Welcome New Faculty!

Dr. Ronglih Liao joins Stanford as a Professor in the Department of Medicine and a new member of the Cardiovascular Institute. Dr. Liao arrives from Harvard Medical School and Brigham and Women’s Hospital, where she was a Professor of Medicine and a principal faculty member of the Harvard Stem Cell Institute. Dr. Liao’s previous work broke important ground in establishing the therapeutic potential of delivering primitive muscle cells to repair damaged heart tissue. Her laboratory continues to pursue this avenue, seeking to harness the potential of stem and progenitor cells and the endogenous repair capacity of the heart to treat cardiovascular disease. In addition, Dr. Liao is unraveling the molecular mechanisms that underlie primary amyloid cardiomyopathy. She will establish a multi-disciplinary and collaborative basic and translational amyloid research program at Stanford.

Faculty Recruitment

The Cardiovascular Institute and the Department of Medicine at Stanford University are recruiting a full-time academic faculty with expertise in any of the areas of drug/gene delivery, polymer chemistry/nanotechnology, bioengineering/biomaterial sciences, biomedical formulation, clinical medicinal chemistry, medical pharmacology/molecular pharmacology, toxicology, bioinformatics, applied proteomics and pharmacogenomics at the rank of Assistant or Associate Professor in the Non-Tenured Line-Research (NTL-R).

Contact: Mark Mercola, PhD, mmercola@stanford.edu.

Third Annual Stanford Drug Discovery Conference
April 23-24, 2018

The CVI leadership is excited to announce that next year’s event will include presentations from leaders of major pharmaceutical companies, federal and foundation policy makers, and scientists making groundbreaking advances in the drug discovery space. Highlights include: the presentation of a Lifetime Achievement Award to Dr. Roy Vagelos (former CEO of Merck and current Chair of Regeneron); a Keynote Address from Dr. Brian Kobilka (Nobel Prize in Chemistry, 2012); a Fireside Chat with Stanford University President Marc Tessier-Lavigne, PhD, and Stanford School of Medicine Dean Lloyd Minor, MD; a panel discussion with editors representing the New England Journal of Medicine, JAMA, Science, and Nature Reviews Drug Discovery; and View from the Top presentations by biotechnology industry leaders Ken Frazier (CEO of Merck), Bob Bradway (CEO of Amgen) Joe Jimenez (Former CEO of Novartis), Jeff Leiden (CEO of Vertex), Patrick Soon-Shiong (CEO of Nantworks), and George Scangos (CEO of Vir).

In addition, researchers engaged in clinical and translational stage projects will have the opportunity to present their ideas in an interactive shark-tank style competition judged by a panel of CEOs.

For more information, see http://med.stanford.edu/cvi/mission/upcoming-events/2018-drug-discovery-conference.html

New CVI Staff

Aruna Krishnan, PhD Senior Research Scientist
akrish@stanford.edu

Dr. Krishnan has over 30 years of research experience studying the endocrine system in physiology and disease in the areas of molecular and cellular biology. Her research interests include understanding the role of nuclear receptors in normal physiology and the changes in their signaling in disease states such as diabetes and cancer. Her research has resulted in over 70 publications in leading peer-reviewed journals and edited books.

Katy Claiborn, PhD Senior Researcher/Writer
claiborn@stanford.edu

Dr. Claiborn trained in molecular biology at the University of Pennsylvania, focused on glucose metabolism and pancreatic development. She has a passion for scientific communication, and previously served as an editor at the Journal of Clinical Investigation and as a Research Associate at the Harvard School of Public Health.
The Institute currently consists of over 241 faculty members representing physicians, surgeons, engineers, basic and clinical researchers. The mission of the Institute is integrating fundamental research across disciplines and applying technology to prevent and treat cardiovascular disease.

To support cardiovascular research and education at CVI, please contact: Cathy Hutton, Senior Associate Director, Medical Center Development at cathy.hutton@stanford.edu

For more information: http://med.stanford.edu/cvi/support-our-research.html and http://cvi.stanford.edu

Cathy Hutton, MBA
50th ANNIVERSARY CELEBRATION

of Dr. Norman E. Shumway’s First Heart Transplant

Monday, January 22, 2018
8 a.m. - 5 p.m.
Li Ka Shing Center for Learning and Knowledge:
Paul Berg Hall

Registration:
https://tinyurl.com/Shumway50
The 2017 Stanford-China Cardiovascular Symposium took place on September 21-22 in the Li Ka Shing Center on the Stanford School of Medicine Campus. The event, sponsored in part by the Stanford Cardiovascular Institute and the Chi-Li Pao Foundation, brought together over 300 attendees, including: over 60 visitors from China, faculty, postdocs, graduate student members of the Stanford community, and representatives of the biotechnology industry.

The symposium featured 50 world-class speakers, including Nobel Laureate Dr. Brian Kobilka, the President of the National Academy of Medicine Dr. Victor Dzau, and pioneering researchers from the top cardiovascular hospitals in China. The presentations spanned vast fields, from the basic molecular mechanisms that contribute to the development of heart disease to imaging techniques used to visualize heart function, and the surgical interventions used to treat heart defects. In addition, the speakers described the rapid and exciting development in cardiovascular medicine and research in China, where a high volume of cardiac procedures and rich resources in human genetic analysis are driving new discoveries.

A major theme of the presentations was the potential for future international collaborations, in which each nation can leverage the strengths of the other to promote research advances. Furthermore, the symposium served as an invaluable networking opportunity for researchers, clinicians and trainees.
The Stanford Vascular Medicine Program was started by Drs. John Cooke and Victor Dzau who wrote with novel insight the editorial, "The time has come for vascular medicine" in the Annals of Internal Medicine in 1990. Currently, under Dr. Nicholas Leeper's leadership, it is continuing to embrace the spirit of innovation and is composed of a full spectrum bench-to-bedside translational vascular research and a high volume clinical practice.

Dr. Leeper's group engages in genomic and molecular biology approaches to develop new translational targets for atherosclerosis and aneurysm disease and these endeavors are complemented by efforts in "Big Data" and bioinformatics, where machine learning is applied to identify new predictors of adverse outcomes for subjects with peripheral vascular diseases. Clinical research areas include early stage trials focused on novel anti-thrombotic and pro-angiogenic agents.

The Stanford Vascular Medicine Fellowship Program will resume July 2018 after several years of absence following the NHLBI K12 programs. This one-year non-interventional program aims to produce experts in arterial, venous and lymphatic diseases, including related conditions of atherothrombosis, aneurysm disease, and inflammatory vascular disorders. The curriculum will cover risk factor management, as well as advanced training related to wound care, imaging, and preventative and interventional therapeutic approaches. Rotations will include specialties such as vascular surgery, cardiology, endocrinology, hematology, rheumatology, neurology and vascular radiology.

Interested individuals who have completed an Internal Medicine residency (with or without advanced cardiology, hematology or rheumatology training) and seek comprehensive vascular training should contact Eri Fukaya MD, PhD (efukaya@stanford.edu) for more information.

Stanford Vascular Medicine is part of the Division of Vascular Surgery: https://vascular.stanford.edu/
Examples of ongoing vascular research opportunities: http://med.stanford.edu/leeperlab.html

cvi.stanford.edu

New Fellowship Opportunity in Vascular Medicine

The American Heart Association Scientific Sessions were held November 11-15 in Anaheim, California. Many members of the Stanford Cardiovascular Institute attended to share their work and hear from leading experts in the field. In addition, multiple CVI members were honored with awards recognizing their contributions to basic, clinical, and translational advancements in cardiovascular science.

These awards included:

Alyssa Flores | Peripheral Vascular Disease Fellows in Training Travel Award
Robert Harrington, MD | Clinical Research Prize
Ngan Huang, PhD | Jay D. Coffman Young Investigator Award
Ioannis Karakikes, PhD / Joseph Wu, MD, PhD | Best Manuscript Award in Circulation Research
Marlene Rabinovitch, MD | Distinguished Scientist Lecturer
Paul Wang, MD | Clinical Cardiology Council Distinguished Achievement Award
Joseph Wu, MD, PhD | George E. Brown Memorial Lecture; AHA Merit Award
Sean Wu, MD, PhD | Superior Editorial Consultant for Circulation Research
Mingtao Zhao, PhD | Finalist, Louis N. and Arnold M. Katz Basic Research Prize

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Marlene Rabinovitch, MD | Distinguished Scientist Lecturer
Paul Wang, MD | Clinical Cardiology Council Distinguished Achievement Award
Joseph Wu, MD, PhD | George E. Brown Memorial Lecture; AHA Merit Award
Sean Wu, MD, PhD | Superior Editorial Consultant for Circulation Research
Mingtao Zhao, PhD | Finalist, Louis N. and Arnold M. Katz Basic Research Prize
In 1959, when the School of Medicine relocated from San Francisco to a new complex on the university campus, a gallon of gas was 25 cents, Alaska became the 49th state, and Barbie hit toy stores.

Designed by Edward Durell Stone, the complex integrated outdoor and interior landscapes, with pierced grills, walls of glass bricks and a network of courtyards. But the buildings that compose the complex have not kept up with the accelerating demands of today’s medicine, and while the recent addition of structural steel frames to the exterior of the Edwards building makes it seismically safe, the buildings remain functionally deficient.

The Biomedical Innovation Building is the first step in a sequence of new buildings that eventually will replace the outdated complex. It will house laboratories and support space for nearly 1,000 faculty, students and staff in specialties that include orthopedic surgery, pediatrics, immunology and genomics.

“The BMI will bring together world-leading research teams in a modern and technologically advanced facility,” said Lloyd Minor, MD, dean of the School of Medicine. “More than that, the BMI will foster scientific collaboration and encourage the formal and informal interactions that are necessary for innovation and precision health.”

The building, which is scheduled for completion by 2019, will bring together multidisciplinary teams of engineers, basic scientists and physician-researchers from nine areas, including the Stanford Cardiovascular Institute; Sean N. Parker Center for Allergy and Asthma Research; the Stanford Initiative to Cure Hearing Loss; the Stanford Human Systems Immunology Center; and the Stanford Institute for Immunity, Transplantation and Infection.

The building’s central concept is to foster collaboration and interaction through open lab configurations and spaces that enable occupants to gather, confer, and mingle. Each floor will include adaptable conference rooms, small huddle booths and open lounge areas. An 80-seat meeting room and a large outdoor terrace will be accessible for scientific symposia and receptions.


**'Humanized' Mice Inadequate for Stem Cell Transplantation Studies**

A type of mouse widely used to assess how the human immune system responds to transplanted stem cells does not reflect what is likely to occur in patients. Known as “humanized” mice, the animals have been engineered to have a human, rather than a murine, immune system. Researchers have relied upon the animals to study, among other things, the immune response to the transplantation of pancreatic islet cells for diabetes and skin grafts for burn victims.

However, Stanford researchers found that the humanized mice are unable to robustly reject the transplantation of genetically mismatched human stem cells.

“In an ideal situation, these humanized mice would reject foreign stem cells just as a human patient would,” said Joseph Wu, MD, PhD, director of Stanford’s Cardiovascular Institute. “We could then test a variety of immunosuppressive drugs to learn which might work best in patients, or screen for new drugs that could inhibit this rejection. We can’t do that with these animals.”

Wu shares senior authorship of the research, which was published Aug. 22 in *Cell Reports*, with Dale Greiner, PhD, professor at the University of Massachusetts Medical School, and Leonard Shultz, PhD, professor at the Jackson Laboratory. Former postdoctoral scholars Nigel Kooreman, MD, and Patricia de Almeida, PhD, and graduate student Jonathan Stack, DVM, share lead authorship of the study.

To understand more about what was happening, Kooreman and his colleagues created a new mouse model. Instead of reconstituting the animals’ immune systems with human cells, they used immune and bone marrow cells from a different strain of mice. Unlike the humanized mice, these new mice robustly rejected human pluripotent stem cells as well as mouse stem cells from a genetically mismatched strain.

More research needs to be done to identify the cause of the discrepancy between the two types of animals. In the meantime, they are warning other researchers of potential pitfalls in using this model to screen for immunosuppressive drugs that could be effective after human stem cell transplants.

The research was funded by the California Institute of Regenerative Medicine (CIRM), the National Institutes of Health (NIH) and the Helmsley Charitable Trust.


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cvi.stanford.edu
Leslie Purchase describes herself a data devotee. So, when she heard about the Project Baseline study—one of the largest, most comprehensive efforts to understand the basic underpinnings of health and disease—she jumped at the chance to participate.

The study is an ambitious endeavor. Launched in April after years of designing and planning by Verily, an Alphabet company, in partnership with Stanford Medicine and the Duke University School of Medicine, it aims to understand the molecular basis of health by repeatedly collecting biomedical data from as many as 10,000 participants over the course of at least four years.

Observing how a person’s health data changes over time, regardless of whether they remain healthy or fall ill, could provide the first comprehensive atlas of what it means to be “well”, or help researchers learn the subtle signals given off by the body at the earliest stages of cancer, heart disease or other disorders. Purchase is a particularly valuable participant in the study; as a breast cancer survivor, her biological data could provide information for researchers seeking to understand the murky border between health and disease.

“It’s important that we enroll a broad spectrum of participants, from those who are healthy to those who have a higher-than-normal risk for cancer or cardiovascular disease,” said professor and chair of radiology Sanjiv “Sam” Gambhir, MD, PhD, the study’s principal investigator at Stanford. “We also need people of all ages and ethnic backgrounds. The reason that this is so important is that we want to capture the transition from health to illness at a molecular level. Enrolling people at higher risk can increase the probability that we will observe study participants transitioning to an ill state during the course of the study. And this transition may look different in different ethnic groups or genders.”

Participation in the study involves a two-day visit to Stanford, during which participants’ health history and vital signs are assessed and biospecimens such as saliva and blood are collected. Clinical tests such as echocardiograms, CT scans and chest X-rays are conducted, and participants are given an investigational study watch and a sleep sensor to measure their activity and sleep. After the initial visit, participants respond to regular surveys, and return to Stanford at least once a year for further data collection.

“This study is highly unique in the depth of information it gathers about individuals over time,” said Gambhir, who is also the director of the Canary Center for Cancer Early Detection at Stanford. “We want to encourage anyone interested—particularly underrepresented minorities, the elderly and those at high risk for cancer or cardiovascular disease—to visit the website to learn more about the study and apply to participate.”


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Mechanical heart valves may be safer in certain cases than valves made of animal tissue and should be used more in heart-valve replacements, especially in younger patients, according to a study by researchers at Stanford.

The study was published Nov. 8 in The New England Journal of Medicine. Joseph Woo, MD, professor and chair of cardiothoracic surgery at Stanford is the senior author.

Heart-valve disease, which can lead to heart failure and sudden death, can be present at birth or result from infections, heart attacks or other heart conditions. When a valve becomes so diseased that it impedes the delivery of blood to the body, open-heart surgery to replace the valve with a new one generally is recommended.

Researchers examined rates of mortality, stroke, bleeding and reoperation in patients who underwent heart-valve surgery at 142 hospitals in California between 1996 and 2013.

Results showed a stark difference in health benefits depending on which valve was being replaced, Woo said.

“For most heart surgeons who have to face this conversation every single day, this choice is very much on our minds,” Woo said. “For many heart surgeons throughout the country and beyond, this study could have a major impact.”

Stenting Better than Medication Alone Early on in Heart Disease, Study Finds

For many patients with stable heart disease who would normally be treated with medication alone, inserting a vessel-opening stent into narrowed heart vessels could be a better treatment option, according to a multi-center study published in Circulation.

In the study, which followed patients who received either medication alone or stents, those who had the stents inserted early on were found to have significantly less chest pain and fewer urgent hospitalizations.

In addition, while stenting was more expensive up front, after three years the costs evened out. This was primarily due to the reduced need for hospitalizations and urgent stenting procedures in those who received early stents, said William Fearon, MD, professor of cardiovascular medicine at Stanford and lead author of the study. About 50 percent of those who received medication alone eventually needed emergency stenting, he said.

Fearon’s studies have focused on the use of fractional flow reserve technology to help determine when it’s appropriate to insert stents and in which vessels. The study showed that by using this technique, it’s possible to identify the patients with stable heart disease who would benefit from a stent, rather than solely taking medications.

Each year the CVI awards seed grants to fund innovative cardiovascular research projects. This year, winners were selected from over 90 applications, and the awardees proposed projects that initiate new areas of pediatric and obstetric research, the development of new technologies for heart and vascular biology, and the mechanisms of sudden cardiac death.

**PI:** Christopher Gardner, PhD  
**Co-Investigators:** Michael P. Snyder, MD; Francois Haddad, MD  
Addressing the obesity and Diabetes epidemic through understanding personalized energy expenditure. *This study funded by CHRI.*

**PI:** Doff Bryan McElhinney, MD  
**Co-Investigators:** Mads Melbye, MD, DMSc  
Psychosocial, Cognitive, and Quality of Life Outcomes in Children and Adults with Repaired Tetralogy of Fallot with Pulmonary Atresia and Major Aortopulmonary Collateral Arteries. *This study funded by CHRI.*

**PI:** James Priest, MD  
**Co-Investigator:** Mads Melbye, MD, DMSc  
A Sensitized Genetic Association Study for Congenital Heart Disease. *This study funded by CHRI*

**PI:** Oscar Abilez, MD, PhD  
**Co-PIs:** Huxiao Yang, PhD.; Hung-Ta Wo, MD  
Early Detection of Arrhythmogenesis due to Cardiac Fibrosis via Correlation of In Vitro Modeling and Clinical Assessment  
*This study funded by the Gootter Foundation*

**PI:** Fatima Rodriguez, MD, MPH  
**Co-Investigator:** Rajesh Dash, MD, PhD  
Bridging the Gap: The Impact of a New Virtual Preventive Cardiology Clinic on Cardiovascular Risk Reduction in Two High Risk Ethnic Populations

**PI:** Sarah Heilshorn, PhD  
**Co-Investigator:** Joseph Woo, MD  
Stem Cell-derived Exosomes as Potential Therapy for Acute Myocardial Infarction

**PI:** Laura Lazzeroni, PhD  
**Co-Investigator:** Thomas Quertermous, MD  
Integrating MultiOmic Data in Coronary Heart Disease: A Pilot Study for New Statistical Methods

**PI:** Koen Nieman, MD, PhD  
**Co-Investigators:** Jennifer Tremmel, MD; Dominik Fleischmann, MD  
Computed Tomography Guided Revascularization of Chronic Coronary Occlusions

**PI:** Jayakumar Rajadas, PhD  
**Co-Investigator:** Rongli Liao, PhD  
Study of Aggregation Mechanism of Ig Light Chains from Light Chain Amyloidosis Patients

**PI:** Sean Wu, MD, PhD  
**Co-PI:** Marlene Rabinovitch, MD  
A Perfusion Bioreactor for Understanding Endocardial-Myocardial Interactions in Hypoplastic Left Heart Syndrome

**PI:** Tara Chang, MD  
**Co-PI:** Marlene Rabinovitch, MD  
Harnessing Big Data to Reduce Peripheral Artery Disease-Related Leg Amputation in Chronic Kidney Disease

**PI:** Kiran Khush, MD  
**Co-PI:** Ash Alizadeh, MD, PhD  
A Genomic Approach for Early Noninvasive Detection of Post-Transplant Malignancies
Randall Stafford on New Blood Pressure Guidelines

A panel of the nation’s leading heart experts issued new blood pressure guidelines Nov. 13 that redefine what constitutes high blood pressure.

High blood pressure has been redefined as reading of 130 over 80, down from 140 over 90, said Randall Stafford, MD, PhD, professor of medicine and director of the Program on Prevention Outcomes and Practices at Stanford. He was one of the 21 experts who worked on developing the new guidelines.

Q: How many people have high blood pressure?

Stafford: It is estimated that under these new guidelines, 103 million Americans have high blood pressure, up from 72 million under the previous standard.

Nearly half of all American adults, and nearly 80 percent of those aged 65 and older, will find that they qualify for blood pressure medication and will need to take steps to reduce their blood pressure.

Q: Can you discuss the various treatments for lowering high blood pressure and how these will change under the new guidelines?

Stafford: The new guidelines hinge on people at higher risk for future bad events — like heart attacks and strokes — being treated more intensively. This requires being more aggressive about lifestyle changes, as well as being more willing to prescribe multiple medications for blood pressure.

Three times a year, the CVI grants awards to trainees to support their travel to national conferences to present their work. Congratulations to the recent winners!

**Mingxia Gu, PhD**  
Mentor: Marlene Rabinovitch, MD  
"High-Throughput Drug Screening of iPSC-Derived Vascular Cells to Reverse PAH Phenotype"  
AHA Scientific Sessions 2017  
Anaheim, CA

**Vedant Pargaonkar, PhD**  
Mentor: Jennifer Tremmel, MD  
"Clinical Outcome and Long-term Follow-up in Patients with Angina in the Absence of Obstructive Coronary Artery Disease"  
AHA Scientific Sessions 2017  
Anaheim, CA

**Kenneth Tran, MD**  
Mentor: Jason Lee, MD  
"Complex EVAR is Associated with Higher Peri-operative Mortality but not Late-mortality Compared to Infrarenal EVAR Amongst Octogenarians"  
Western Vascular Society 2017  
Blaine, WA

**Ke Yuan, PhD**  
Mentor: Vinicio de Jesus Perez, MD  
"Loss of Wnt5a Disrupts Endothelial-Pericyte Interaction in Pulmonary Arterial Hypertension"  
AHA Scientific Sessions 2017  
Anaheim, CA

**Christoph Olivier, MD**  
Mentor: Mintu Turakhia, MD  
"Site Variation and Trends for Antithrombotic Therapy in Patients with Atrial Fibrillation after Percutaneous Coronary Intervention in the VA system: Findings from the TREAT-AF Study"  
AHA Scientific Sessions 2017  
Anaheim, CA

**Ji-Hye Jung, PhD**  
Mentor: Phillip Yang, MD  
"Exosomal miR-106a-363 Cluster from the Hypoxic Human iPSC-derived Cardiomyocytes Restore the Autologous Ischemic Cardiomyocytes"  
AHA Scientific Session 2017  
Anaheim, CA

**Vivek Nanda, PhD**  
Mentor: Nicholas Leeper, MD  
"Functional Regulatory Mechanism of Smooth Muscle Cell-Restricted LMOD1 Corona..."  
AHA Scientific Sessions 2017  
Anaheim, CA

**Daniela Zanetti, PhD**  
Mentor: Erik Ingelsson, MD  
"Birthweight and Obesity, Type 2 Diabetes and Cardiovascular Disease: Revisiting the Berk..."  
AHA Scientific Sessions 2017  
Anaheim, CA

**Mingtao Zhao, MD**  
Mentor: Joseph Wu, MD, PhD  
"Cell Type-Specific Chromatin Signatures Underline Regulatory DNA Elements in Human Induced Pluripotent Stem Cells and Cardiac Cells"  
AHA Scientific Sessions 2017  
Anaheim, CA

**Martin Willemink, MD, PhD**  
Mentor: Dominik Fleischmann, MD  
"Aortomitral Calcification Volume Predicts Mortality in Transcatheter Aortic Valve Replacement"  
AHA Scientific Sessions 2017  
Anaheim, CA
December 5, 2017
FRANK W. SELLKE, MD
Karl E. Karlson, MD and Gloria A. Karlson
Professor of Cardiothoracic Surgery, Brown
Medical School and Lifespan Hospitals

December 12, 2017
JAMES K. LIAO, MD
Harold Hines Jr. Professor; Chief,
Cardiology Section; Director, Physician
Scientist Training Program University of
Chicago, University of Chicago

January 9, 2018
JENNIFER VAN EYK, PHD
Director, Advanced Clinical Biosystems
Institute in the Department of Biomedical
Sciences; Director, Basic Science Research
in the Women's Heart Center; Erika J.
Glazer Chair in Women's Heart Health,
Cedars Sinai

January 16, 2018
ERIK INGELSSON, MD
Professor of Medicine (Cardiovascular
Medicine) and, by courtesy, of Health
Research and Policy (Epidemiology)
Stanford

January 23, 2018
JAMES F. MARTIN, MD, PHD
Professor, Vivian L. Smith Chair in
Regenerative Medicine
Baylor College of Medicine

January 30, 2018
ALISON L. MARSDEN, PHD
Associate Professor of Pediatrics
(Cardiology) and of Bioengineering
and, by courtesy, of Mechanical
EngineeringStanford

February 6, 2018
BRIAN BLACK, PHD
Professor, Cardiovascular Research
Institute, Department of Biochemistry and
Biophysics, UCSF

February 13, 2018
WALTER J. KOCH, PHD
William Wikoff Smith Endowed Chair in
Cardiovascular Medicine; Professor and
Chair, Pharmacology, Temple University

February 20, 2018
KAJIMURA SHINGO, PHD
Associate Professor, Department of Cell
and Tissue Biology, UCSF

February 27, 2018
MARK E. ANDERSON, MD, PHD
William Osler Professor of Medicine; Chair,
Department of Medicine, Johns Hopkins
University

March 6, 2018: The Steven M Gootter
Foundation Lecture
MARK E. ANDERSON, MD, PHD
William Osler Professor of Medicine; Chair,
Department of Medicine, Johns Hopkins
University

March 13, 2018
KAM W. LEONG, PHD
Samuel Y. Sheng Professor; EiC,
Biomaterials; Department of Biomedical
Engineering, Columbia University

March 27, 2018
SARAH C. HEILSHORN, PHD
Associate Professor, Materials Science &
Engineering, Stanford; Associate Editor,
Science Advances, AAAS

April 10, 2018
THOMAS M. VONDRISKA, PHD
Professor of Anesthesiology, Medicine and
Physiology, UCLA

April 17, 2018
PEIPEI PING, PHD
Professor, Physiology; Professor, Medicine/
Cardiology, and Bioinformatics, UCLA;
Director, NIH BD2K Center of Excellence
at UCLA; Director, NIH BD2K Centers-
Coordination Center at UCLA

May 1, 2018
GEOFFREY PITT, MD, PHD
Director of the Cardiovascular Research
Institute; The Ida and Theo Rossi
Distinguished Professor of Medicine, Weill
Cornell Medical College

May 8, 2018
ROBERT J. GROPLER, MD
Professor of Radiology, Medicine and
Biomedical Engineering
Senior Vice-Chair and Division Director
Radiological Sciences &
Chief, Cardiovascular Imaging Laboratory
Washington University School of Medicine

May 15, 2018
BRADFORD C. BERK, MD, PHD
Distinguished University Professor in
Medicine, Neurology, Pathology, and
Pharmacology & Physiology
Director, University of Rochester
Neurorestoration Institute
University of Rochester Medical Center

May 22, 2018
PETER LIBBY, MD
Mallinckrodt Professor of Medicine,
Harvard Medical School
Senior Physician, Brigham and Women's
Hospital

May 29, 2018
SHAOCHEN CHEN, PHD
Professor and Vice Chair of
NanoEngineering Department Professor of
Bioengineering and Radiology
Departments; Co-Director of Biomaterials
and Tissue Engineering Center, University
of California, San Diego

June 5, 2018
CHRISTINE MUMMERY, PHD
Professor of Developmental Biology, Chair
Dept. of Anatomy & Embryology, Leiden
University Medical Center
AHA (American Heart Association)
Collaborative Sciences Award
Letter of Intent due: Nov 1, 2017
Application deadline: Feb 5, 2018
AHA

Institute for Precision Cardiovascular Medicine - Uncovering Patterns
1 year award, $150,000
Deadline: Nov 1, 2017
AHA

Spectrum Pilot Grants
Amount of funding: $15-50K for 1 year
Deadline: Anticipated to be end of 2017/early 2018
Spectrum Pilot Grants

NHLBI Bold New Bioengineering Methods and Approaches for Heart, Lung, Blood and Sleep Disorders and Diseases (R21)
Amount of funding: $275K direct costs for 2 year period; 2 year maximum
Deadline: January 10, 2018
RFA-HL-17-015
Wallace H. Coulter Translation Research Grant Program
Stanford CoulteR–Translational Research Grants
Deadline: Feb 16, 2018
Coulter
National Institutes of Health
Improving Outcomes in Cancer Treatment-Related Cardiotoxicity (R01)
Deadline: Feb. 5, 2018
R01: PA-16-035

NHLBI Single-Site Investigator-Initiated Clinical Trials (R61/R33)
Deadline: Feb. 13, 2018
PAR-16-405
Improving Outcomes in Cancer Treatment-Related Cardiotoxicity (R21)
Deadline: Feb. 16, 2018
R21: PA-16-036
NHLBI Clinical Trial Pilot Studies (R34)
Deadline: Feb. 16, 2018
PAR-16-037

Progeria Research Foundation
Research Grants (Innovative, Established Investigator, Specialty awards)
Deadline: March 2018
Progeria Research

AHA
Postdoctoral Fellowship
Amount of funding: $51,484 - $125,120, 2yrs maximum
Deadline: Nov. 2, 2017
AHA

Career Development Award
Deadline: Dec 4, 2017
AHA

Cardiovascular Institute (CVI)
Multi-disciplinary Training Program in Cardiovascular Imaging at Stanford T32 Training Grant Two positions available
Deadline: Aug. 15, 2018 (for a position starting Nov. 1, 2018)
CVI T32

Howard Hughes Medical Research Institute (HHMI)
Hanna H. Gray Fellows Program
Postdoctoral phase: up to $60,000 for salary and a $20,000 expense allowance per year for up to 4 years (minimum of two years and a maximum of 4 years)
Deadline: Jan. 10, 2018, 3 p.m. ET (via the HHMI online website)
Hanna Gray

National Institutes of Health
Ruth L. Kirschstein National Research Service Awards (NRSA) for Individual Postdoctoral Fellows
Deadline: Dec. 8, 2017
PA-16-307

K99/R00 NIH Pathway to Independence Award
Deadline: Feb. 12, 2018
PA-16-193

K08 Mentored Clinical Research Career Development Award
Deadline: Feb. 12, 2018
PA-16-191

K23 Mentored Patient-Oriented Research Career Development Award
Deadline: Feb. 12, 2018
PA-16-198

NHLBI K01 Mentored Career Development Award to Promote Faculty Diversity
Deadline: Feb. 20, 2018
RFA-HL-16-006

Stanford Child Health Research Institute (CHRI)
Clinical Trainee Support
Deadline: Feb. 2018
CHRI Clinical Trainee

Marfan Foundation
Victor A. McKusick Fellowship Program
Early Investigator Grant Program
Deadline: Feb. 2018
Marfan Foundation

Spectrum Education Program
TL1 Clinical Research Training Program
Deadline: Feb. 1, 2018
Spectrum

KL2 Mentored Career Development Program
Deadline: Feb. 1, 2018
Spectrum

Thrasher Research Fund
Early Career Awards
Deadline: March 2018 (Concept submission)
Thrasher Early Career Awards
Stanford CVI Human iPSC Biobank Service

Normal and patient-derived reprogrammed cardiomyocytes are a tremendous resource for researchers and physicians here at Stanford and around the country. Understanding the disease process directly at the population level and observing these cells as surrogates under a myriad conditions has the potential to be a game-changer for cardiovascular medical research.

To facilitate research in a dish that allows screening of new compounds or characterization of human disease phenotypes using cardiomyocytes, the Institute created a service by which de-identified peripheral blood mononuclear cell (PBMC) samples from selected patients can be sent to Stanford CVI for reprogramming free of cost.

SCVI biobank is supported in part by National Heart, Lung and Blood Institute (NHLBI) and the Stanford Cardiovascular Institute (CVI).

Stanford iPSC Biobank was recently mentioned in Nature Methods news: nature.com/nmeth/journal/v12/n2/full/nmeth.3263.html.

Contact: Joseph Wu, MD, PhD / joewu@stanford.edu
or Biobank manager, Yan Zhuge, PhD / yanzhuge@stanford.edu with any questions

Clinical Biomarker & Phenotyping Core Lab (BPCL)

BPCL provides quantitative assessment of clinical cardiovascular phenotypes for translational research and clinical trials. These cardiovascular phenotypes include evaluating cardiac structure and function, measuring carotid intimal thickness and arterial stiffness, and testing endothelial function and cardiopulmonary exercise testing.

In collaboration with the Human Immune Monitoring Center at Stanford and members of the Cardiovascular Institute, we also offer central blood processing and banking capabilities. In addition, we develop new biomarker platforms and imaging modalities.

Contact: Francois Haddad, MD / fhaddad@stanford.edu

CVI Clinical Trials Core

The CVI Clinical Trials Core provides full spectrum of support to CVI members and their clinical trials. The coordinators have extensive clinical research experience in both industry and academia. The team provides services and support to principal investigators and sponsors, including:

- Consultation
- Study start-up management, including IRB applications, budget development
- Subject recruitment, site visits, and follow-ups (AE reporting and queries)
- Data management
- Regulatory compliance and documentation
- Closeout

Contact: Ed Finn, Clinical Trials Manager or Hoa Ly, Clinical Research Coordinator at (650) 498-6279

cvi.stanford.edu

Cardiovascular Pharmacology (BioADD)

The Cardiovascular Pharmacology/Biomaterials and Advanced Drug Delivery (BioADD) Laboratory is a cutting edge research facility that specializes in the creation of biomaterials and drug delivery agents. The lab lends its expertise toward designing and analyzing biomaterials, developing drug delivery devices and formulations, pharmacokinetic and pharmacodynamic studies, and developing smart materials for biomedical applications. The CVI Cardiovascular Pharmacology also offers trainings and lectures.

Contact: Jayakumar Rajadas, PhD jayraja@stanford.edu

3DQ Imaging Laboratory

Stanford’s 3DQ Imaging Laboratory develops new approaches to exploration, analysis and quantitative assessments of diagnostic images that result in new and/or more cost-effective diagnostic approaches, and new techniques for the design and monitoring of therapy. The lab processes over 1,200 clinical cases to deliver relevant visualization and analysis of medical imaging data at Stanford.

The lab is co-directed by Dominik Fleischmann, MD, Roland Bammer, PhD and Sandy Napel, PhD.

Contact: Dominik Fleischmann, MD d.fleischmann@stanford.edu
Communication is at the heart of scientific advancement and innovation. This quarter, the Stanford Cardiovascular Institute members published over 350 original manuscripts and reviews, further contributing to our understanding of cardiovascular biology and disease. Here, we highlight selected manuscripts by our members.

**OCTOBER**


**Staufen1 inhibits MyoD translation to actively maintain muscle stem cell quiescence.** de Morrée A, van Velthoven CTJ, Gan Q, Salvi JS, Klein JDD, Akimenko I, Quarta M, Biressi S, Rando TA. Proc Natl Acad Sci USA. 2017 Oct 24;114(43):E8996-E9005.


Throwing out the good with the bad: Declining potential donor hearts with left ventricular dysfunction. Moayedi Y, Khush KK. J Heart Lung Transplant. 2017 Sep 25.


The conundrum of equitable organ allocation in heart transplantation: The Heart Lung Transplant. 2017 Sep;36(9):1004-1012.


**AUGUST**


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<thead>
<tr>
<th>Name</th>
<th>Title and Affiliations</th>
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<tbody>
<tr>
<td><strong>Leadership</strong></td>
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<tr>
<td>Joseph C. Wu, MD, PhD</td>
<td>Director, Stanford Cardiovascular Institute, Simon H. Stwertzer Professor of Medicine (Cardiovascular) and Radiology</td>
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<tr>
<td>Robert A. Harrington, MD</td>
<td>Arthur L. Bloomfield Professor of Medicine, Chair, Dept. of Medicine</td>
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<tr>
<td>Ronald L. Dalman, MD</td>
<td>Walter C. and Elsa R. Chidester Professor of Surgery, Chief, Division of Vascular Surgery</td>
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<tr>
<td>Stephen J. Roth, MD, MPH</td>
<td>Professor and Chief, Pediatric Cardiology, Director, Children’s Heart Center</td>
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<tr>
<td>Dominik Fleischmann, MD</td>
<td>Professor, Dept. of Radiology, Chief, Cardiovascular Imaging</td>
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<tr>
<td>Michael Snyder, PhD</td>
<td>Stanford W. Ascherman Professor and Chair, Dept. of Genetics, Director, Stanford Center for Genomics and Personalized Medicine</td>
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<td>Kenneth Mahaffey, MD</td>
<td>Professor, Dept. of Medicine, Vice Chair of Medicine for Clinical Research</td>
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<tr>
<td>Y. Joseph Woo, MD</td>
<td>Norman E. Shumway Professor in Cardiothoracic Surgery, Chair, Dept. of Cardiothoracic Surgery</td>
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<td>Mark Nicolls, MD</td>
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<td>Tom Quertermous, MD</td>
<td>William G. Irwin Professor of Medicine, Co-Chief (Research), Division of Cardiovascular Medicine</td>
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<tr>
<td>Paul Yock, MD</td>
<td>Martha Meier Weiland Professor, Bioengineering and Medicine, and Professor, by courtesy, of Mechanical Engineering, Director, Byers Center for Biodesign</td>
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<tr>
<td>Marlene Rabinovitch, MD</td>
<td>Dwight and Vera Dunlevie Professor in Pediatric Cardiology</td>
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