth Israel Deaconess Medical Center Department of Obstetrics, Gynecology, and Reproductive Biology Fellowship***

Mentor: Steven Ralston, MD, Associate Professor of Obstetrics, Gynecology, and Reproductive Biology, Beth Israel Deaconess Medical Center

**Project Title:** Video-Based Genetic Counseling Aid to Improve Patient Understanding of Genetic Testing Options in Pregnancy

**Project Description:** All pregnant patients are offered testing for aneuploidy (specifically, trisomies 21, 18, 13). Counseling about testing options is complex for patients and redundant for providers. Patient-centered educational videos will be created to explain testing options in English, Spanish, Portugese, Mandarin, and Cantonese. We will be examining whether patient viewing of the videos improves understanding and clinic workflow. A resident project will study whether physician viewing of the video improves counseling.

**Frances O'Hare, MD,** Assistant Professor of Medicine | Brigham and Women's Hospital

***Harvard Medical School Center for Primary Care Innovation Fellows Program***

Mentor: Somava Sout, MD, Instructor in Medicine, Cambridge Health Alliance

**Project Title:** Transition to Adult Care

**Project Description:** Over 90% of children with a chronic medical condition or developmental disability survive to adulthood, yet fewer than half of these youth receive the services necessary for a successful transition to adulthood. At Boston Children's Hospital we are developing process improvements to better facilitate the transition from pediatric to adult primary care. Our innovations include a team-based approach to young adult care, a process for transferring care, and an online resource directory.

**Lydia Pace, MD,** Instructor in Medicine | Brigham and Women's Hospital

***Brigham and Women's Hospital Department of Medicine Fellowship***

Mentor: Dr. Nancy Keating, MD, Professor of Health Care Policy, Harvard Medical School

**Project Title:** Early Impact of the Affordable Care Act on Contraceptive Cost-Sharing and Use among Privately-Insured Women in the United States

**Project Description:** Over half of all pregnancies in the United States are unintended, with serious consequences for the health of women and children, particularly women with chronic conditions such as diabetes and hypertension. Decreasing barriers to highly effective long-acting reversible contraceptive (LARC) methods, and promoting consistent use of short-acting methods, could help prevent unintended pregnancies. The Affordable Care Act (ACA) required most private insurance plans to cover contraception without cost-sharing as of January 1, 2013. This project will examine the early impact of the ACA on contraceptive cost-sharing, adherence, and use of LARC, among women with and without chronic medical conditions.

**Yana Pikman, MD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Kimberly Stegmaier, MD, Associate Professor of Pediatrics, Boston Children's Hospital

**Project Title:** Targeting Mitochondrial One-Carbon Folate Metabolism for Novel Acute Myeloid Leukemia Therapy

**Project Description:** To discover novel ways to induce acute myeloid leukemia (AML) differentiation as a potential therapy, we studied gene expression changes that are common among agents that induce AML differentiation. One-carbon folate metabolism emerged as a pathway suppressed with AML differentiation, with the mitochondrial enzyme MTHFD2 consistently repressed. Furthermore, suppression of MTHFD2 causes AML differentiation and decreases leukemia burden in a mouse model of AML. This proposal aims to examine the mechanistic role of MTHFD2 in AML and to develop and implement a screening assay for MTHFD2 inhibitors. The ultimate goal of the project is to develop novel therapies for AML.

**William Porcaro, MD, MPH,** Instructor in Emergency Medicine| Mount Auburn Hospital

***Mount Auburn Hospital Department of Emergency Medicine Faculty Development Fellowship***

Mentor: Gary Setnik, MD, Assistant Professor of Emergency Medicine, Mount Auburn Hospital

**Project Title:** Early Goal Directed Therapy in Sepsis by EMS

**Project Description:** We will compare EMS-directed identification, hospital notification, and therapy for severe sepsis to current EMS standard of care for sepsis. The project wii investigate the effect of an EMS-directed sepsis protocol on emergency department time-to-antibiotics and the effect of EMS-directed sepsis protocol on patient mortality. Our study will test the hypothesis, in a prospective natural control fashion, whether an EMS-based sepsis protocol including point-of-care (POC) lactate testing, early emergency department notification, and more aggressive prehospital intravenous fluid administration, improves outcomes in severe sepsis and septic shock.

**Camilla Richmond, MD, MA,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: David T. Breault, PhD, MD, Assistant Professor of Pediatrics, Boston Children's Hospital

**Project Title:** The Regenerative Role of Intestinal Stem Cells in Inflammation

**Project Description:** The acute and chronic inflammation associated with inflammatory bowel disease (IBD) leads to intestinal architectural distortion, thought to be due to the activation of progenitor/stem cells in the intestinal epithelium, however few tools have existed to study this until now. Because dormant intestinal stem cells (dISCs) are highly resistant to injury, we hypothesize that these cells are also resistant to inflammation-induced damage and will play an essential role during the regenerative response. We further hypothesize that the molecular and cellular mechanisms responsible for dISC activation and regeneration in response to pathologic stress (inflammation) may be similar to those seen during physiologic stress (fasting), and therefore potentially universal.

**Arnold Sansevere, MD,** Instructor in Neurology | Boston Children's Hospital

***Boston Children's Hospital Department of Neurology Faculty Development Fellowship***

Mentor: Phillip Pearl, MD, Professor of Neurology, Boston Children's Hospital

**Project Title:** Seizure Prediction and Development of Individualized Monitoring Strategies in Critically Ill Neonates and Children Undergoing Continuous Electroencephalogram Monitoring in the Intensive Care Unit

**Project Description:** Continuous electroencephalography (cEEG) is the gold standard for monitoring cerebral function in critically ill neonates and children. These patients are at high risk of electrographic seizures which affect 10-50 % of patients monitored with cEEG (1-6, 7, 8, 10-14, 20, 21, 23). Recent studies suggest that degree of seizure burden affects neurologic outcome and status epilepticus impacts mortality (1-6, 13-18, 20). Despite its necessity, cEEG is labor and resource intense (9, 22). This study will focus on development of seizure prediction algorithms using clinical and EEG features to allow centers with limited resources to better serve critically ill neonates and children.

**Ritu R. Sarin, MD,** Instructor in Emergency Medicine | Beth Israel Deaconess Medical Center

***Beth Israel Deaconess Medical Center Department of Emergency Medicine Fellowship***

Mentor: Richard Wolfe, MD, Associate Professor of Emergency Medicine, Beth Israel Deaconess Medical Center

**Project Title:** Public Health Impact of Winter Storms in New England Over Time

**Project Description:** Our global climate is changing and having an impact on public health internationally, especially heat-related morbidity and mortality. The question arises if winter storms have also had a changing impact on public health over time. This study is a retrospective review of data looking at change over time (1970–2013) in New England in morbidity and mortality linked to winter storms, specifically looking at carbon monoxide exposure, hypothermia and frostbite using ICD-9 codes. This has implications in public health mitigation, prevention and education for a region that is affected by winter storms for up to six months of the year.

**Kori Sauser, MD,** Instructor in Emergency Medicine | Massachusetts General Hospital

***Massachusetts General Hospital Department of Emergency Medicine Fellowship***

Mentor: Joshua N. Goldstein, MD, PhD, Associate Professor of Emergency Medicine, Massachusetts General Hospital

**Project Title:** Hospital Performance on Emergent Ischemic Stroke Care: Characterizing Quality Translation in the Partners Telestroke Network

**Project Description:** In response to wide hospital-level variation in care received by acute ischemic stroke (AIS) patients, the Partners telestroke network connects 31 smaller spoke hospitals to 2 central hubs. We hypothesize that as hub and spoke hospitals interact, quality translates outward to spoke hospitals. This project will utilize the Partners telestroke data to determine whether greater hub-spoke connectedness is associated with higher performance at spoke hospitals. Secondarily, we will examine characteristics that lead to spoke hospital improvement. This work will inform our understanding of how quality spreads between hospitals and set a platform for future AIS quality improvement work.

**Sara Selig, MD,** Instructor in Medicine | Brigham and Women's Hospital

***Harvard Medical School Fellowship in Honor of Dr. S. Jean Emans***

Mentor: Sonya Shin, MD, Associate Professor of Medicine, Brigham and Women's Hospital

**Project Title:** Understanding Community Needs: Decreasing Cancer Morbidity and Mortality in Navajo Nation

**Project Description:** American Indians and Alaska Natives (AI/ANs) have the lowest cancer survival rates of any racial group in the United States. Specifically in Navajo Nation, the largest federally recognized tribe in the United States, multiple cancers are diagnosed at later stages than in non-Hispanic whites. We hypothesize that the lack of culturally and socially informed healthcare delivery contributes to excess cancer morbidity and mortality. We seek funding to carry out the following aims:

1) Understand the Navajo community perspective with regard to barriers to reducing cancer morbidity and mortality in Navajo Nation;
2) Identify barriers and facilitators associated with effective cancer care;
3) Engage patients and family members in the research process.

**Arshiya Seth, MB, BS,** Instructor in Medicine | Cambridge Health Alliance

***Harvard Medical School Center for Primary Care Innovation Fellows Program***

Mentor: Somava Stout, MD, Instructor in Medicine, Cambridge Health Alliance and Paul John Allen, MD, Instructor in Medicine, Cambridge Health Alliance

**Project Title:** Improving Patient Experience of Care and Staff Experience of Care at Somerville Hospital Primary Care, Cambridge Health Alliance

**Project Description:** SHPC endeavors to improve the Patient's Experience of Care (PEOC) and transform the work experience for our staff thus creating customer loyalty, patient retention, satisfied employees and improvement in financial stability of the institution. We recognize the strong relationship between staff engagement and PEOC and have directed our efforts on improving PEOC and SEOC simultaneously. We conducted 14 hours of workshops focused on "AIDET (Acknowledge—Introduce—Duration—Explanation—Thank you)," keywords at key times, Managing up, reducing patient anxiety, implementing Service Recovery, engaging employees, team building, exercises on walking in patient's footsteps, and understanding and measuring patient satisfaction.

**Lucy Shen, MD,** Assistant Professor of Ophthalmology | Massachusetts Eye & Ear

***Massachusetts Eye and Ear Fellowship***

Mentor: Louis Pasquale, MD, Professor of Ophthalmology, Massachusetts Eye & Ear and Joan Miller, MD, Henry Willard Williams Professor of Ophthalmology, Massachusetts Eye & Ear

**Project Title:** Redefining Glaucomatous Optic Neuropathy with OCT Imaging

**Project Description:** Glaucoma, the second leading cause of blindness in the US, is characterized by progressive and irreversible damage of the optic nerve and associated vision loss. We aim to understand more about the pathogenesis of glaucoma by imaging the optic nerve head with novel imaging technology, such as swept-source optical coherence tomography. The imaging technology enables us to visualize different patterns of damage at the optic nerve head in three dimensions at 5–10 micron resolution. The insight gained from imaging studies will help to identify patients at risk for developing debilitating vision loss from glaucoma and monitor disease progression more effectively.

**Andrew Siedlecki, MD,** Instructor in Medicine | Brigham and Women's Hospital

***Brigham and Women's Hospital Faculty Development Fellowship***

Mentor: Joseph V. Bonventre, PhD, MD, Samuel A. Levine Professor of Medicine, Brigham and Women's Hospital

**Project Title:** Artery-Derived Progenitor Cells for the Treatment of Renal Hyperperfusion Injury

**Project Description:** At any given time 200,000 patients with a surgically removed kidney participate in the U.S. healthcare system and more than 30% of these patients have progressive kidney disease. The overarching goal of this proposal is to better understand how the kidney as an organ responds to damage by utilizing a progenitor cell population to generate new blood vessels.

**Nicole Tolan, PhD,** Instructor in Pathology | Beth Israel Deaconess Medical Center

***Beth Israel Deaconess Medical Center Department of Pathology Fellowship***

Mentor: Gary Horowitz, MD, Associate Professor of Pathology, Beth Israel Deaconess Medical Center

**Project Title:** Development of a Comprehensive Drug Testing System for Pain Management Patients

**Project Description:** With the opiate addition crisis we are currently facing, particularly in and around the Boston area, our healthcare workers play an important role in ensuring appropriate prescribing, but also in monitoring the use of these narcotics. The goal of this work is to develop an institutional-wide comprehensive drug testing system to fully support our physicians caring for patients in pain management programs. These patients are not being effectively monitored using immunoassay screening tests alone, which were developed for detecting compounds at lethal concentrations in those patients presenting with overdose or toxicity. Patients seen for pain management should be tested for compliance with their pain clinic contract with urine drug testing methods that are more sensitive and specific than the current immunoassay methods available at most institutions (including our own).

**Ruobing Wang, MD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Craig Gerard, MD, PhD, Leila and Irving Perlmutter Professor of Pediatrics, Boston Children's Hospital and Norma Gerard, PhD, Professor of Medicine, Beth Israel Deaconess Medical Center

**Project Title:** Targeting Complement Anaphylatoxin C5a Receptor in Methicillin-Resistant Staphylococcus Aureus (MRSA) Pneumonia

**Project Description:** Methicillin-resistant Staphylococcus aureus strains (MRSA) have become a formidable cause of severe community-acquired pneumonia. The majority (90%) of the community acquired MRSA isolates carry the gene encoding Panton-Valentine leukocidin (PVL), a pore-forming toxin that lyses polymorphonuclear leukocytes. The role of PVL on pathogenicity of MRSA pneumonia is heavily debated. However, though human neutrophils are susceptible to PVL, the neutrophils of mice are resistant. Therefore, it is difficult to study the role of this toxin in staphylococcal pathogenesis without a well-characterized animal model. It was shown recently that human C5a receptors, C5aR and C5L2, are essential receptors for the PVL toxin. We have generated a human C5aR knock-in (hC5aR-KI) mouse strain to study the pathogenicity of PVL both in vitro and in vivo. My project focuses on studying the role of PVL in MRSA pneumonia, and evaluating the efficacy of a C5aR antagonist in ameliorating MRSA pneumonia severity.

**Fan Zhang, PhD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Richard Malley, MD, Professor of Pediatrics, Boston Children's Hospital

**Project Title:** Multiple Antigen Presenting System for Eliciting Optimal B- and T-cell Immunity Against Staphylococcus Aureus

**Project Description:** Staphylococcus aureus (SA) is an important human pathogen that causes a variety of diseases. Increased rate of multi-drug resistance further complicates the treatment of SA infection. Despite extensive effort, all previous clinical trials of SA vaccine have failed. There is an urgent need for novel vaccination strategy. Recent studies suggest an important role of T-cell immunity in protection against SA. We propose to design a multi-component SA vaccine using our novel multiple antigen presenting system which could elicit prominent antibody, Th1 and Th17 responses to the target antigens, and to evaluate its efficacy in various SA infection models.

# *2015 Continuing Fellows in their 2nd year of funding*

**Leslie Benson, MD,** Instructor in Neurology | Boston Children's Hospital
***Boston Children's Hospital Faculty Career Development Fellowship***
Mentors: Mark Gorman, MD, Assistant Professor of Neurology, Boston Children's Hospital; Gena Heidary, MD, PhD, Instructor in Ophthalmology, Boston Children's Hospital; and Scott Pomeroy, MD, PhD, Head of the Department of Neurology and Bronson Crothers Professor of Neurology, Boston Children's Hospital

**Project Title:** Longitudinal Study of Optical Coherence Tomography in Pediatric Multiple Sclerosis
**Project Description:** Pediatric onset multiple sclerosis (POMS) occurs in up to 5% of multiple sclerosis (MS) patients. POMS patients reach similar disability levels at a younger age than adults, making neuro-protection an important treatment goal to reduce disability; however, there are no currently available neuro-protective therapies. Retinal nerve fiber layer thickness (RNFLT) measured by optical coherence tomography is an important biomarker of neuro-degeneration in adult MS research with little known about it in POMS. We will follow RNFLT annually in POMS to improve our understanding of the pathophysiology of neuro-degeneration in these patients and its value as a potential diagnostic and therapeutic biomarker.

**Nathalie Bloch, MD,** Instructor in Medicine, Part-time | Mount Auburn Hospital
***Harvard Center for Primary Care Senior Innovation Fellow Program***
Mentor: Beth Lown, MD, Associate Professor of Medicine, Mount Auburn Hospital and Somava Stout, MD, Instructor in Medicine, Cambridge Health Alliance

**Project Title:** Group Discussions Around End of Life
**Project Description:** Public opinion surveys in the United States indicate that if given the choice, most people would prefer to die at home if they were terminally ill. Despite this indication; in actuality, most people die in an institutional setting. In addition, Medicare spends more on beneficiaries in their last year of life, with the last month of life being particularly expensive. We believe that initiating conversations about end-of-life care early enough in the familiar setting of the PCP office with the input of other patients who can share their own experiences/ values and with the engagement of the family, as well as the other health care providers (social worker, case manager, and nurse practitioner), can improve the patients' experience and their attitude regarding their own health as it is measured by the Patient Activation Measure (PAM). We also hope that the intervention will increase the rate at which patients and their families sign Advance Directive and HCP forms.

**Sangita Choudhury, PhD,** Instructor in Pediatrics | Boston Children's Hospital
***Boston Children's Hospital Faculty Career Development Fellowship***
Mentor: Bernhard Kuhn, MD, Assistant Professor of Pediatrics, Boston Children's Hospital

**Project Title:** PBK a PDZ Binding Domain Kinase Controls Cardiomyocyte Proliferation and Thereby Myocardial Growth and Regeneration
**Project Description:** Congenital heart disease is the most common birth defect and is often associated with heart failure. Identifying molecular mechanisms that control cardiomyocyte (CM) proliferation is crucial for advancing strategies to stimulate myocardial regeneration. Using an innovative single-cell approach, I have identified new genes for regulating CM proliferation. Functional characterization of these candidates points to PDZ Binding domain Kinase (PBK) as an inducer of CM proliferation. I will elucidate the function of PBK in cardiomyocyte proliferation and cardiac regeneration. Based on my preliminary results, I propose the central hypothesis that PBK controls cardiomyocyte proliferation and thereby myocardial growth and regeneration.

**Sharon Dekel, PhD,** Instructor in Psychology in the Department of Psychiatry | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

Mentor: Roger Pitman, MD, Professor of Psychiatry, Massachusetts General Hospital

**Project Title:** Oxytocin-Based Therapy for Preventing Postpartum Depressive and PTSD Symptoms? Testing a Novel Treatment

**Project Description:** Peripartum depression (PPD) is a debilitating and highly prevalent disorder with little effective means of prevention. Posttraumatic Stress Disorder (PTSD) symptoms may co-occur. Impairment in infant-mother bonding is a hallmark of PPD and worsens with co-morbid symptoms. Endogenous oxytocin (OXT) enhances maternal bonding, suggesting that OXT deficiency may underline bonding impairments in postpartum depression. Here we propose a novel treatment approach to enhance bonding and prevent PPD and PTSD symptoms. We will examine the effects of intranasal OXT administered during the first five postpartum days on bonding, depression, and PTSD symptoms at 1-month in a sample of postpartum women at risk for bonding failure and postpartum symptomatology, using a controlled randomized design.

**Gulcin Demirci, MD, PhD,** Instructor in Surgery | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

**Project Title:** The role of NRP1 for NK Cells in Organ Transplantation

**Project Description:** Natural killer (NK) cells are involved in transplant rejection as well as tolerance but mechanistic details are still not well defined. Neuropilin-1 (NRP1), originally known for its role in angiogenesis, is a co-receptor for a number of growth factors secreted during tissue injury and is expressed on NK cells. We will test the hypothesis that NRP1 mediates the migration of NK cells into allografts and facilitates the interaction of NK cells with dendritic cells and regulatory T cells on site, leading to NK cell activation or suppression and thus shaping the net outcome after transplantation.

**Sarina Elmariah, MD, PhD,** Instructor in Dermatology | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

Mentor: Ethan Lerner, MD, PhD, Associate Professor of Dermatology, Massachusetts General Hospital

**Project Title:** Group Discussions Around End of Life

**Project Description:** Public opinion surveys in the United States indicate that if given the choice, most people would prefer to die at home if they were terminally ill. Despite this indication; in actuality, most people die in an institutional setting. In addition, Medicare spends more on beneficiaries in their last year of life, with the last month of life being particularly expensive. We believe that initiating conversations about end-of-life care early enough in the familiar setting of the PCP office with the input of other patients who can share their own experiences/ values and with the engagement of the family, as well as the other health care providers (social worker, case manager, and nurse practitioner), can improve the patients' experience and their attitude regarding their own health as it is measured by the Patient Activation Measure (PAM). We also hope that the intervention will increase the rate at which patients and their families sign Advance Directive and HCP forms.

**Ali Gholipour-Baboli, PhD,** Assistant Professor of Radiology | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Simon Warfield, PhD, Professor of Radiology, Boston Children's Hospital

**Project Title:** Quantitative MRI Evaluation of Early White Matter Development and Injury

**Project Description:** In-vivo analysis of brain structure and neural connectivity is particularly important during early brain development because of the inherent incapability of the brain for self-repair and the long-term effects of neurodevelopmental disorders. Magnetic resonance imaging (MRI) is considered one of the most promising tools for the analysis of neural structure, however, MRI of early brain development is challenging due to subject motion and limited spatial resolution. This project is aimed at the development of MRI technology and resources for in-vivo analysis of normal and abnormal brain development before and early after birth when the brain undergoes its most rapid formative growth.

**Daphne Holt, MD, PhD,** Associate Professor of Psychiatry | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

Mentor: Bruce Rosen, MD, PhD, Laurence Lamson Robbins Professor of Radiology, Massachusetts General Hospital

**Project Title:** The Neural Basis of Paranoia: a PET/fMRI Study

**Project Description:** We will simultaneously measure dopamine release (using Positron Emission Tomography, PET) and brain activity (using functional Magnetic Resonance Imaging, fMRI), to better understand how excessive dopamine activity in the brain is related to abnormal fear learning and memory processes in psychosis. Dopamine release will be induced using a classical Pavlovian fear conditioning paradigm. Dopamine-induced brain activity will be measured in a fear processing network of the brain, which includes the amygdala, striatum and medial prefrontal cortex. If our hypotheses are confirmed, the findings will provide evidence for a neural mechanism linking dopamine dysregulation and impaired processing of threat in psychotic illnesses such as schizophrenia.

**Erin Janssen, MD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Raif Geha, MD, James L. Gamble Professor of Pediatrics, Boston Children's Hospital

**Project Title:** The Role of DOCK8 Deficient Lymphocytes in the Development of Autoimmunity

**Project Description:** Dedicator of Cytokinesis 8 (DOCK8) deficient patients have recurrent sinopulmonary infections, chronic viral infections, hyper-IgE, eosinophilia, food allergies, and dermatitis. Autoimmunity commonly co-exists with primary immunodeficiencies, and hemolytic anemia, vasculitis, hypothyroidism, and colitis have been reported in DOCK8 deficient patients. We have shown that DOCK8 deficiency leads to increased production of autoantibodies and a defect in the peripheral B cell checkpoint. This forms the basis for our hypothesis that defects in DOCK8 deficient lymphocytes lead to the generation of autoantibodies. To prove this, we will examine the role of Dock8-/- B and T cells in the development of autoantibodies using various mouse models.

**Akiko Mammoto, PhD,** Instructor in Surgery | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

**Project Title:** LRP5-Tie2 Signalling in Lung Vascular Regeneration

**Project Description:** The fundamental mechanisms underlying lung regeneration are not completely understood. We have reported that the Wnt co-receptor, low-density lipoprotein receptor-related protein 5 (LRP5), upregulates Tie2 expression and thereby induces lung vascular and alveolar formation in neonatal mice. We hypothesize that platelet-rich-plasma (PRP) extract stimulates angiogenesis in the lung via LRP5-Ang1/Tie2 signaling, which is necessary for subsequent lung alveolar regeneration. We aim to 1. Characterize the mechanism by which LRP5-Tie2 signaling mediates PRP extract-induced angiogenic activities in endothelial cells in vitro and 2. Analyze whether PRP extract stimulates angiogenesis in the mouse lung through LRP5-Tie2 signaling in vivo.

**Lynn Matthews, MD,** Assistant Professor of Medicine | Massachusetts General Hospital

***Claflin Distinguished Scholar Award***

Mentor: David Bangsberg, MD, Professor of Medicine, Massachusetts General Hospital

**Project Title:** Developing a Safer Conception Intervention for South African HIV-infected Men with an at-risk Partner

**Project Description:** Many men living with HIV choose to have children, yet current HIV programs rarely address prevention for people who want to conceive. We are developing a safer conception intervention in KwaZulu-Natal, South Africa to minimize transmission risk for HIV+ men who choose to conceive with HIV-uninfected or unknown status partners. We harness individual motivations to have an uninfected child as a strategy to promote HIV serostatus disclosure and safer conception practices including early ART for the infected partner. Bringing the reproductive goals of people living with HIV into the prevention agenda may address a substantial, previously unaddressed proportion of incident infections.

**Ganeshwaran Mochida, MD,** Assistant Professor of Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: Christopher Walsh, MD, PhD, Bullard Professor of Pediatrics and Neurology, Boston Children's Hospital

**Project Title:** Genetic Basis and Cellular Models of Abnormal Human Cerebellar Development

**Project Description:** This proposed research project aims to further our ongoing effort in identifying novel genes that cause malformations of the cerebellum when mutated. We will enroll individuals and families with cerebellar malformations, and sequence their genomes using high-throughput DNA sequencing. Once we identify a causative gene mutation, we aim to generate induced pluripotent stem cells (iPSCs) from the affected individual's blood cells. Despite originating from non-neuronal cells, iPSCs have the capacity to differentiate into neurons, and thus allow us to study neuronal cells from the individuals with a mutation of interest. We propose to study how these cells with a particular mutation proliferate and express different sets of genes, compared to normal cells.

**Mehdi Moghari, PhD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentors: Tal Geva, MD, Professor of Pediatrics, Boston Children's Hospital and Andrew Powell, MD, Associate Professor of Pediatrics, Boston Children's Hospital

**Project Title:** Creation of 3D Virtual and Physical Heart Models to Guide Cardiac Surgery for Children with Double Outlet Right Ventricle

**Project Description:** Surgeons who operate on children born with heart defects rely on the integration of 2D images to build a mental 3D picture of the heart. This often leads to a suboptimal understanding of the 3D spatial relationship of heart structures. We propose to address this issue by creating virtual and physical heart models from cardiovascular magnetic resonance (CMR) images. To accomplish this, two principal hurdles must be overcome: 1) acquisition time of CMR images should be reduced, and 2) the time to segment solid parts of the heart from the blood for building the models needs to be shortened.

**Meena Nathan, MB, BS,** Instructor in Surgery | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentors: Pedro Del Nido, MD, William E. Ladd Professor of Child Surgery, Boston Children's Hospital and Jane Newburger, MD, Commonwealth Professor of Pediatrics, Boston Children's Hospital

**Project Title:** Technical Performance Score—A Quality Assessment Tool in Congenital Cardiac Surgery

**Project Description:** Many factors determine optimal outcomes in congenital cardiac surgery. Among these, the adequacy of repair may be one of the most important. Technical Performance Scores (TPS) is a novel tool for assessing adequacy of repair based on widely available clinical and echocardiographic characteristics. The primary aim of the proposed multicenter prospective study is to analyze the predictive power of TPS, on early and late outcomes (such as occurrence of postoperative adverse events, resource utilization, late mortality, and unplanned late re-interventions) in a well-defined subset of congenital cardiac operations that are commonly performed with relatively similar operative techniques across institutions.

**Christos Papadelis, PhD,** Instructor in Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentors: P. Ellen Grant, MD, Associate Professor of Radiology, Boston Children's Hospital and Yoshio Okada, PhD, Clinical Professor of Pediatrics, Boston Children's Hospital

**Project Title:** Interictal High Frequency Oscillations as Biomarker of Epilepsy in Children

**Project Description:** One out of three children with epilepsy continues to have seizures despite medication and eventually needs surgery. Crucial to surgery's success is the availability of a measurement that reliably identifies the brain region that generates the seizures. High frequency oscillations (HFOs) have emerged as a promising biomarker for the localization of the epileptogenic zone, but they are not yet suited for clinical practice. Our aim is to non-invasively localize the HFOs generators by using our unique pediatric magnetoencephalography system. If successful, this will limit invasive recordings leading to significant improvement of the presurgical evaluation procedure and the patients' surgical outcome.

**Tracy Richmond, MD,** Assistant Professor of Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentor: S. Jean Emans, MD, Chief, Division of Adolescent Medicine and Professor of Pediatrics, Boston Children's Hospital

**Project Title:** The Impact of School and Neighborhood Social Capital on Substance Use in Urban Youth

**Project Description:** Though schools and neighborhoods are known to influence youth behaviors and outcomes generally and substance use more specifically, research is lacking on their simultaneous and relative importance. We aim to use a large multi-ethnic longitudinal cohort, the Healthy Passages cohort, in an effort to understand the relative influence of schools and neighborhoods on youth tobacco, alcohol, and marijuana use. We will also examine schools and neighborhoods in combination with familial and peer influences. As a secondary aim, we will examine the impact of a pro-social influence—social capital—at both the school and neighborhood level on youth substance use.

**Yamini Saravanan, MD,** Instructor in Medicine | Cambridge Health Alliance

***Harvard Center for Primary Care Innovation Fellow Program***

Mentors: Erin Sullivan, PhD, Lecturer on Global Health and Social Medicine and Research and Curriculum Director, Leadership Institute, Harvard Medical Center for Primary Care; Patrick Lee, MD, Assistant Professor or Medicine, Cambridge Health Alliance; and Anne Fabiny, MD, Assistant Professor of Medicine, Cambridge Health Alliance

**Project Title:** Where is the Patient's Voice? Using Patient Stories to Understand the Health Care Experiences and Needs of Complex Patients

**Project Description:** Five percent of the population account for approximately fifty percent of the total healthcare costs in this country. There is a gap in knowledge about the needs of this patient population because these patients continue to perceive their health as poor in spite of such high healthcare utilization. This project aims to share the stories of 12 patients, part of a Medicaid subsidiary, who visited the Emergency Department more than 15 times in a 4 month period. This project explores the emergent themes from these patient stories and discusses the relevance of using stories to better capture the needs of such high-risk patients.

**Mary Beth Son, MD,** Assistant Professor of Pediatrics | Boston Children's Hospital

***Boston Children's Hospital Faculty Career Development Fellowship***

Mentors: Karen Costenbader, MD, Associate Professor of Medicine, Brigham and Women's Hospital and Raif Geha, MD, James L. Gamble Professor of Pediatrics, Boston Children's Hospital

**Project Title:** Outcomes of Recently Transitioned Adult Patients with Systemic Lupus Erythematosus

**Project Description:** Effective transition of care of patients with childhood-onset systemic lupus erythematosus (cSLE) to adult providers is complicated by high disease activity as well as the fact that minorities, a population disproportionately affected by cSLE, are at elevated risk for lack of transition preparedness. We hypothesize that risk factors for poor transition of care in young adults with cSLE will include increased disease activity, lower level of education and family income, and minority race/ethnicity. Study of the experience of transition in a young adult cohort will inform the design of a patient-centered transition program between BCH Rheumatology and BWH Rheumatology Programs and enable research of long term outcomes of patients with cSLE.

**Peggy Wu, MD,** Assistant Professor of Dermatology | Beth Israel Deaconess Medical Center

***Beth Israel Deaconess Medical Center Department of Dermatology Fellowship***

Mentor: Robert S. Stern, MD, Head of the Department of Dermatology and Carl J. Herzog Professor of Dermatology, Beth Israel Deaconess Medical Center

**Project Title:** Characterizing Incidence, Risk Factors, and Prognosis of Skin Cancer in Hematopoietic Cell Transplant Patients

**Project Description:** Hematopoietic cell transplants (HCT) have become a life saving procedure; in 2006 over 50,417 persons worldwide received stem cell transplants. For these patients, secondary skin malignancy is a source of disfigurement, decreased quality of life, and sometimes mortality. My project will quantify the incidence and prognosis of melanoma, squamous cell carcinoma, and basal cell carcinoma in allogeneic HCT patients from

Beth Israel Deaconess Medical Center, Dana Farber Cancer Institute, and an international database. By also characterizing the effect of factors including conditioning regimen, graft source, graft-versus-host disease, and medications, I seek to improve the outcomes for these patients.

**Elaine Yu, MD,** Assistant Professor of Medicine | Massachusetts General Hospital
***Claflin Distinguished Scholar Award***
Mentors: Mary Bouxsein, PhD, Associate Professor of Orthopedic Surgery, Beth Israel Deaconess Medical Center and Joel Finkelstein, MD, Associate Professor of Medicine, Massachusetts General Hospital

**Project Title:** Bone Loss and Changes in Bone Marrow Adiposity After Roux-en-Y Gastric Bypass
**Project Description:** The goal of this project is to prospectively evaluate the skeletal health and bone marrow adiposity of morbidly obese adults undergoing bariatric surgery while also investigating mechanisms contributing to changes in marrow fat after bariatric surgery. Using proton magnetic resonance spectroscopy (1H-MRS), this proposal will test innovative hypotheses about the skeletal consequences of obesity and bariatric surgery, and the complex interactions between bone marrow adiposity, bone density, and body composition.

# *2015 Fellowships by Institution*

## Beth Israel Deaconess Medical Center

***Department of Anaesthesia John Hedley-Whyte Research Fellowship***
Recipient: Jatinder Gill, MB, BS

***Department of Dermatology Fellowship***
Recipient: Peggy Wu, MD*

***Department of Emergency Medicine Fellowship***
Recipient: Ritu R. Sarin, MD

***Department of Obstetrics, Gynecology & Reproductive Biology Fellowship***
Recipient: Karen O'Brien, MD

***Department of Pathology Fellowship***
Recipient: Nicole Tolan, PhD

## Boston Children's Hospital

***Department of Neurology Faculty Development Fellowship***
Recipient: Arnold Sansevere, MD

***Faculty Career Development Fellowship***
Recipients: Leslie Benson, MD*
David Bickham, PhD
Sangita Choudhury, PhD*
Gulcin Demirci, MD, PhD*
Heon Yung Gee, MD, PhD
Ali Gholipour-Baboli, PhD*
Rachael Grace, MD
Erin Janssen, MD
Junne Kamihara, MD, PhD
Kristen Leeman, MD
Akiko Mammoto, PhD*
Enid Martinez, MD
Maitryi Mazumdar, MD, MPH
Ganeshwaran Mochida, MD*
Mehdi Moghari, PhD*
Meena Nathan, MB, BS*
Christos Papadelis, PhD*
Yana Pikman, MD
Maitreyi Mazumdar, MD
Camilla Richmond, MD, MA
Tracy Richmond, MD*
Mary Beth Son, MD*
Ruobing Wang, MD
Fan Zhang, PhD

***Musculoskeletal Career Development Fellowship***
Recipient: Collin May, MD

***Pediatric Emergency Medicine Faculty Development Award***
Recipient: Matthew Eisenberg, MD

** Denotes fellows in their second year of funding*

## Brigham and Women's Hospital

***Department of Medicine Fellowship***
Recipient: Lydia Pace, MD

***Department of Neurosurgery Fellowship***
Recipient: Ian Dunn, MD

***Department of Pathology Fellowship***
Recipient: Elizabeth Morgan, MD

***Department of Surgery Junior Fellowship in Honor of Robert T. Osteen***
Recipients: Thanh Barbie, MD

***Faculty Career Development Fellowship***
Recipients: Riley Bove, MD
Tracy Doyle, MD
Andrew Siedlecki, MD

***Obstetrics and Gynecology Foundation Fellowship***
Recipients: Deborah Bartz, MD
Liza Colimon, MD
Sarah Little, MD

## Dana-Farber Cancer Institute

***Hospital Fellowship***
Recipient: Stephanie Dougan, PhD

## Harvard Medical School

***Dr. Lynne Reid/Drs. Eleanor and Miles Shore Fellowship***
Recipient: Rebecca Miksad, MD

***Fellowship in Honor of Dr. S. Jean Emans***
Recipient: Sara Selig, MD

***Harvard Center for Primary Care, Innovation Fellows***
Recipients: Natalie Bloch, MD*
Justin Chen, MD
Marie-Louise Jean-Baptiste, MD
Rose Kakoza, MD
Bevin Kenney, MD
Frances O'Hare, MD
Yamini Saravanan, MD*
Arshiya Seth, MB, BS

## Harvard School of Dental Medicine

***Fellowship in Honor of Aina M. Auskaps, DMD***
Recipient: Mohamed Masoud, DMSc, BDS

** Denotes fellows in their second year of funding*

## Massachusetts Eye and Ear

***Alice J. Adler Fellowship of the Schepens Eye Research Institute***
Recipient: Petr Baranov, MD

***Hospital Fellowship***
Recipient: Lucy Shen, MD

## Massachusetts General Hospital

***Claflin Distinguished Scholar Award***
Recipients: Sharon Dekel, PhD*
Kamryn Eddy, PhD
Sarina Elmariah, MD, PhD*
Vicki Fung, PhD
Daphne Holt, MD, PhD*
Kate Jeffrey, PhD
Carrie Lubitz, MD
Lynn Matthews, MD*
Caroline Mitchell, MD
Elaine Yu, MD*

***Department of Anaesthesia Fellowship***
Recipient: Akito Nakagawa, PhD

***Department of Emergency Medicine***
Recipient: Kori Sauser, MD

***Department of Medicine Fellowship***
Recipient: Anna Farago, MD, PhD

***Department of Orthopedic Surgery***
Recipient: Anne Holland Johnson, MD

***Department of Surgery Faculty Development Fellowship***
Recipient: Rohit Jindal, PhD

***Dorothy Rackemann Fellowship established by the Vincent Memorial/MGH***
Recipient: Rachel Clark, MD

## McLean Hospital

***Hospital Fellowship***
Recipient: Poornima Kumar, PhD

## Mount Auburn Hospital

***Department of Emergency Faculty Development Fellowship***
Recipient: William Porcaro, MD

** Denotes fellows in their second year of funding*

## *2015 Strategy & Development Committee*

*Thank you to these individuals for assisting with the growth of the fellowship program through their service.*

**Carol K. Bates, MD,** Associate Dean for Faculty Affairs, Harvard Medical School and Associate Professor of Medicine, Beth Israel Deaconess Medical Center

**Alasdair K.T. Conn, MBChB,** Associate Professor of Surgery, Massachusetts General Hospital

**Maureen T. Connelly, MD, MPH,** Dean for Faculty Affairs and Assistant Professor of Population Medicine, Harvard Medical School

**Lisa R. Diller, MD,** Professor of Pediatrics, Dana-Farber Cancer Institute

**S. Jean Emans, MD,** Professor of Pediatrics and Faculty Director of the Office of Faculty Development, Boston Children's Hospital

**Cynthia C. Morton, PhD,** William Lambert Richardson Professor of Obstetrics, Gynecology and Reproductive Biology, Brigham and Women's Hospital

**Carol C. Nadelson, MD,** Professor of Psychiatry, Brigham and Women's Hospital

**Vicki Rosen, PhD,** Head of the Department of Developmental Biology & Professor of Developmental Biology, Harvard School of Dental Medicine

**Ellen W. Seely, MD,** Professor of Medicine, Brigham and Women's Hospital

**Eleanor G. Shore, MD, MPH,** Senior Consultant to the Office of Academic & Clinical Affairs, Harvard Medical School

**Miles F. Shore, MD,** Bullard Professor of Psychiatry, Emeritus, Harvard Medical School

**Priscilla J. Slanetz, MD,** Associate Professor of Radiology, Beth Israel Deaconess Medical Center

## *2015 Shore Fellowship Selection Committee*

*Thank you to these individuals for their service in selecting fellows.*

**Carol K. Bates, MD,** Associate Dean for Faculty Affairs, Harvard Medical School and Associate Professor of Medicine, Beth Israel Deaconess Medical Center

**Emmanual Buys, PhD,** Assistant Professor of Anaesthesia, Massachusetts General Hospital

**Kathryn A. Colby, MD, PhD,** Associate Professor of Ophthalmology, Massachusetts Eye and Ear Infirmary

**Alasdair K.T. Conn, MBChB,** Associate Professor of Surgery, Massachusetts General Hospital

**Maureen T. Connelly, MD, MPH,** Dean for Faculty Affairs and Assistant Professor of Population Medicine, Harvard Medical School

**Patricia D'Amore, PhD,** Charles L. Schepens Professor of Ophthalmology, Schepens Eye Research Institute

**Lisa R. Diller, MD,** Professor of Pediatrics, Dana-Farber Cancer Institute

**S. Jean Emans, MD,** Professor of Pediatrics and Faculty Director of the Office of Faculty Development, Boston Children's Hospital

**Tayyaba Hasan, PhD,** Professor of Dermatology, Massachusetts General Hospital

**Rosy Hosking, PhD,** Program Director for Faculty Appointments, Office for Faculty Affairs, Harvard Medical School

**Zoe Fonseca-Kelly, PhD,** Program Director for Faculty Appointments, Office for Faculty Affairs, Harvard Medical School

**German O. Gallucci, DMD,** Acting Head of the Department of Restorative Dentistry and Biomaterials Sciences and Associate Professor of Restorative Dentistry and Biomaterials Sciences, Harvard School of Dental Medicine

**Allison Goldfine, PhD,** Associate Professor of Medicine, Joslin Diabetes Center

**Chenghua Gu, PhD,** Associate Professor of Neurobiology, Harvard Medical School

**Margaret A. Kenna, MD, MPH,** Professor of Otology and Laryngology, Boston Children's Hospital

**Mary Francis Lopez, PhD,** Assistant Professor of Pediatrics, Boston Children's Hospital

**Jonathan Matsui, PhD,** Program Director for Faculty Appointments, Office for Faculty Affairs, Harvard Medical School

**Jennifer Moye, PhD,** Associate Professor of Psychology in the Department of Psychiatry, VA Boston Healthcare System

**Nawal M. Nour, MD,** Associate Professor of Obstetrics, Gynecology and Reproductive Biology, Brigham and Women's Hospital

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

**Frederick J. Schoen, MD, PhD,** Professor of Pathology and Health Sciences and Technology, Brigham and Women's Hospital

**Thomas D. Sequist, MD,** Associate Professor of Medicine, Brigham and Women's Hospital

**Priscilla J. Slanetz, MD,** Associate Professor of Radiology, Beth Israel Deaconess Medical Center

**Susan A. Slaugenhaupt, PhD,** Professor of Neurology, Massachusetts General Hospital

**Caren G. Solomon, MD, MPH,** Associate Professor of Medicine, Brigham and Women's Hospital

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

**Nicole J. Ullrich, MD, PhD,** Associate Professor of Neurology, Boston Children's Hospital

**Bethany Westlund, PhD,** Assistant Dean for Faculty Affairs, Harvard Medical School

**Sabine Wilhelm, PhD,** Professor of Psychology in the Department of Psychiatry, Massachusetts General Hospital

## *2015 Shore Fellowship*
## *Personal Need Committee*

*Thank you to these individuals for their service in selecting fellows.*

**Carol K. Bates, MD,** Associate Dean for Faculty Affairs, Harvard Medical School and Associate Professor of Medicine, Beth Israel Deaconess Medical Center

**Tammy Brown,** JCSW Administrative Coordinator, Harvard Medical School

**Maureen T. Connelly, MD, MPH,** Dean for Faculty Affairs and Assistant Professor of Population Medicine, Harvard Medical School

**Caroline Costello,** Promotions Coordinator, Office for Faculty Affairs, Harvard Medical School

**Megan Dross,** Faculty Development Coordinator, Office for Faculty Affairs, Harvard Medical School

**Rosy Hosking, PhD,** Program Director for Faculty Appointments, Office for Faculty Affairs, Harvard Medical School

**Zoe Fonseca-Kelly, PhD,** Program Director for Faculty Appointments, Office for Faculty Affairs, Harvard Medical School

**Margaret A. Kenna, MD, MPH,** Professor of Otology and Laryngology, Boston Children's Hospital

**Donna Lawton,** Executive Director, Center for Faculty Development, Massachusetts General Hospital

**Jonathan Matsui, PhD,** Program Director for Faculty Appointments, Office for Faculty Affairs, Harvard Medical School

**Laurie O'Connor,** Senior Administrative Coordinator, Office for Faculty Affairs, Harvard Medical School

**Christine Power,** Program Director, Office for Faculty Development, Dana-Farber Cancer Institute

**Caren G. Solomon, MD, MPH,** Associate Professor of Medicine, Brigham and Women's Hospital

**Sarah Tekleab,** Promotions Coordinator, Office for Faculty Affairs, Harvard Medical School

**Gail Williams,** Director of Administration, Office for Faculty Affairs, Harvard Medical School

### *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 that need it to create rhodopsin the visual pigment and to the retinal pigment epithelial cells that store retinol and convert it to a form that the photoreceptors can use. Dr. Adler also identified xanthophyll-binding proteins in the human retina, and proposed that they bind to the same site on microtubules that 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 as a faculty member conducting research in the Department of Biochemistry and Nutrition. Once her degree was completed she returned as faculty once again to the department. In addition to her role on faculty, Dr. Auskaps served as the first woman president of the HSDM Alumni Association and received the Distinguished Alumni Award in 1983. Dr. Auskaps also 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 Archives for Women in Medicine.

### *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. She is a major reason the MGH opened a backup child care center. The MGH met Jane Claflin in the late 1950s, soon after she and 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. Also through the committee, 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. For more than 40 years, Jane Claflin has poured her heart and love into her hospital. In so many ways, MGH is a vastly richer place because of the unwavering loyalty and indomitable spirit of this dedicated volunteer and tireless crusader.

### *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.

### *S. Jean Emans, MD*

Dr. Emans is Chief of the Division of Adolescent and Young Adult Medicine and Robert Masland Jr. Chair in Adolescent Medicine at the Boston Children's Hospital. She has served as President of the North American Society of Pediatrics and Adolescent Gynecology and as a member of the Board of Directors of the Society for Adolescent Health and Medicine. She is the Program Director of the Boston Children's Hospital Leadership Education in Adolescent Health (LEAH) Training Program, one of seven Maternal and Child Health Bureau (MCHB/HRSA) funded LEAH programs in the United States. She was a member of the first Sub-board of Adolescent Medicine of the American Board of Pediatrics and the American Board of Internal Medicine and continues her work on three committees of the American Board of Pediatrics. She is the author of several textbooks, including Pediatric and Adolescent Gynecology, co-author of multiple websites, including www.pedicases.org, www.youngwomenshealth.org,www.youngmenshealthsite.org, and www.bostonleah.org, a three-volume Bright Futures Case Studies for primary care clinicians, and more than 100 articles. She is the recipient of the 2009 William Silen Lifetime Achievement in Mentoring Award from Harvard Medical School and the 2011 Outstanding Achievement in Adolescent Medicine Award from the Society for Adolescent Health and Medicine.

### *John Hedley-Whyte, MD, MB, BCh*

Dr. Hedley-Whyte is currently the David S. Sheridan Professor of Anaesthesia and Respiratory Therapy at the Boston VA Medical Center. He served on the faculty at Beth Israel Hospital from 1961–1988 and was Chair of the Department of Anaesthesia from 1967–1988. A pioneer in modern respiratory physiology and a member of the HMS community for more than 50 years, Hedley-Whyte contributed to the creation of an academic anaesthesia department at Beth Israel and an independant anaesthesia department separate from the surgical department at HMS. His most recent work has focused on patient safety.

### *Robert T. Osteen, MD*

Dr. Osteen is Senior Surgeon, Associate Professor of Surgery, and Associate Chairman of the Department of Surgery at the Brigham and Women's Hospital. Dr. Osteen joined the faculty of the Harvard Medical School in 1975 and has since received numerous prizes for excellence in teaching. At the Brigham and Women's Hospital, he oversees the Surgery departments' education program, chairs the hospital's Cancer Committee, and acts as the Cancer Liaison Physician to the Commission on Cancer of the American College of Surgeons. He has 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.

### *Lynne M. Reid, MD, MB, BS*

Dr. Lynne M. Reid is the S. Burt Wolbach Professor of Pathology, Emeritus at Harvard. 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 personally contributed to the fellowship program on a nearly annual basis since the start of the program.

### *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."

### *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 (of the admission of women to Harvard Medical School) Fellowship Program for Scholars in Medicine; 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 personally contributed 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. Since 1993, he has been a Visiting Scholar at the 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 continues to write on issues of patient safety and disrespect in the culture of medicine. As a strong supporter of faculty development, he has 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 the more than 800 fellows through the last 20 years of the Shore Fellowship program.***