Stanford Cardiovascular Institute

Stanford MEDICINE

SPRING 2017

After rare procedure, woman can hear her heart beat in another

By Sara Wykes

Stanford Medicine surgeons performed an unusual transplantation in which one woman received a heart-lung transplant, while her existing heart was given to another patient.

The first thing Linda Karr asked her doctor after her heart transplant surgery at Stanford Hospital was, "How is my heart donor doing?"

That question is as exceptionally rare as the surgery that made it possible. On Feb. 1, as part of a "domino" procedure, Karr received the heart of Tammy Griffin, who received a new heart and lungs from a deceased donor.

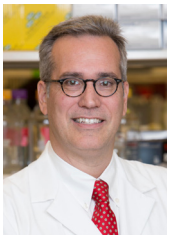
Organs available for transplant are in short supply. Heart-lung combinations are even more rare because a set of heart and lungs is usually split up so that the organs can benefit two people instead of just one. Domino transplantation of a heart-lung and heart does, however, benefit two people. A highly unusual procedure, it has only been performed at Stanford eight times before, last in 1994.

"Her heart was an innocent bystander pushed out of its normal position in the middle of the lungs as her right lung shrank and the left one expanded," said **Joseph Woo, MD**, a cardiothoracic surgeon at Stanford Health Care who oversaw and coordinated the surgical teams that conducted the domino procedure. That displacement made a heart-lung transplant the only viable option for Griffin, said Woo, who is also professor and chair of cardiothoracic surgery at Stanford School of Medicine.

During the Feb. 1 domino procedure, one surgical team removed the heart and lungs from the deceased donor, a second team implanted them in Griffin, and a third team implanted her heart in Karr. (Woo led the second team.) Other Stanford Medicine physicians, including **Michael Fowler, MD**, director of the Heart Failure Program, and **Gundeep Dhillon, MD**, medical director of the Heart-Lung and Lung Transplantation Program, provided pre-transplant care to Griffin and Karr and are providing post-transplant care to them, as well.

Read more at: https://med.stanford.edu/news/all-news/2016/03/after-rare-procedure-woman-can-hear-her-heart-beat-in-another.html

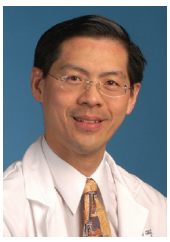
Welcome New Faculty!



Michael S. Kapiloff, MD, PhD, FAHA, FAPS, was recently recruited by the Cardiovascular Institute, Ophthalmology, and Cardiovascular Medicine as a new faculty member. Committed to full time basic research, he joins the Stanford faculty having directed laboratories at the Oregon Health and Science University and the University of Miami. Dr. Kapiloff is an expert in cellular signaling with an interest in how specificity is conferred by multimolecular complexes or "signalosomes." In particular, his laboratory studies the mechanisms underlying cardiac remodeling in disease, and, more recently, neuroprotection and retinal ganglion cell regeneration. Translational efforts include the development of novel AAV-based gene therapy vectors for the treatment of heart failure.

New Appointments

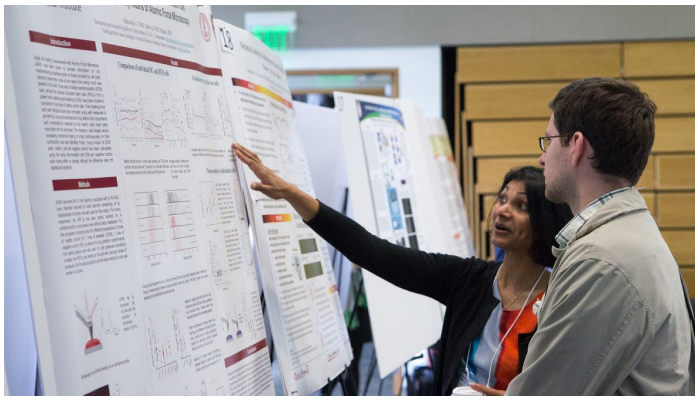
Former CVI Director, Robert C. Robbins Elected as the Next President of the University of Arizona Dr. Robert Robbins, who was the inaugural director of the Stanford Cardiovascular Institute and the president and chief executive officer Texas Medical Center has accepted a new leadership role as the President of the University of Arizona. He has spent over 20 years as a professor and department chair in cardiothoracic surgery at Stanford University School of Medicine and launched the Cardiovascular Institute in 2005 before handing the torch to the current director, Joseph Wu, MD, PhD in 2012.



Paul Wang, MD Named Editor-in-Chief of Circulation: Arrhythmia and Electrophysiology Paul Wang, MD, Professor of Cardiovascular Medicine has been selected as the upcoming Editor-in-Chief of Circulation: Arrhythmia and Electrophysiology. Produced bimonthly by the American Heart Association, Circulation: Arrhythmia and Electrophysiology publishes articles focusing on "advances in the understanding of pathophysiology, diagnosis, and treatment of cardiac arrhythmias." Dr. Wang is the Director of the Stanford Hospital's Cardiac Arrhythmia Service, and has practiced cardiac electrophysiology as an arrhythmia expert for over 26 years. He was a co-inventor of catheter cryoablation and has co-authored numerous textbooks on innovations in arrhythmia therapy.

2nd Annual Drug Discovery Conference

Photo Credit: Babacar Ndoye



The 2017 Drug Discovery Conference drew over 570 Attendees from academia, leading biotechnology & pharmaceutical companies, start-ups, venture firms, and policy makers to discuss the latest approaches to drug discovery and current climate of research and development continuum. Special guests also included, Elena Porro, Senior Deputy Editor, Cell; Editorial Director, Cell Press and M. Teresa Villanueva, Senior Editor, Nature Research, Nature Reviews Drug Discovery.

The day was kicked-off with welcome remarks from the President and CEO of the Lucille Packard Children's Hospital, Christopher Dawes and of the Stanford Health Care, David Entwistle. Keynote speakers, **Thomas Südhof MD, PhD** (2013 Nobel Laureate) discussed potential pathways to treatments in his talk, "Why Understanding and Treating Neuropsychiatric Disorder is So Difficult" and **Robert Califf, MD** (Former Commissioner of U.S. Food and Drug Administration), shared insights on global overview of the drug development ecosystem. The topics included, bench to bedside in cardiovascular medicine and cancer therapies and industry perspectives from Novartis, Amgen, Takeda, and Plexxikon.

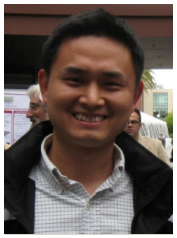
Many thanks to the speakers and the participants for a great day of discussion.

And, special thanks to the Organizing Committee: **Joseph Wu, MD PhD, Sanjay Maholtra, PhD, Mark Mercola, PhD** and **Hana Lee, MPH;** and the poster judges, **Sean Wu, MD PhD, Phil Sager, MD, Ioannis Karakikes, PhD** and **Bruch Koch, PhD.**

Research Poster Award Winners

Wen Alvin Huang, MD
ApoE2, ApoE3 and ApoE4 differentially stimulate amyloid precursor protein transcription and amyloid-beta secretion in human neurons

Wesley L. McKeithan (PhD Candidate)
Use of patient-derived long QT syndrome type 3 hiPSC cardiomyocytes to develop new anti-arrhythmic therapeutic



Ming-Tao Zhao, PhD
Molecular and functional resemblance of terminally differentiated cells derived from isogenic human iPSCs and somatic cell nuclear transfer derived ESCs

Related story: Scopeblog by Tracie White. At Stanford Conference a Real Life Example of How Basic Research Can Save Lives.
http://scopeblog.stanford.edu/2017/04/27/at-stanford-conference-a-real-life-example-of-how-basic-research-can-save-lives

CIRM CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE

Stanford Cardiovascular Institute

Stanford Cancer Institute

FRESH **IDEAS**

CVI Seed Grant Proposals Now Being Accepted!

Since 2006, funded over 74 projects

Application Deadline:
August 1, 2017

Each year, the Stanford Cardiovascular Institute commits to supporting new ideas and early stage research that address major challenges in cardiovascular health and diseases. The seed award is designed to ignite innovative cardiovascular research projects that contribute to basic or clinical understanding of cardiovascular diseases. We encourage projects that initiate new approaches in pediatric and obstetric related research, and the development of new methods or technology for heart and vasculature biology.

Sudden Cardiac Death Starting this year, with support from the Steven M. Gootter Foundation, CVI will provide additional seed funding for initiation of research projects for understanding Sudden Cardiac Death (SCD). SCD or sudden cardiac arrest is a condition in which electrical malfunction in the heart causes a sudden, unexpected disruption of blood flow and death. Physician-scientists at Stanford are working on improving diagnostics accuracy and cost-effective tools for cardiologists to assess patients at risk of SCD.

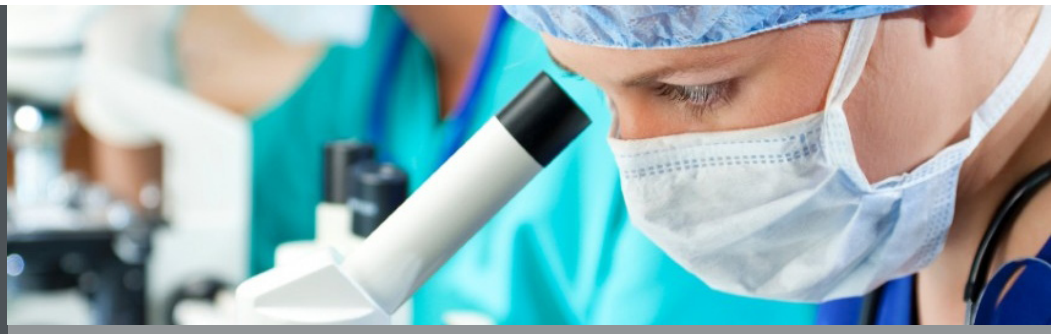
STEVEN M. GOOTTER FOUNDATION

Vist the Gootter Foundation, www.stevenmgootterfoundation.org

For more information and to submit a proposal: http://med.stanford.edu/cvi/research/current-seed-grants.html

iHeart Research

Dorothy Dee & Marjorie Helene Boring Trust Award



Through a generous $2.2 million gift from the Dorothy Dee and Marjorie Helene Boring family, the Stanford Cardiovascular Institute established research award for medical students at Stanford. Since 2015, the award has supported six talented students who have demonstrated excellence and dedication to cardiovascular medicine.

Application Deadline: May 31, 2017

Award Perks:

- Up to a $15,000 stipend
- Choose a mentor from a list of 126 faculty at Stanford specializing in surgery, engineering, health policy, stem cells and regenerative medicine.
- Travel award to present research at a national conference
- Invitation to annual iHeart Research award dinner

For details, visit: http://med.stanford.edu/cvi/research/i-heart-research-award.html
Questions? Contact hanalee@stanford.edu

$50 million gift to Packard Children's Hospital will advance care, research of pediatric heart disease

By Jennifer Yuan

Lucile Packard Children's Hospital Stanford has received a gift of $50 million from Gordon and Betty Moore to deliver exceptional patient care and advance research that improves the health of children with heart disease.

The Moores' donation is the largest private gift to Lucile Packard Children's Hospital Stanford since the hospital's founding donation from David and Lucile Packard.

In honor of the new gift, Packard Children's internationally renowned Children's Heart Center will be named the Betty Irene Moore Children's Heart Center. The gift provides funding for clinical and research facilities, an endowment for the center's highest strategic priorities and endowed positions for faculty to lead specialized care and research. Gordon Moore is co-founder of Intel Corp. He and his wife, Betty, are also founders of the Gordon and Betty Moore Foundation, which works to create positive outcomes for future generations. They are longtime supporters of Packard Children's and previously made gifts to enable the hospital's 521,000-square-foot expansion, which is now nearing completion.

The Moores were motivated to make their latest gift after a child in their family benefited from the care of the Children's Heart Center. "Our grandchild had lifesaving surgery at the hospital, and we would like to help make sure the capability is there for others," Gordon Moore said.

"We are honored to have the Moores' visionary partnership as we strive every day to heal humanity through science and compassion, one child and family at a time," said Christopher Dawes, president and CEO of Lucile Packard Children's Hospital Stanford. "The Betty Irene Moore Children's Heart Center will provide world-leading cardiac care to patients today, tomorrow and for generations to come. "Dr. and Mrs. Moore's incredible gift will not only bolster our clinical capabilities for children and families receiving care now in the Betty Irene Moore Children's Heart Center, it will also accelerate basic and translational research by Stanford Medicine faculty and scientists to develop more precise techniques to predict, prevent, and cure," said Lloyd B. Minor, MD, the Carl and Elizabeth Naumann Dean of the Stanford University School of Medicine. "When it comes to achieving precision health, we must think as big as we can—not just about treating disease, but about making and keeping people healthy—and nowhere is this more true than in children."

In 2017, Packard Children's will complete its major expansion, becoming the most technologically advanced, family-friendly, and environmentally sustainable children's hospital in the nation. The Moores' gift creates an unprecedented opportunity for the Children's Heart Center to expand its state-of-the-art clinical and research facilities, train the future leaders of cardiovascular medicine and surgery, and improve the field of pediatric cardiology and pediatric cardiovascular surgery through innovative research.

Read more: http://med.stanford.edu/news/all-news/2017/03/50-million-gift-to-packard-childrens-hospital-for-heart-center.html

About the Stanford Cardiovascular Institute

The Institute currently consists of over 236 faculty members representing physicians, surgeons, engineers, basic and clinical researcher. The mission of the Institute is integrating fundamental research across disciplines and applying technology to prevent and treat cardiovascular disease.

Hana Lee, MPH

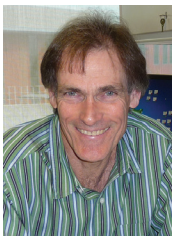
Cathy Hutton, MBA

To support cardiovascular research and education at CVI, please contact: **Cathy Hutton**, Senior Associate Director, Medical Center Development at cathy.sutton@stanford.edu or **Hana Lee**, Associate Director, Cardiovascular Institute at hanalee@stanford.edu.

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

Connie Weyand, MD, PhD Serves as 2017 David Trentham Visiting Professor In March, Connie Weyand, MD, traveled to Harvard as the 2017 David Trentham Visiting Professor in Rheumatology. Her visit included the presentation of Medicine Grand Rounds on "Medium and Large Vessel Vasculitis." Dr. Weyand is Chief of Immunology and Rheumatology at Stanford and a member of both Bio-X and the Cardiovascular Institute. She has published dozens of articles in a range of journals including Immunity, Journal of Clinical Investigation, Journal of Experimental Medicine and Cell Reports.

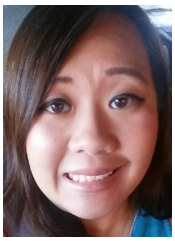
Karim Sallam, MD Receives William W. Parmley Young Author Achievement Award At the 2017 American College of Cardiology (ACC) Scientific Session in Washington, D.C., in March, ACC recognized Karim Sallam, MD, with its William W. Parmley Young Author Achievement Award. The award recognizes two outstanding papers published in the Journal of the American College of Cardiology by primary authors who are within five years of completing training requirements for a specialty board certification or Ph.D. Dr. Sallam's paper – "Patient-specific and genome-edited induced pluripotent stem cell-derived cardiomyocytes elucidate single-cell phenotype of Brugada syndrome" – was published in the journal in November 2016. Dr. Sallam is a Clinical Instructor of Cardiovascular Medicine at Stanford. He is the past recipient of the James D. Heard Junior Prize for Highest Performance in Medicine, the Jeffrey Alan Grey Memorial Prize for Compassion and Humanism, the Leonard Tow Humanism in Medicine Student Award and Stanford's Residency Program Exemplary Professionalism Award.



Jonathan Myers, PhD Awarded the Steven N. Blair Excellence Award in Physical Activity Research Jonathan Myers, PhD, Health Research Scientist and Clinical Professor of Medicine at the VA Palo Alto Health Care System and Stanford University was chosen to receive the prestigious Steven N. Blair Award for Excellence in Physical Activity Research at the EPI/Lifestyle 2017 Scientific Sessions on March 7 – 10, 2017 in Portland, Oregon. The award is named for Dr. Steven N. Blair in appreciation of his outstanding career as a clinical researcher working in the areas of exercise, physical activity and cardiovascular health. Dr. Myers is the Director of the Exercise Research Laboratory and focuses on clinical applications of exercise testing and training in patients with chronic heart failure, physical activity and cardiovascular health, and the epidemiology of exercise test response and physical activity patterns.

Raiyan Zaman, PhD Selected as the 2017 Recipient of the Correlative Imaging Council Walter Wolf Young Investigator Award The Society of Nuclear Medicine and Molecular Imaging presented Raiyan Zaman, PhD, the 2017 Correlative Imaging Council Walter Wolf Young Investigator Award for her abstract "Harnessing Radioluminescence and Sound to Reveal Molecular Pathology of Atherosclerotic Plaques" which recognizes significant contributions to the promotion of nuclear medicine and advancement of molecular imaging and therapy. She is an Instructor of Cardiovascular Medicine at Stanford.

Welcome New CVI Staff



Hoa Ly is the new Clinical Research Coordinator in CVI. She provides support to CVI members and their clinical trials, including the Medtronic EVO clinical trial that is currently recruiting patients with Thoracic Aorta Aneurysms (PI: Jason Lee). She is also working on a new stem cell study, Phase IIb Longeveron trial (PI: Joseph Wu), which is currently in a start-up stage. Prior to this role, she was with the Cancer Clinical Trials Office at Stanford and has joined the Cardiovascular Institute in February 2017.

Chantanee Saejao joined CVI in April as an Accounting and Finance Associate. She will support finance processes and ensure compliance with University policies, federal regulations, and requirements. Prior to joining Stanford School of Medicine, she managed corporate headquarters budgets and worked closely in operations for a private government contractor company for over 8 years. She is excited to start a new career at Stanford.

For more information about how CVI can help support your clinical trials, please contact hly@stanford.edu or (650) 498-6279.

Recently Awarded Projects

Vinicio de Jesus Perez, MD

NIH | *The Wnt7a/ROR2 Axis in the Pathogenesis of Pulmonary Arterial Hypertension*

Seung K. Kim, MD, PhD

NIH | *Reconstituting Human Pancreatic Cancer Development for Translational Research & Regulation of Gastrointestinal Hormone Signaling and Metabolism by Neuromedin U*

Marco Perez, MD

NIH | *The WHI Strong and Healthy SilenT Atrial fibrillation Recording study (WHISH STAR)*

Thomas Quertermous, MD

NIH | *Causal Variant Association Mechanisms in TCF21 Binding Coronary Disease Loci*

June Rhee, MD

NIH | *The Use of Human iPSC-Derived Cardiomyocytes to Describe the Role of a-Tropomyosin Mutations in Hypertrophic Cardiomyopathy*

Erik Ingelsson, MD, PhD

NIH | *Causal Associations of Circulating Biomarkers with Cardiovascular Disease.*

New Clinical Trials

Minang (Mintu) Turakhia, MD *The American Heart Association Institute for Precision Cardiovascular Medicine Data Grant*
The objective of the grant is to uncover patterns and knowledge from existing data sets to inform care and research of cardiovascular diseases. The group aims to utilize deep learning techniques to identify patterns in multiple big data sources, including high-dimensional longitudinal clinical, device, and ambulatory ECG data, to improve stroke prediction and risk stratification in patients with atrial fibrillation. The trial will use Amazon Web Services products to assist in research and leverage the AWS Deep Learning AMI tool to conduct our deep learning analyses.

Michael Fischbein, MD, PhD, *W. L. Gore & Associates, Inc.* Evaluation of the GORE® TAG® Thoracic Branch Endoprosthesis (TBE Device) in the Treatment of Lesions of the Aortic Arch and Descending Thoracic Aorta

Ronald Pearl, MD, *Janssen Research & Development, LLC* A Phase 2b, Randomized, Double-blind, Placebo-controlled Study to Evaluate the Antiviral Activity, Clinical Outcomes, Safety, Tolerability, and Pharmacokinetics of Orally Administered ALS-008176 Regimens in Adult Subjects Hospitalized with Respiratory Syncytial Virus

Duke-Stanford Cardiovascular Research Symposium, May 21-23, 2017
Duke University, JB Duke Hotel

CME Credit by live stream

Monday, May 22

Welcome Remarks Chancellor A. Eugene Washington MD

Morning Plenary Nobel Laureate, Robert Lefkowitz MD

Session 1: Precision Medicine
Personalized/Precision Medicine Ralph Snyderman MD
The Baseline Study: An Integrated Look at Human Health L. Kristin Newby MD
iPS Cells for Precision Cardiovascular Medicine Joseph Wu MD PhD
Using Omics and Big Data to Manage Health and Disease Michael Snyder PhD

Session 2: Metabolomics and Genetics Moderator
Multi-omics Strategies for Defining New Cardiometabolic Disease Mechanisms Chris Newgard PhD
Cardiovascular Metabolomics Svati Shah MD MHS
Precision Cardiovascular Medicine Euan Ashley FRCP DPhil
Genetic Mechanisms of Coronary Disease Thomas Quertermous MD

Session 3: Regeneration Moderator
Cardiac Regeneration: Reprogramming Fibroblasts into Cardiomyocytes Victor Dzau MD
Developmental Engineering: Emerging Paradigm for Mammalian Cardiac Regneration Sean Wu MD PhD
High Throughput Physiological Screening as an 'Omics Approach to Understanding the Heart Mark Mercola PhD
Innate Strategies for Heart Regeneration Kenneth Poss PhD

Session 4: Strategies in Cardiovascular Disease: From Anticoagulation to Mechanical Devices
Preventing Stroke in Atrial Fibrillation with Anticoagulants: Barriers and Solutions Chris Granger MD
Precision and Digital Health in AF: Great Opportunities Ken Mahaffey MD
Left Atrial Appendage Closure: Lessons from the Early Innings Jonathan Piccini, MD
Adverse Events with Mechanical Blood Pumps: The Primacy of Hemocompatibilit Joseph Rogers MD

Tuesday, May 23

Session 1: Signaling and Vascular Disease
Caskin2: A Novel Regulator of Vascular Homeostasis Chris Kontos MD
Identification and Validation of a Novel Insulin Resistance Gene, NAT Joshua Knowles PhD
Integrating Clinical Medicine and Patient Centered Research – Building the Learning Health System Manesh Patel MD

Session 2: Signaling and Vascular Disease
RAMPs and Atypical Chemokine Receptors Kathleen Caron PhD
Atherosclerosis and the Dual RhoGEF Kalirin: Humans, Mice, and Surprises Neil Freedman MD
Pro-Efferocytic Therapies in the Treatment of Atherosclerosis Nicholas Leeper MD

Lunch Panel Discussion
Human Nature, Science and Discovery
Robert Lefkowitz MD & Provost Sally Kornbluth PhD

Session 3: Immunology and Signal Transduction
Imaging-genomic Screens Identify an Unexpected Therapeutic Target for Cardiac Fibrosis Stuart Cook PhD
Biasing Chemokine Receptors to Modulate Inflammation Sudar Rajagopal MD
Identification of the Cells that Initiate Hypoxic Pulmonary Hypertension Michael Dee Gunn MD
Connecting the Dots: The Immune System and Cardiovascular Disease Mark Davis PhD

Supported by the Edna and Fred L. Mandel Jr. Foundation and NC Biotechnology Center.

For more information and to watch livestream, tinyurl.com/dscvrs

Save the Date: October 15-16, 2018
The Stanford-Duke Cardiovascular Research Symposium, at Stanford University.

Duke Cardiovascular Research Center

Stanford Cardiovascular Institute

Program Organizers:
Howard A. Rockman, MD
Director, Duke Cardiovascular Research Center
Joseph C. Wu, MD, PhD
Director, Stanford Cardiovascular Institute

MAY

Arteriosclerosis, Thrombosis and Vascular Biology
May 4-6, 2017
Minneapolis, MN
ATVB

Peripheral Vascular Disease
May 4-6, 2017
Minneapolis, MN
PVD

Angiogenesis and Vascular Disease
May 8-12, 2017
Santa Fe, New Mexico
Keystone

Mitochondria, Metabolism and Heart
May 8-12, 2017
Santa Fe, New Mexico
Keystone

Heart Rhythm Scientific Sessions
May 10-13, 2017
Chicago, IL
HR Sessions

Society for Cardiovascular Angiography and Interventions
May 10-13, 2017
New Orleans, LA
SCAI 2017

Big Data in Biomedicine Conference
May 24-25, 2017
Stanford, CA
Big Data

JUNE

Contemporary Diagnosis and Management of Adults with Congenital Heart Disease
June 10, 2017
Stanford, CA
ACHD

International Society for Stem Cell Research
June 14-17, 2017
Boston, MA
ISSCR

21st Annual Hypertension, Diabetes and Dyslipidemia Conference
June 23-25, 2017
Charleston, South Carolina
HDD

Napa Valley Cardiology Conference
June 21-24, 2017
Napa, CA
HDD

JULY

Basic Cardiovascular Sciences Scientific Sessions
July 10-13, 2017
Portland, OR
BCVS

International Academy of Cardiology – 22nd World Congress on Heart Disease
July 14-16, 2017
Vancouver, BC, Canada
Annual Scientific Sessions

Centre for Commercialization of Regenerative Medicine
July 17-19, 2017
Toronto, Canada
CCRM

10 Day Seminar on the Epidemiology and Prevention of Cardiovascular Disease and Stroke
July 23 - Aug 4, 2017
Tahoe City, CA
10 Day Seminar

AUGUST

Mayo Clinic School of Continuous Professional Development: Cardiology Update: The Heart of the Matter 2017
August 3-6, 2017
Mayo Clinic

European Society of Cardiology – Congress 2017
Aug 26-30, 2017
Barcelona, Spain
ESC Congress

SEPTEMBER

Cardiovascular Regenerative Medicine Symposium
September 27-28, 2017
Bethesda, MD
Cardiovascular Regenerative Medicine

Stanford-China Cardiovascular Research Symposium
September 21-22, 2017
Stanford, CA
Stanford CVI Annual Retreat

2017 Spring Travel & Exchange Idea Awards

The Cardiovascular Institute is delighted to support travel awards for our trainees to present their research and exchange ideas at national and global conferences.

Mario Boehm, PhD
PI Mentor: Edda Spiekerkoetter, MD
ATS International Conference
May 19-24, 2017
Washington, DC

Bartlomiej Imielski, MD
PI Mentor: Anson Lee, MD
ECS Congress 2017
August 26-30, 2017
Barcelona, Spain

Milos Pjanic, PhD
PI Mentor: Thomas Quertermous, MD
American Society
of Human Genetics 2017
October 17-21, 2017
Orlando, FL

Nazish Sayed, MD PhD
PI Mentor: Joseph Wu, MD, PhD
Basic Cardiovascular Sciences
Scientific Sessions 2017
July 13, 2017
Portland, OR

Markus Wagenhaeuser, MD
PI Mentor: Phillip Tsao, PhD
ATVB/PVD
May 4-6, 2017
Minneapolis, MN

Mirwais Wardak, PhD
PI Mentor: Sam Gambhir, MD PhD
Duke-Stanford Cardiovascular
Research Symposium
May 21-23, 2017
Durham, NC

Rolling into Your R

CVI Junior Faculty Mentorship Program: June 2017

Rolling into Your R is a new CVI-sponsored program for junior faculty submitting or resubmitting their first independent grant (i.e. NIH R01). Based on CVI's Tackling Your K course, we are recruiting 6-8 junior faculty members submitting proposals in late 2017/early 2018. Participants will receive detailed feedback at small group meetings, one-on-one mentorship from senior faculty, and internal review of their grant application. Rolling into Your R will start in early June 2017.

Interested junior faculty should email Crystal Botham (cbotham@stanford.edu).

Faculty Funding Opportunities

MAY

AHA-The Paul G. Allen Frontiers Group

AHA-Allen Distinguished Investigators Awards
Amount of funding: $500K per year (x3 yrs)
Deadline: May 10, 2017
AHA-Allen

National Institutes of Health

Bold New Bioengineering Methods and Approaches for Heart, Lung, Blood And Sleep Disorders and Diseases (R21)
Deadline: May 10, 2017, October 13, 2017
RFA-HL-17-015

Breakthrough Prize in Life Sciences
Amount of funding: $3 million each
Deadline: May 31, 2017
Breakthrough Prize

JUNE

AHA Institute for Precision Cardiovascular Medicine

Uncovering New Patterns Grants
Amount of funding: $150K
Deadline: June 1, 2017
Grant

Children's Heart Foundation Research Grant
Amount of funding: $200K
Deadline: June 2, 2017
CHF

National Institute of Health

Research Project Grant (Parent R01)
Deadline: June 5, 2017
PA-16-160

NHLBI Clinical Trial Pilot Studies (R34)
Deadline: June 16, 2017
PAR-16-037

NHLBI Single-site Investigator-initiated Clinical Trials (R61/R33)
Deadline: June 14, 2017
PAR-16-405

Improving Outcomes in Cancer Treatment-Related Cardiotoxicity
R01: PA-16-035 Deadline: June 5, 2017
R21: PA-16-036 Deadline: June 16, 2017

Children's Cardiomyopathy Foundation

Research Grant Program
Amount of funding: $25-50K for 1 year
Deadline: June 14, 2017 LOI
CCF

AHA Institute Data Grant Portfolio

Methods Validation
Amount of funding: $200K
Deadline: June 29, 2017
AHA

Institutional Data Fellowship
Amount of funding: $150K
Deadline: June 29, 2017
AHA

AUGUST

Stanford Cardiovascular Institute

2017 Seed Grants
Amount of funding: $15-40K
Deadline: August 1, 2017
CVI Seed Grants

California Institute for Regenerative Medicine

Discovery: Quest Awards (DISC2)
Amount of funding: $700K-1.4M
Deadline: August 15, 2017
CIRM DISC2

American Heart Association

Strategically Focused Research Network – Atrial Fibrillation, Vascular Disease
Deadline: 2017 TBD
AHA SFRN

SEPTEMBER

Foundation Leducq

Transatlantic Networks of Excellence in Cardiovascular Research Program
Amount of funding: Up to $6M
Deadline: September 2017 TBA
Leducq

Postdoctoral Funding Opportunities

JUNE

AHA Institute for Precision Cardiovascular Medicine

Uncovering New Patterns Fellowship
Amount of funding: $150K
Deadline: June 1, 2017
Fellowship

National Institute of Health

K01 Mentored Research Scientist Development Awards
Deadline: June 12, 2017
PA-16-190

K08 Mentored Clinical Research Career Development Award
Deadline: June 12, 2017
PA-16-191

K23 Mentored Patient-Oriented Research Career Development Award
Deadline: June 12, 2017
PA-16-198

K99/R00 Pathway to Independence
Deadline: June 12, 2017
PA-16-193

JULY

Stanford University

Katherine McCormick Advanced Postdoctoral Scholar Fellowship
Amount of funding: $35,000
Deadline: July 2017
McCormick Fellowship

Walter V. and Idun Berry Postdoctoral Fellowship Program
Amount of funding: $55,000
Deadline: July 2017
Berry Fellowship

Translational Research Applied Medicine (TRAM) Pilot Grant
Amount of funding: $5K-20,000
Deadline: July 14, 2017
TRAM Pilot Grant

AUGUST

National Institute of Health

Ruth L. Kirschstein National Research Service Awards (NRSA)
Deadline: August 8, 2017
PA-16-307

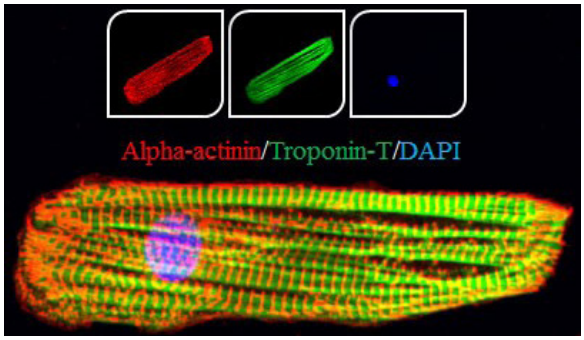
Stanford CVI Human iPSC Biobank Service

Normal and patient-derived reprogrammed cardiomyocytes is 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), the California Institute for Regenerative Medicine (CIRM), 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** (yanzhuge@stanford.edu) with any questions.

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.

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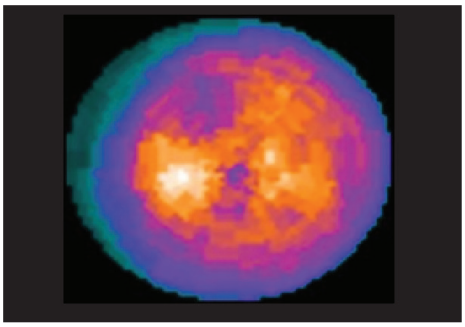
Clinical Biomarker & Phenotyping Core Lab (BPCL)

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.

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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.

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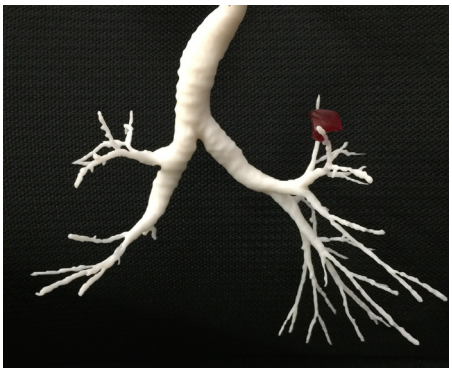

Member Publications

Communication is at the heart of scientific advancement and innovation. This quarter, the Stanford Cardiovascular Institute members published over 267 original manuscripts and reviews, further contributing to our understanding of cardiovascular biology and disease. Here, we highlight selected manuscripts by our members.

MAY 2017

Non-equivalence of Wnt and R-spondin ligands during Lgr5+ intestinal stem-cell self-renewal. Yan KS, Janda CY, Chang J, Zheng GXY, Larkin KA, Luca VC, Chia LA, Mah AT, Han A, Terry JM, Ootani A, Roelf K, **Lee M**, Yuan J, Li X, Bolen CR, Wilhelmy J, Davies PS, Ueno H, von Furstenberg RJ, Belgrader P, Ziraldo SB, Ordonez H, Henning SJ, Wong MH, **Snyder MP**, **Weissman IL**, Hsueh AJ, Mikkelsen TS, Garcia KC, **Kuo CJ**. Nature. 2017 May 3.

Management of Major Bleeding in Patients With Atrial Fibrillation Treated With Non-Vitamin K Antagonist Oral Anticoagulants Compared With Warfarin in Clinical Practice (from Phase II of the Outcomes Registry for Better Informed Treatment of Atrial Fibrillation [ORBIT-AF II]). Steinberg BA, Simon DN, Thomas L, Ansell J, Fonarow GC, Gersh BJ, Kowey PR, **Mahaffey KW**, Peterson ED, Piccini JP; Outcomes Registry for Better Informed Treatment of Atrial Fibrillation (ORBIT-AF) Investigators and Patients. Am J Cardiol. 2017 May 15;119(10):1590-1595.

Surrogate Wnt agonists that phenocopy canonical Wnt and β-catenin signalling. Janda CY, Dang LT, You C, Chang J, de Lau W, Zhong ZA, Yan KS, Marecic O, Siepe D, Li X, Moody JD, Williams BO, Clevers H, Piehler J, Baker D, **Kuo CJ**, Garcia KC. Nature. 2017 May 3.

Estimation of Eligibility for PCSK9 Inhibitors and Associated Costs Based on the FOURIER Trial: Insights from the Department of Veterans Affairs. Virani SS, Akeroyd JM, Nambi V, **Heidenreich PA**, Morris PB, Nasir K, Michos ED, Bittner VA, Petersen LA, Ballantyne CM. Circulation. 2017 May 2.

Unifying mechanism for different fibrotic diseases. Wernig G, Chen SY, Cui L, Van Neste C, Tsai JM, Kambham N, Vogel H, Natkunam Y, Gilliland DG, Nolan G, **Weissman IL**. Proc Natl Acad Sci U S A. 2017 May 2;114(18):4757-4762.

Isolation of cd248-expressing stromal vascular fraction for targeted improvement of wound healing. Brett E, Zielins ER, Chin M, Januszyk M, Blackshear CP, Findlay M, Momeni A, **Gurtner GC**, **Longaker MT**, Wan DC. Wound Repair Regen. 2017 May 2.

Factors associated with rhythm control treatment decisions in patients with atrial fibrillation-Insights from the NCDR PINNACLE registry. Gehi AK, Doros G, Glorioso TJ, Grunwald GK, Hsu J, Song Y, **Turakhia MP**, Turchin A, Virani SS, Maddox TM. Am Heart J. 2017 May;187:88-97.

An examination of the relationship between serum uric acid level, a clinical history of gout, and cardiovascular outcomes among patients with acute coronary syndrome. Pagidipati NJ, Hess CN, Clare RM, Akerblom A, Tricoci P, Wojdyla D, Keenan RT, James S, Held C, **Mahaffey KW**, Klein AB, Wallentin L, Roe MT. Am Heart J. 2017 May;187:53-61.

Differential occurrence, profile, and impact of first recurrent cardiovascular events after an acute coronary syndrome. Hess CN, Clare RM, Neely ML, Tricoci P, **Mahaffey KW**, James SK, Alexander JH, Held C, Lopes RD, Fox KAA, White HD, Wallentin L, Armstrong PW, **Harrington RA**, Ohman EM, Roe MT. Am Heart J. 2017 May;187:194-203.

Long-term electrocardiographic safety monitoring in clinical drug development: A report from the Cardiac Safety Research Consortium. Piccini JP, Clark RL, Kowey PR, Mittal S, Dunnmon P, Stockbridge N, Reiffel JA, **Turakhia MP**, Ziegler PD, Kleiman RB, Ismat F, **Sager P**. Am Heart J. 2017 May;187:156-169.

Frequency and Associated Clinical Features of Functional Tricuspid Regurgitation in Patients With Chronic Atrial Fibrillation. Zhao SX, Soltanzad N, Swaminathan A, **Ogden WD**, Schiller NB. Am J Cardiol. 2017 May 1;119(9):1371-1377.

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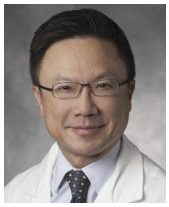

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