

SRF Mentor	Primary Academic Affiliation	Research Summary
Michael Ackerman, MD, PhD	Cardiovascular Disease	<p>Studies genomics and genotype-phenotype relationships in heritable cardiovascular diseases predisposing to sudden death.</p> <p>http://www.mayo.edu/research/faculty/ackerman-michael-j-m-d-ph-d/bio-00078045</p>
Adelaide M. Arruda-Olson, M.D., Ph.D.,	Cardiovascular Disease	<p>Development and application of novel electronic tools (e-tools) using natural language processing and structured data algorithms to mine the electronic health record. This research aims to address knowledge gaps regarding predictors of cardiovascular events</p> <p>http://www.mayo.edu/research/faculty/arruda-olson-adelaide-m-m-d-ph-d/bio-20178441</p>
Dusica Babovic-Vuksanovic, MD	Clinical Genomics	<p>Dusica Babovic-Vuksanovic, M.D., include overgrowth syndromes, as well as various genetic syndromes and metabolic disorders. Her research involves several collaborative basic research studies in the field of neurofibromatosis, in conjunction with Mayo's Neuro-Oncology Program and departments of Radiology and Neurologic Surgery.</p> <p>http://www.mayo.edu/research/faculty/babovic-vuksanovic-dusica-m-d/bio-00086471</p>
M. Fernanda Bellolio, MD	Emergency Medicine	<p>M Fernanda Bellolio, M.D., is an emergency physician and health sciences researcher dedicated to research methodology, knowledge synthesis and comparative effectiveness. Dr. Bellolio works with secondary data, including big data, and clinical and claims data analysis, as well as systematic reviews. Dr. Bellolio participates in research related to patient-centered outcomes and acute neurological emergencies.</p> <p>https://www.mayo.edu/research/faculty/bellolio-m-fernanda-m-d/bio-00094847</p>
Suzette Bielinski, PhD	Epidemiology	<p>Suzette J. Bielinski, PhD, is a cardiovascular genetic epidemiologist whose research focuses on identifying molecular biomarkers of cardiovascular disease. Specifically, she is interested in identifying genetic and protein biomarkers associated with heart disease, including heart attacks, heart failure and abnormal heart rhythms that can be used clinically to improve risk prediction and identify tailored treatment and prevention strategies.</p>

		http://www.mayo.edu/research/faculty/bielinski-suzette-j-ph-d/bio-00096979
Horng Chen, MD	Cardiovascular Diseases	<p>Is a board-certified adult heart failure cardiologist and a physician-scientist with 20 years' experience in translational research, bridging the laboratory to the bedside. Dr. Chen is currently the principal investigator on three National Heart, Lung, and Blood Institute (NHLBI) research grants and a co-investigator on the NHLBI Heart Failure Clinical Research Network. His research focuses on cardiorenal dysfunction and heart failure together with novel natriuretic peptide therapeutics in the syndrome of heart failure.</p> <p>http://www.mayo.edu/research/faculty/chen-horng-h-m-d/bio-00086515</p>
Karl Clark, PhD	Biochemistry & Molecular Biology	<p>The research interests of Karl J. Clark, Ph.D., focus on molecular-level interactions between the individual organism and its environment.</p> <p>http://www.mayo.edu/research/faculty/clark-karl-j-ph-d/bio-00096400</p>
Gerardo Colon-Otero, MD	Hematology/Oncology	<p>Focused on the treatment of breast cancer and gynecologic malignancies (ovarian cancer, uterine cancer and cervical cancer) and on efforts to eliminate cancer care outcome disparities.</p> <p>http://www.mayo.edu/research/faculty/colon-otero-gerardo-m-d/bio-00078298</p>
Cheryl Conover, PhD	Medicine	<p>Insulin-like growth factor (IGF) system</p> <p>http://www.mayo.edu/research/faculty/conover-cheryl-a-ph-d/bio-00078237</p>
Alexander C. Egbe, M.B.B.S.	Cardiovascular Diseases	<p>Hemodynamics and clinical outcomes for adults with congenital heart disease. Dr. Egbe is also studying the long-term impact of having combined aortic stenosis and aortic regurgitation (mixed aortic valve disease) in patients with acquired heart disease.</p> <p>http://www.mayo.edu/research/faculty/egbe-alexander-c-m-d-m-b-b-s/bio-20383570</p>
Stephen Ekker, PhD	Biochemistry & Molecular Biology	<p>The zebrafish genetics laboratory of Stephen C. Ekker, PhD, is focused on one major next step in the post-genomics era: the assignment of genes and gene sets critical in vertebrate patterning and organogenesis.</p>

	Molecular Biology	http://www.mayo.edu/research/faculty/ekker-stephen-c-ph-d/bio-00096027
Tom Foley, MD	Radiology	I am interested in the application of new echocardiographic imaging modalities.
Bruce D. Johnson, PhD	Physiology & Biomedical Engineering	Heart and lung interactions under various conditions (e.g., hypoxia, high altitude, exercise) and in various populations (e.g., heart failure, health, lung disease, aging). http://www.mayo.edu/research/faculty/johnson-bruce-d-ph-d/BIO-00083819
Michael Joyner, MD	Biochemistry & Molecular Biology, Clinical and Translational	Human response to various forms of physical and mental stress during activities such as exercise, hypoxia, standing up and blood loss. http://www.mayo.edu/research/faculty/joyner-michael-j-m-d/bio-00078027
David Kallmes, MD	Radiology-Diagnostic	Advancing the minimally invasive treatment options for patients with intracranial saccular aneurysms. Dr. Kallmes' preclinical laboratory is developing and testing multiple improvements to the microcoil technology used to treat this condition. His team is also involved in multiple clinical trials of aneurysm treatments, including the use of modified coils, as well as magnetic resonance imaging of aneurysms after treatment. http://www.mayo.edu/research/faculty/kallmes-david-f-m-d/bio-00028056
Zvonimir Katusic, MD, PhD	Molecular Pharmacology & Experimental Therapeutics	Human cerebral blood vessels, projects are focused on morphological, functional and biochemical characteristics of cerebral vasculature. http://www.mayo.edu/research/faculty/katusic-zvonimir-s-m-d-ph-d/bio-00077509
Iftikhar Kullo, MD	Medicine	Biomarkers of cardiovascular risk, the use of new methodologies in refining cardiovascular risk stratification, including novel biochemical and genetic markers and noninvasive tests of arterial function and structure. http://www.mayo.edu/research/faculty/kullo-iftikhar-j-m-d/bio-00084951
Lilach Lerman, MD, PhD	Biochemistry & Biomedical	Renovascular Disease Research Laboratory, which focuses on the development and application of techniques to study renal and cardiovascular physiology and pathophysiology in animal models and in humans.

	Engineering	http://www.mayo.edu/research/faculty/lerman-lilach-o-m-d-ph-d/BIO-00078109
Francisco Lopez-Jimenez, MD	Cardiovascular Disease	<p>Studies obesity and cardiovascular disease from different angles, from physiologic studies assessing changes in myocardial mechanics and structural and hemodynamic changes following weight loss, to studies addressing the effect of physicians' diagnosis of obesity on willingness to lose weight and successful weight loss at follow-up.</p> <p>http://www.mayo.edu/research/faculty/lopez-jimenez-francisco-m-d/bio-00028001</p>
Carlos Mantilla, MD, PhD	Anesthesiology and Physiology	<p>The control of breathing in humans; long-term goal is to develop rational and effective therapies for the treatment of diseases that impair the ability to breathe independently.</p> <p>https://www.mayo.edu/research/faculty/mantilla-carlos-b-m-d-ph-d/bio-00086450</p>
Rowlens Melduni, MD	Cardiovascular Diseases	<p>Diastolic dysfunction is associated with an increasing stretch in pulmonary veins due to increased left atrial pressure and is thought to be one of the pathophysiologic mechanisms for the initiation of atrial fibrillation. Our long-term goal is to explore pathophysiologic mechanisms and predictors of atrial fibrillation and facilitate the development of innovative diagnostic and therapeutic approaches to atrial fibrillation.</p>
Hector I. Michelena, M.D.,	Cardiovascular Diseases	<p>Valvular heart disease from clinical outcomes and pathophysiology perspectives utilizing clinical and echocardiographic databases as well as echocardiographic and computerized tomography imaging data in his valvular research.</p> <p>http://www.mayo.edu/research/faculty/michelena-hector-i-m-d/bio-20001478</p>
Sanjay Misra, MD	Radiology	<p>Understanding the mechanisms of hemodialysis graft failure.</p> <p>http://www.mayo.edu/research/faculty/misra-sanjay-m-d/bio-00085024</p>

Peter A. Noseworthy, M.D.	Cardiovascular Diseases	<p>Dr. Noseworthy's research focuses on the pathophysiology and management of atrial and ventricular arrhythmias. In particular, Dr. Noseworthy is working to identify genetic determinants of ventricular arrhythmia, develop noninvasive means for arrhythmia risk stratification, refine catheter-based ablation techniques and study health outcomes in patients undergoing cardiac ablation.</p> <p>http://www.mayo.edu/research/faculty/noseworthy-peter-a-m-d/bio-20094212</p>
Thomas P. Olson, M.S., PhD	Cardiovascular Diseases	<p>My research focuses on chronic heart failure (HF), a major public health concern. HF quickly becomes a systemic disease involving multiple physiologic systems. We study HF using novel methodologies to quantify the contribution of locomotor muscle afferent feedback on changes in ventilation and cardiovascular hemodynamics during exercise in HF patients.</p> <p>http://www.mayoclinic.org/biographies/olson-thomas-p-m-s-ph-d/bio-20140044?_ga=1.238669315.2065191008.1431613261</p>
Christina Pabelick, MD	Anesthesiology and Physiology	<p>Cellular mechanisms that regulate structure and function of airways in health and disease.</p> <p>http://www.mayo.edu/research/faculty/pabelick-christina-m-d/bio-00027256</p>
Patricia Pellikka, MD	Cardiovascular Diseases	<p>Studies the application of echocardiography and stress testing to accurately detect cardiovascular disease and improve patient outcomes. Dr. Pellikka's research on noninvasive detection of cardiovascular disease and timing of intervention is directed to improvement of survival and quality of life for patients with valvular heart disease, ischemic heart disease, diastolic dysfunction and frailty.</p> <p>http://www.mayo.edu/research/faculty/pellikka-patricia-a-m-d/bio-00077298</p>
Y.S. Prakash, MD, PhD	Physiology & Biomedical Engineering	<p>As an anesthesiologist, physiologist and electrical/biomedical engineer, Dr. Prakash's longstanding interest has been in lung diseases, with the intent of developing novel therapies and approaches to treat diseases such as asthma in children and adults (especially in women), and more recently pulmonary hypertension.</p>

		http://www.mayo.edu/research/faculty/prakash-y-s-m-d-ph-d/BIO-00083390
Martin Rodriguez-Porcel, MD	Medicine	<p>The research program of Martin G. Rodriguez-Porcel, M.D., is focused on three objectives. First, Dr. Rodriguez-Porcel's lab works to noninvasively study the biology of gene and cell therapies for cardiovascular applications using molecular imaging strategies. Second, the team seeks to noninvasively assess the biological pathways involved in atherosclerosis. Third, research is aimed at the development of novel imaging modalities to study the role of the vasculature in the pathophysiology of cardiac and renal diseases.</p> <p>http://www.mayo.edu/research/faculty/rodriguez-porcel-martin-g-m-d/bio-00027288</p>
Gary Sieck, PhD	Physiology and Biomedical Engineering	<p>Studies the neural control of breathing muscles, including the diaphragm and airway smooth muscle, and how these muscles adapt to a variety of conditions.</p> <p>http://www.mayo.edu/research/faculty/sieck-gary-c-ph-d/bio-00083569</p>
Virend Somers, MD,PhD	Molecular Neuroscience	<p>Neural and vascular mechanisms in circulatory control in health and disease.</p> <p>http://www.mayo.edu/research/faculty/somers-virend-m-d-ph-d/bio-00027756</p>
Marysia Tweet, MD	Cardiovascular Diseases	<p>Cardiovascular disease in women and acute coronary syndromes, particularly those caused by spontaneous coronary artery dissection (SCAD).</p> <p>http://www.mayo.edu/research/faculty/tweet-marysia-s-m-d/bio-20110528</p>
Hector Villarraga, MD	Cardiovascular Medicine	<p>Relation of Myocardial Mechanical Function with Arterial and Ventricular Elastance in a Normal Population.</p> <p>https://www.mayo.edu/research/faculty/villarraga-hector-r-m-d/bio-00027259</p>
David Warner, MD	Pediatric Anesthesiology	<p>The overall research goal of David O. Warner, MD, is to improve the health of patients who need surgery and patients who have chronic pain. He also works with the Mayo Clinic Center for Clinical and Translational Sciences (CCaTS) to train the next generation of researchers who will make discoveries to improve human health.</p>

		http://www.mayo.edu/research/faculty/warner-david-o-m-d/bio-00026260
Richard Weinshilbom, MD	Molecular Pharmacology & Experimental Therapeutics	Richard Weinshilbom, MD studies pharmacogenomics — the role of inheritance and individual variation in DNA sequence or structure in drug response. The goal is to develop safer and more effective drug therapy to treat diseases that range from cancer to depression. http://www.mayo.edu/research/faculty/weinshilbom-richard-m-d/BIO-00025916
Xiaolei Xu, PhD	Biology and Medicine	By leveraging unique genetic tools offered by zebrafish, Dr. Xu and his colleagues are using these models to elucidate molecular mechanisms of cardiomyopathy and develop novel therapeutic strategies. http://www.mayo.edu/research/faculty/xu-xiaolei-ph-d/bio-00092623
Xiaoming Zhang, PhD	Biomedical Engineering	Development of novel, noninvasive techniques to measure tissue elastic properties and to translate those techniques into clinical use for assessing diseases in a safe, quantitative and cost-effective way. http://www.mayo.edu/research/faculty/zhang-xiaoming-ph-d/bio-00027941