T32 Surgeon Scientist Training in Cardiac Surgery
Preceptor List/Program Faculty

One of the greatest strengths of this training proposal is the participating faculty. An outstanding group of senior preceptors (Associate Professor and beyond) with broad expertise, they represent departments in the Medical School, as well as other U-M schools and departments. We have carefully chosen these preceptors based on: (1) their track record of mentorship; (2) ongoing funding; (3) research interest in cardiac disease-related conditions, funding, career development; and (4) ability to work in teams across the translational spectrum. For each trainee, we anticipate a mentorship team that includes a primary mentor and a collaborator from the next level of translation. Junior mentors will be at the level of an assistant professor with a career development award or independent grants and senior mentors will be an Associate Professor or above with independent grants.

BASIC/TRANSLATIONAL SCIENCE PRECEPTORS

Dr. Gorav Ailawadi, M.D., M.B.A., Helen F. and Marvin M. Kirsh Professor of Cardiac Surgery: Dr. Ailawadi, is an internationally recognized surgeon-scientist who is very active as a mentor training surgeon-scientists and has served as co-Director of the T32 training grant at the University of Virginia before becoming chair of Cardiac Surgery at the U-M. He has been NIH funded since 2010 and runs a basic/translational research laboratory studying aortic aneurysm formation. He has mentored surgeon-scientists who have gone on to academic careers in Medicine at Medical University of South Carolina, Oschner (1-3), U-M(4), and University of Oregon(5). Current PI Funding: 3 Other; Role: Associate Director, Preceptor.

Dr. Daniel Andrew Beard, Ph.D., Carl J Wiggers Collegiate Professor of Cardiovascular Physiology, Professor of Molecular and Integrative Physiology: His laboratory is broadly focused on research in cardiovascular physiology. Over the past decade or so, one of his lab's major contributions has been the elucidation in a series of studies of the primary pathway regulating mitochondrial ATP synthesis in the myocardium in vivo(6, 7). These physiological studies represent the foundation for our studies on how this system breaks down in heart disease(6, 8). More recently they have substantial progress on questions related to if and how myocardial energetic dysfunction directly influences myocardial mechanical function(9). Current PI Funding: 3 NIH R01s; 1 NIH U01; Role: Preceptor.

Dr. Charles Burant, M.D., Ph.D., Dr Robert C and Veronica Atkins Professor of Metabolism, Professor of Internal Medicine, Professor of Molecular and Integrative Physiology, Director of the A Alfred Taubman Medical Research Institute at Michigan Medicine, Dr. Burant is a world-leading authority in the area of metabolomics and obesity. He is a clinical endocrinologist and the recipient of multiple large NIH metabolomics grants. Topic areas for trainees include Opportunities abound for trainees, including the study of obesity, insulin resistance and type 2 diabetes in the context of cardiac diseases. Trainees can also study alterations in intermediary metabolism in cells induced by altered nutrient exposures, and integration of metabolomics with genomics data and pathway analyses(10). He has been highly active in training, serving on 4 'K' award mentoring committees, participating in K and R grant writing workshops and leading Mock Study Section Reviews. Current PI Funding: 1 NIH R01; 1 NIH U24; Role: Preceptor.

Dr. Y. Eugene Chen, M.D., Ph.D., Frederick G L Huetwell Professor of Cardiovascular Medicine, Professor of Surgery, Professor of Pharmacology and Professor of Molecular and Integrative Physiology; Director, Center for Advanced Models for Translational Sciences and Therapeutics. Dr. Chen's research defines the role of transcription factors as endogenous regulators of proatherogenic and anti-atherogenic genetic programs that couple perturbations in lipid metabolism to vascular cell function. In particular, he studies peroxisome proliferator-activated receptors (PPARs)(11). He has made seminal contributions to the fields of vascular biology and diabetes, including original cloning of the gene for exendin-4(12) (led to an entirely new class of drugs to treat diabetes). Current PI Funding: 6 NIH R01s; 1 Other; Role: Director, Preceptor.

Dr. Lola Eniola-Adefeso, Ph.D., University Diversity and Social Transformation Professor, Associate Dean for Graduate and Professional Education, Professor of Chemical Engineering, Professor of Biomedical Engineering and Professor of Macromolecular Science and Engineering, College of Engineering. Dr. Eniola-Adefeso is interested in understanding the mechanisms of the recruitment and adhesion of immune cells in response to inflammation with the central goal of using the acquired knowledge to inform the design of vascular-targeted carriers for the treatment of human diseases(13). She has mentored 16 graduate students and 10 post-doctoral fellows. She recently received $7.5 million from the Leducq Foundation for their AntheroGEN project focused on sex-specific mechanisms of cardiovascular disease. Current PI Funding: 1 R01; 1 Other; Role: Preceptor in particular for minority trainees.

Dr. Santhi Ganesh, M.D. David J. Pinsky Professor of Cardiovascular Medicine, and Associate Professor of Human Genetics. Her work focuses on the genetics of vascular remodeling as it pertains to the development of common cardiovascular diseases, such as atherosclerosis, hypertension, and others. Her work examines genetic and biologic interactions between hematologic traits and vascular diseases, using traditional and cutting-edge genetic methods to discover associations. She uses computational methods for human genetic studies and wet lab methods to test functional hypotheses generated from gene discovery studies(14, 15). Current PI Funding: 1 NIH R35; 1 Other; Role: Preceptor.

Dr. David Ginsburg, M.D., James V. Neel Distinguished University Professor of Internal Medicine (MMG), **Warner-Lambert/Parke-Davis Professor of Medicine, Professor of Human Genetics, and Pediatrics. and Research Professor, Life Sciences Institute.** He has trained many individuals, with 25 who are tenured/tenure appointments at major Research Institutions, 2 Division Chiefs, 1 Department Chair, and 1 Assistant Dean. The research program in Dr. Ginsburg's laboratory centers on inherited bleeding and thrombotic disorders and the structure and function of blood coagulation proteins, including the molecular pathogenesis of von Willebrand disease and thrombotic thrombocytopenia (TTP). Recent work involves the study of regulation of protein transport from the endoplasmic reticulum (ER) to the Golgi apparatus(16, 17). Current PI Funding: 1 NIH R35; 1 Howard Hughes; Role: Preceptor.

Dr. Michael Holinstat, MS, PhD, Program Director of Pharmacology, Associate Professor of Pharmacology & Internal Medicine; Director of the Platelet Physiology and Pharmacology Core. Dr. Holinstat has a strong record of training students for NIH-funded career awards. His lab is focused on understanding the mechanisms which regulate platelet function, especially on the role of 12-lipoxygenase in inflammation, diabetes, cancer, and stroke. Its role in regulating platelet reactivity, clot formation, and clot stability however is not well understood. His team has synthesized the first small molecule inhibitor selectively targeting platelet-type 12-lipoxygenase(18, 19). This inhibitor is currently in late-stage pre-clinical testing for its utility in prevention of occlusive thrombus formation in humans. Current PI Funding: 1 NIH R35; 1 NIH R21; 4 Other; Role: Preceptor.

Dr. Daniel A. Lawrence, PhD, Frederick G L Huetwell Professor of Basic Research in Cardiovascular Medicine, Professor of Internal Medicine and Professor of Molecular and Integrative Physiology. Dr. Lawrence is an experienced mentor, who studies fundamental binary protein:protein interactions which regulate complex physiologic processes, especially in the area of coagulation and vascular biology. The primary targets of his work are serine proteases and their inhibitors, the family of serine proteinase inhibitors (serpin). Most of his studies focus on the plasminogen activator proteolytic system and its principal inhibitors, plasminogen activator inhibitor-1 (PAI-1) and neuroserpin. He uses biochemical, genetic and molecular approaches to map and study distinct structural regions in these proteins that are important for different interactions, and applies this information to *in vivo* models of disease to test the importance of these interactions in complex physiologic processes(20-22). Current PI Funding: 2 NIH R01; 1 Foundation; Role: Preceptor.

Dr. Daniel Michele, Ph.D., Professor of Molecular & Integrative Physiology and Professor of Internal Medicine (Cardiovascular Medicine); Interim Chair, Department of Molecular and Integrative Physiology and Director, MIP Graduate Program. Dr. Michele's research focuses on the molecular mechanisms of inherited muscle diseases, primarily using gene targeting in mice and cell culture to model human genetic disease. Studies examine the abnormal glycosylation of a major extracellular matrix receptor in muscle, dystroglycan, which causes muscular dystrophy and associated cardiomyopathy(23, 24). Mentoring is central to his efforts, as the Director of the PhD graduate program in Physiology, PI on an AHA Institutional Summer Undergraduate Fellowship, and as a faculty for an under-represented minority undergraduate fellowship program. Current PI Funding: 1 T32, 1 S1; 1 P30, 1 Foundation; Role: Preceptor.

Dr. Venkatesh L. Murthy, M.D., Ph.D., M.S., Associate Professor of Internal Medicine (Cardiovascular Medicine); Associate Professor of Radiology; Director of Cardiac PET Research. His research interest is in understanding and risk stratification of cardiometabolic diseases, including their implications on long-term health and healthy aging. Trainees here will learn advanced imaging techniques (positron emission tomography, magnetic resonance imaging, echocardiography and computed tomography) along with large scale profiling of circulating metabolites and extracellular RNAs, high dimensional quantitative methods including clustering, machine learning, trajectory methods, and matrix factorization techniques(25-27). Current PI Funding: 1 NIH R01; 1 U01, Role: Preceptor.

Dr. Martin G. Myers, Jr., M.D., Ph.D., Marilyn H. Vincent Professor of Diabetes Research, Internal Medicine (MEND) and Molecular & Integrative Physiology, Director of the Michigan Diabetes Initiative. Dr. Martin focuses on molecular and neural mechanisms by which the brain controls glucose homeostasis and energy balance. Dr. Myers has mentored more than 20 trainees at various stages. Trainees here will learn mechanisms that contribute to diabetes pathogenesis, especially about leptin, an adipocyte-derived hormone that regulates appetite/metabolism/endocrine function, and its receptor (LepRb), whose downstream signals result in profound obesity, endocrine failure and diabetes. Current PI Funding: 1 NIH R01; 1 NIH P01, 2 NIH P30; 2 Industry Role: Preceptor.

Dr. David J. Pinsky, M.D.,.Cyrus and Jane Farrehi Professor of Cardiovascular Research, J Griswold Ruth M.D. and Margery Hopkins Ruth Professor of Internal Medicine (Cardiovascular Medicine) and Co-Director of the Frankel Cardiovascular Center. His focus is to elucidate mechanisms by which blood vessels modulate their phenotype following periods of interrupted blood flow, examining the nexus between inflammation and thrombosis at molecular and cellular levels. The goals of the laboratory are to develop new insights into endogenous mechanisms of ischemic vascular injury and protection at the intersection of thrombotic, fibrinolytic, and inflammatory axes(28, 29). Many trainees have received K grants and R01s and advanced in academic careers, including two trainees (one at Columbia, one at U-M) who have even been awarded endowed Professorial Chairs. Current PI Funding: 1 NIH R01; Role: Preceptor.

Dr. Anna A. Schwendeman, Ph.D. William I Higuchi Collegiate Professor of Pharmacy and Professor of Pharmaceutical Sciences, College of Pharmacy. Her studies in the field of Pharmaceutical Chemistry includes stabilization and controlled release of anti-cancer drugs and HDL nanoparticle formulation(30, 31). Trainees here can learn analytical release and stability studies, pharmacology and toxicology evaluation of nanoparticle products. Graduate students, postdoctoral fellows and undergraduates in her laboratory have received AHA fellowships and she is the current PI on a T32. Current PI Funding: 1 NIH R21; 2 Other Federal, 4 Industry; Role: Preceptor.

Dr. Alan V. Smrcka, Ph.D.,. Benedict R Lucchesi Collegiate Professor of Cardiovascular Pharmacology, Professor of Pharmacology, Associate Chair, Department of Pharmacology. His research delves into signal transduction by heterotrimeric G proteins, with a particular focus on signaling by G protein subunits, and regulation of phospholipase C isoforms through G protein coupled receptors (GPCRs). The goal is to identify and characterize small molecules that bind to G protein subunits. Trainees here will learn animal models of heart failure and platelet function assays to validate the concept that G protein subunits are a viable pharmacological target(32, 33). Current PI Funding: 1 NIH R01; 1 NIH R35; Role: Preceptor.

Dr. Bo Yang, M.D., Ph.D.,. Frankel Research Professor of Aortic Surgery, J Maxwell Chamberlain M.D. Collegiate Professor of Cardiac Surgery As a surgeon-scientist, He has an active clinical practice treating cardiac diseases and his research focuses on the pathogenesis of aortic aneurysm formation, dissection, and rupture. His research investigates mechanisms of ascending aortic aneurysm formation in Loeys-Dietz syndrome using induced-pluripotent stem cells(34, 35). Separate projects investigate mechanisms of transforming growth factor beta in ascending aortic aneurysms. Current PI Funding: 2 NIH R01; Role: Preceptor, Steering Committee Member, Ombudsman.

CLINICAL/HEALTH SERVICES PRECEPTORS

Dr. Gorav Ailawadi, M.D., M.B.A., Chair and Helen F. and Marvin M. Kirsh Professor of Cardiac Surgery: Dr. Ailawadi, is an internationally recognized surgeon-scientist who is very active as a mentor training surgeon-scientists and has served as co-Director of the T32 training grant at the University of Virginia before becoming chair of Cardiac Surgery at the U-M. He has mentored surgeon-scientists who have gone on to academic careers in Medicine at Medical University of South Carolina, Oschner (1-3), U-M(4), and University of Oregon(5). Dr. Ailawadi also leads a cardiac surgery clinical outcomes research group with heavy involvement by surgery resident trainees. Current PI Funding: 4 Other; Role: Associate Director, Preceptor.

Dr. Amy M. Kilbourne, Ph.D., M.P.H., Associate Chair for Research, U-M Learning Health Sciences, Professor of Learning Health Sciences, Director, Quality Enhancement Research Initiative (QUERI), U.S. Department of Veterans Affairs. Dr. Kilbourne's research goal is to improve population health by testing implementation strategies to facilitate the spread of effective practices in real-world treatment settings. She developed the Enhanced Replicating Effective Programs framework and conducted the first national sequential multiple assignment randomized trial (SMART) to assess the added value of more versus less intensive implementation strategies. Dr. Kilbourne has implemented innovative models of care for bipolar and other mood disorders, especially in underserved communities. This work is now informing the next generation of evidence-based care implementation through Learning Health Systems(36-38). Current PI Funding: 1 NIH R01; 1 UG; Role: Preceptor.

Dr. Donald S. Likosky, Ph.D., Richard and Norma Sarns Research Professor of Cardiac Surgery of Cardiac Surgery and Section Head, Health Services Research and Quality. Dr. Likosky's lab focuses on applied cardiovascular epidemiology. He has expertise in using large administrative and clinical registries for research and quality improvement. He is the founding director and co-director of several multi-center clinical registries focusing on adult and pediatric cardiovascular perfusion. He is the founding Director of the IMPROVE Network, a collaboration of cardiac surgical quality collaboratives. He designs and leads large-scale transdisciplinary quantitative and mixed methods research. Under his leadership, post-doctoral trainees will learn how to use large databases and data analytics to improve surgical quality(39, 40). Current PI Funding: 1 NIH R01; 2 AHRQ R01; Role: Preceptor, Associate Director.

Dr. Julie C Lumeng, M.D., Ph.D.,: Thomas P Borders Family Research Professor of Child Behavior and Development, Professor of Pediatrics, Associate Dean for Research, Medical School and Professor of Nutritional Sciences, School of Public Health; Executive Director of Michigan Institute for Clinical and Health Research. Her program of research focuses on applying emerging science in child development and behavior to understanding children's growth. She has led large multi-institution interdisciplinary research teams, directed collection of a range of biobehavioral measures in infants, children, and women, and collected data with thousands of mother-child dyads in research(41, 42). Her work has included observational studies, experiments in the laboratory, and randomized controlled trials in the community. She has mentored 20 post-doctoral fellows, including 12 MD's and 8 PhD's. Dr. Lumeng is the Co-Director of the NIH funded Michigan Institute for Clinical and Health Research (UL1-TR002240). Current PI Funding: 1 NIH R01; 1 AHA; Role: Preceptor.

Dr. Michael Mathis, M.D. Assistant Professor of Anesthesiology in the Division of Adult Cardiac Anesthesia and Program Director, Anesthesiology: Dr. Mathis has research interests in improving perioperative care for patients with advanced cardiovascular disease, particularly for patients with heart failure. As part of the Multicenter Perioperative Outcomes Group (MPOG), an international consortium of perioperative databases for which U-M serves as the coordinating center, he serves as Associate Research Director and plays a lead role in integration of MPOG data with data from national cardiac and thoracic surgery registries. He also has interests in leveraging novel data science methods to understand patterns within highly granular intraoperative physiologic data, studying hemodynamic responses to surgical and anesthetic stimuli as a means for early detection of cardiovascular diseases such as heart failure(34, 43). Current PI Funding: 1 NIH R01; 1 NIH K01; Role: Preceptor.

Dr. Brahmajee Nallamothu, M.D., M.P.H.,: Stevo Julius Research Professor of Cardiovascular Medicine, Professor of Internal Medicine and Program Director, Michigan Center for Healthcare Analytics and Medical Prediction (M-CHAMP). Dr. Nallamothu has had a major impact on health services research, particularly in the area of cardiovascular diseases. His research has centered around two related themes: 1) population- and systems-based approaches to improve the use and delivery of specialized cardiovascular services; and 2) measurement of quality of care and performance for cardiac procedures and conditions. He has authored over 300 scientific publications and received funding from AHRQ, NIH/NIA, and the VA. He is the founding director of the U-M Michigan Integrated Center for Health Analytics & Medical Prediction (MiCHAMP) at IHPI that harnesses existing national, regional and local healthcare data sets to develop medical prediction models that address complex clinical problems(44-46). He has served as primary mentor to 7 post-doctoral trainees and secondary mentor to another 11 post-doctoral trainees. Current PI Funding: 1 RO1; 1 R33; 1 Other Federal; 1 AHA SFRN; Role: Preceptor.

Dr. Richard G Ohye, M.D., Associate Chair of the Department of Cardiac Surgery, Head of the Section of Pediatric Cardiovascular Surgery, and Co-Director of the U-M C. S. Mott Children's Hospital Congenital Heart Center. Dr. Ohye is a Co-Founder of the clinical research arm of U-MCHC, the Michigan Congenital Heart Outcomes Research and Discovery Program (M-CHORD) and remains active in its leadership. He serves as a Co-Principal Investigator of the Section's research activities in the NHLBI (NIH)-sponsored Pediatric Heart Network (PHN). Through the PHN, Dr. Ohye was the Study Chair of the multi-institutional Single Ventricle Reconstruction Trial, the first multi-institutional randomized clinical trial performed in congenital heart surgery. (47, 48). Current PI Funding: 1 UG1; 4 Other; Role: Preceptor.

Dr. Francis D. Pagani, M.D., Otto Gago MD Endowed Professor of Cardiac Surgery. Dr. Pagani's has an active research program supported, in part, by the NIH and AHRQ. His research focuses on the bioengineering development and clinical testing of mechanical circulatory support devices in the treatment of end-stage heart disease, clinical health outcomes research, and use of stem cell transplantation for myocardial regeneration(39, 49, 50). Current PI Funding: 1 NIH R01; 2 AHRQ R01, 2 Industry; Role: Preceptor.

Dr. Sara K. Pasquali, M.D., Janette Ferrantino Professor of Pediatrics at the U-M C.S. Mott Children's Hospital. Dr. Pasquali's research, supported by the NIH, focuses on outcomes and quality assessment in children undergoing heart surgery, and she has authored more than 200 publications in this area. Her work has helped to define the national landscape of care delivery and variability in outcomes for children with congenital heart disease and seeks to improve outcomes across the US through research, health policy, and quality improvement activities. She is also the co-Director of Cardiac Networks United, which brings together multiple organizations and data sources across the field to accelerate research and improvement initiatives(51-53). Current PI Funding: 2 NIH R01, 1 NIH UG1; 1 Industry; Role: Preceptor.

Dr. Minal R. Patel, Ph.D., M.P.H., Associate Professor, Health Behavior & Health Education, Associate Chair, Health Behavior & Health Education. Dr. Patel develops and evaluates behavioral interventions that focus on improving self-efficacy and navigation skills for individuals to access complex health care delivery systems, affordable healthcare, and management of chronic disease. Emphases of her work include health-related financial toxicity, team-based care, health and financial literacy, and populations with a long history of health disparities. She has led studies focused on improving health insurance literacy in economically disadvantaged communities, screening and addressing unmet social needs in clinical settings, and health care provider training in implementing guideline-based care(54, 55). Current PI Funding: 1 NIH R01; Role: Preceptor.

Dr. Karandeep Singh, M.D., MMSc, Assistant Professor of Learning Health Sciences, Internal Medicine, Urology, and Information at the U-M: He is a nephrologist with a background in biomedical informatics who uses machine learning methods to model electronic health record and registry data in support of a learning health system. He directs the Machine Learning for Learning Health Systems lab which focuses on using machine learning and biomedical informatics methods to understand and improve health at scale. His research spans multiple clinical domains including nephrology, urology, emergency medicine, obstetrics, and ophthalmology(56). Current PI Funding: 1 R01; Role: Preceptor.

Dr. Jennifer Filip Waljee, M.D., M.S., M.P.H., George D Zuidema Professor of Surgery, Associate Professor of Surgery, Associate Chair, Department of Plastic Surgery and Associate Professor of Orthopaedic Surgery. Dr. Waljee is the Director of the Center for Healthcare Outcomes & Policy, a cross-disciplinary research center within the U-M's IHPI. She is a health services researcher with an interest in developing and implementing patient-reported outcomes as quality measures and understanding variations in care in reconstructive and hand surgery(57, 58). Dr. Waljee also examines variation in patient-reported outcomes across hospitals and surgeons, and the patient-, surgeon-, and hospital-level factors that drive this variation at the population level. Current PI Funding: 1 NIH R01; 1 NIH UM1, 4 Other Federal; Role: Preceptor, Steering Committee Member.

Dr. Stewart C. Wang, M.D., Ph.D., Endowed Professor of Burn Surgery, Professor of Surgery, Medical Director and MPLAN Co-Director Trauma/Burn. Dr. Wang is Director of Burn Surgery at the U-M's ABA-verified Burn Center and Director of the State of Michigan Burn Coordinating Center for Mass Casualty Incidents. Dr. Wang founded the novel field of analytic morphomics, which utilizes high-throughput computational techniques to extract precise body geometry and composition data from medical imaging data. Dr. Wang directs a large multidisciplinary team of physicians, biostatisticians, biomedical engineers, and software programmers working to translate analytic morphomic findings into personalized medical and surgical care by coupling clinical outcome data with morphomic biomarkers(59). Current PI Funding: 2 AHRQ R01; 1 Other Federal: 5 Industry; Role: Preceptor.

Dr. Jenna Wiens, Ph.D., Associate Professor of Electrical Engineering and Computer Science, College of Engineering. She has pioneered work in leveraging machine learning (ML) and electronic health records for predicting adverse outcomes or events (e.g., infections). Based on collaborations with 30+ clinicians, she has identified key characteristics for the safe and meaningful adoption of ML in healthcare [CID'17]. Dr. Wiens is interested in time-series analysis, transfer/multitask learning, and causal inference. The overarching goal of her research agenda is to develop the computational methods needed to help organize, process, and transform data into actionable knowledge(60, 61). Current PI Funding: 3 NIH R01; 2 NSF; Role: Preceptor.

JUNIOR PRECEPTORS POOL

Our goal is to actively engage NIH/NHLBI -funded interdisciplinary investigators early in their careers prior to the senior preceptor stage, in order to maintain the pipeline of preceptors. We will also identify Assistant Professors on tenure track with a career-development award in cardiovascular disease-related research (e.g., see examples below) with at least K-level funding for the junior preceptor list. The trainees will not be limited to this list when selecting secondary mentors, rather, this is an example of potential junior mentors to serve as: (1) content mentors and (2) collaborators with the T32 trainees. The goal with these junior mentors will be to encourage their training as preceptors and train them in the specific needs of training of surgeon-scientists so as these junior mentors mature academically, they can be added to the mentor preceptor pool.

Dr. Robert Hawkins, M.D. Assistant Professor of Cardiac Surgery. Dr. Hawkins is a surgeon-scientist trainee of Dr. Ailawadi's who has recently joined the Department of Cardiac Surgery at U-M. His research involves investigating mechanisms of descending thoracic aortic aneurysm formation and rupture and the use of micro-vesicles as possible treatment therapies for aortic aneurysms. He is an example of Dr. Ailawadi's mentoring capabilities and the positive outcomes a T32 training program can offer surgeon-scientists in training. Current Funding: 1 Internal.

Dr. Michael Thompson, Ph.D., Assistant Professor in the Section of Health Services Research and Quality Department of Cardiac Surgery: His research primarily focuses on applying epidemiologic and health services research methods to identify and intervene upon opportunities to improve health care quality, outcomes, and policies for patients with cardiovascular disease. He is currently a PI on a K01 Award from AHRQ to evaluate determinants, outcomes, and financial incentives associated with cardiac rehab use (K01HS027830) and on an R01 award from AHRQ evaluating the impact of telehealth adoption on ambulatory care access, quality, and costs (R01HS028397). Dr. Thompson is mentored by Dr. Likosky, a co-Director of this T32. Current PI Funding: 1 K01; 1 NIH R01.

Dr. Morgan Salmon, Ph.D., M.B.A. Assistant Professor of Cardiac Surgery. Dr. Salmon's research interests include investigation of epigenetic mechanisms that alter aortic aneurysm growth and that affect smooth muscle, endothelial or adventitial cell marker expression in aortic aneurysms. She is also interested in the role of zinc-finger proteins in transcriptional regulation of smooth muscle cells in aortic aneurysms. As part of these investigations, she has become interested in using lineage tracking systems to follow the localization and expression of various resident cell populations during aneurysm progression. Current PI Funding: 2 Internal.

Dr. Zhong Wang, Ph.D., Associate Professor of Cardiac Surgery: The long-term goal of the Wang laboratory is to develop heart therapies to effectively prolong and improve the life of heart patients. The Wang lab has focused on epigenetic mechanisms of cardiac cell metabolism, cardiac progenitor differentiation and reprogramming, and development of novel strategies for heart repair and regeneration. He currently focuses on directly connecting energy metabolism and epigenetics for heart therapy. Current PI funding: 2 NIH R01.

RELEVANT LITERATURE

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