

# SARVER HEART CENTER

NEWSLETTER ISSUE 74 • WINTER 2016-2017

## **UA SARVER HEART CENTER'S 30 YEARS OF PROGRESS: BUILDING ON A PROUD HISTORY**



30 Years of Progress



Member Updates



Investigator Awards



Mary Anne Fay, 13 **Dedicated Supporter** 





Zain Khalpey, MD, PhD, cardiothoracic surgery, and Jennifer Cook, MD, cardiology, collaborate as the surgical and medical directors of the Mechanical Circulatory Support Program to provide heart failure patients with quality-of-life-improving devices that typically extend life for years, when traditional medical therapies aren't working.

Today, heart failure (HF) affects about 5 million people in the

a donor heart.

life while he waited for

**Saving Hearts with** 

United States and about 250,000 people die each year from HF. Cardiologists have learned a lot during the past 30 years about how to improve a person's odds of living longer with HF, while maintaining a better quality of life, even after traditional medical therapies have failed. Advanced heart failure and transplant cardiologists care for HF patients who are out of options. What was just a few years ago the end of the line, is no longer. Heart transplantation, artificial heart pumps, specialized pacemakers and new and better drugs are making a difference.

Continued on page 4

Technology - In 1985, the year before



UA Sarver Heart Center, Winter 2016-2017

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# DIRECTOR

When the University of Arizona established the Sarver Heart Center 30 years ago, the artificial heart was a truly amazing advance for treating patients with advanced heart disease.

The UA Sarver Heart Center was the brainchild of Dr. Jack Copeland (a renowned cardiothoracic surgeon) and Dr. Eugene Morkin (an extremely gifted cardiologist and heart muscle scientist). A lot has changed in the past 30 years, but one factor central to the Sarver Heart Center is the collaboration between clinical and basic science faculty critical to leading innovation. It is still common to find a cardiologist or other clinician discussing research ideas with Sarver Heart Center basic scientists.

I'm very excited to have the opportunity to collaborate with Sarver Heart Center Co-Director **Carol Gregorio, PhD**, who also serves as vice dean of innovation and development and chair of the Department of Cellular and Molecular Medicine at the UA College of Medicine – Tucson. She is also director of the Molecular Cardiovascular Research Program.

Historically, the conversation has centered around moving research from 'bench to bedside,' or from the laboratory to the patient-care setting. Now, with our focus on state-of-the-art approaches including genomics, imaging, modeling, advanced cell and molecular biology and biophysics, together with our human cardiac biorepository, we're equally likely to take discoveries from the bedside to the bench and then back to the bedside in the form of precision medicine. We are using patient blood samples in the basic science setting to understand unique individual traits in cardiovascular medicine to ensure a future of more precise treatments targeted at each particular patient's circumstances, genetics, environment and individual health or condition.

The more we understand how disease manifests in individuals, the more clinicians and scientists can collaborate to develop interventions that positively impact the course of human disease. With this vision, we are establishing an Innovation Fund in the Sarver Heart Center to be grounded in a Human Induced Pluripotent Stem Cell (iPSC) Core. This will set the foundation for our Center to be an international leader in human cardiovascular translational and regenerative medicine – a very bold vision for the next 10 years. It will be one of a number of iPSC facilities across the Tucson and Phoenix campuses, and the only one centered on cardiovascular diseases.

Often referred to as human "disease in a dish," iPSC technology has the potential to completely change medicine in terms of understanding individual variation, underlying disease mechanisms, transforming and personalizing drug discovery and targeting treatments, sometimes at the level of correcting a single gene mutation.

Most human treatments first are developed in non-human models. The iPSC approach is a new and unique way to model human disease. Technology has advanced so that disease-causing mutations in iPS cells might be genetically corrected. Because experiments can now be done on cells grown from patient samples to recapitulate the cells in their bodies, this approach allows for the ultimate in personalized medicine – a mechanism to explore individualized treatments and cures in a patient's own heart cells.

We can only imagine how far this game-changing advance will take us in the next 30 years. If you would like more information on ways to support the Innovation Fund or the iPSC Core and contribute to the critical broadening of the impact of the Sarver Heart Center in research and patient care, please contact me, 520-626-2000, <u>nancysweitzer@shc.arizona.edu</u>, or our senior director of development, Cheryl House, 520-626-6022 or <u>chouse@email.arizona.edu</u>.

All of us at Sarver Heart Center wish you a very healthy, happy New Year filled with joy, excitement and new discoveries of your own.

Nancy K. Sweitzer, MD, PhD Director, University of Arizona Sarver Heart Center Chief of Cardiology and Professor of Medicine University of Arizona College of Medicine – Tucson

## **Saving Hearts with Technology**



On Aug. 29, **1985**, cardiac surgeon **Dr. Jack Copeland** implanted a Jarvik-7 heart into 25-year-old **Michael Drummond**, who lived nine days with his artificial heart before receiving a heart transplant. Seen in photo are: left to right (back), **Nina Trasoff, Mark Levinson, MD, Jack Copeland, MD, Richard Smith**, biomedical engineer; left to right (front) **Debbie Nuetfield**, nurse, Michael Drummond and the large drive unit, dubbed "Big Blue," powering the implanted artificial heart.



**Today, Richard Smith**, technical director of the Marshall Foundation Artificial Heart Program, uses an engineered circulatory system of his design that allows testing to improve mechanical circulatory support device performance and contributes to device innovation and improvement.

From a small adobe house, which was on the site of what is now the Medical Research Building, University Heart Center began in **1986**.



In recognition of major support from the Sarver family, University Heart Center was renamed University of Arizona Sarver Heart Center in **1998**. The new building was dedicated in **2000**.



## Keeping the Beat

Cardiologists who specialize in diagnosis and treatment of disorders in the heart's electrical systems are called electrophysiologists. Common electrical disorders include atrial fibrillation (an irregular heart beat), bradycardia (slow heart rhythm) and tachycardia (fast heart rhythm).



In **1986**, **Frank Marcus, MD**, a pioneer in electrophysiology, published his discovery that radiofrequency energy was a safer substitute for DC energy in eliminating or "ablating" sites of arrhythmias in the heart. This technology is now used worldwide. Dr. Marcus was the founding chief of cardiology at the UA College of Medicine. He now is professor emeritus and remains an active researcher.



**Today, Mathew Hutchinson, MD**, director of Electrophysiology, brings to Tucson an advanced mapping program to more precisely identify areas of the heart where catheter ablations successfully will block an arrhythmia, such as atrial fibrillation, a condition that affects between 2 to 3 million people and accounts for about one-fifth of all strokes in the United States. Dr. Hutchinson is a professor of medicine.



## Minimally Invasive Heart Valve Implants

In cases of severe aortic stenosis, the aortic valves may become thickened and not open properly so that the blood cannot flow from the heart chambers to the rest of the body. In the past, open-heart surgery was the only option for patients, and it requires weeks of recuperation. For patients who were deemed too risky for open-heart surgery because of their ages or conditions that were too complex, options were limited.





**Today**, the Transcatheter Aortic Valve Replacement (TAVR) team, under the direction of **Kapil Lotun**, **MD**, provides a minimally invasive heart valve implant procedure to a growing number of patients, including those classified as high and medium risk. The TAVR program at the UA Sarver Heart Center was the first of its kind in southern Arizona and just completed its fourth year. Dr. Lotun (right) is pictured.

## Be A Lifesaver: Resuscitation Research at Sarver Heart Center

Every day nearly 1,000 people die from sudden cardiac arrest in the United States alone. Cardiologists and scientists at the Sarver Heart Center are recognized worldwide for decades of research that led to new CPR guidelines, including chest-compression-only CPR, a method that doubles a person's chance of survival from sudden cardiac arrest. Equally important are the Resuscitation Research Team's life-saving protocols for emergency responders and hospitals. **Robert Sarver** (left), owner of the Phoenix Suns and major supporter of Sarver Heart Center, offered the Suns' facilities to introduce chest-compressiononly CPR to the City of Phoenix in **2008**. **Dr. Gordon Ewy** (white coat), then-director of the Sarver Heart Center, was a pioneer in resuscitation research and recognized by the AHA as a "CPR Giant."



## Basic Science Research Advances Knowledge of Heart Muscle Disease



**Eugene Morkin, MD, PhD**, founding director of University Heart Center, combined the expertise of a cardiologist and a heart-muscle scientist.



The Medical Research Building, home of the Sarver Heart Center Molecular Cardiovascular Research Program, directed by Carol Gregorio, PhD, was dedicated in **2006**.



**Parker Antin, PhD**, leads a tour of the Molecular Cardiovascular Research Program in the newly dedicated Medical Research Building.

**Today**, **Dr. Karl Kern**, a co-director of Sarver Heart Center and collaborator for decades with **Dr. Gordon Ewy**, continues to lead efforts to improve survival rates for victims of cardiac arrest. Now, he's collaborating with **Dr. Kwan Lee** on methods to improve hospital emergency care. Dr. Kern also has been recognized as a "CPR Giant."



## Making Heart Research More Precise.

Today - "As we move forward, guided by our 10-year vision, Sarver Heart Center faculty will collaborate on bridging ideas from clinical experience with basic research advances. We are building a more robust cardiac biorepository that allows our scientists to use human samples to study the genes, proteins and other molecules that may make treatments more precise for individual heart patients," said Nancy K. Sweitzer, MD, PhD, director of the UA Sarver Heart Center and chief of Cardiology.

Just as the Heart Center's founding directors recognized the need for basic scientists to collaborate with clinical faculty to advance heart disease research, today you'll find Codirector **Carol Gregorio**, **PhD**, discussing research ideas with **Director Nancy Sweitzer, MD**, **PhD**.



## MEMBER UPDATES

#### Sarver Heart Center Members at the American Heart Association Scientific Sessions, New Orleans, La., November 2016

#### Nancy K. Sweitzer, MD, PhD

*Circulation Editors' Choice* – Moderator, Groundbreaking Studies in the Practice of Cardiovascular Medicine.

**Cardiovascular Seminar** – From Prevention to Palliation. Presenter, "Stage D: Evolution of Advanced Therapies in Heart Failure."

From Precision to Population – Moderator: Optimizing Outcomes in HF.

*Late-Breaking Clinical Trials* – Guiding the Momentum to Effect HF Outcomes-Ironing out the Wrinkles, Discussant of Trial results: "Transcatheter Interatrial Shunt Device Provides Sustained Clinical Benefit at One Year in Patients with Preserved or Mildly Reduced Ejection Fraction: The REDUCE LAP Heart Failure Trial."

Cardiovascular Genome-Phenome Discovery Project Awardee Review and Poster Session

– Poster Presenter: "Large-Scale Discovery of Mechanistic and Predictive Biomarkers in Phenotypically Distinct Groups of Patients with Heart Failure and Preserved Ejection Fraction."

**Research Leaders Academy** – Participated as a mentor for the mentoring sessions and as a member of the Clinical Cardiology Council, the Heart Failure and Transplant subcommittee, and a member and officer of the Association of Professors of Cardiology (a group of cardiology chiefs, chairs and leaders).

Regional Differences in Cardiac Biomarker Profile and Effect of Spironolactone in Patients with Heart Failure and Preserved Ejection Fraction Enrolled in the TOPCAT Trial – poster author and national leader of the TOPCAT Trial

#### Joseph Alpert, MD

Fourth Universal Definition of Myocardial Infarction and Myocardial Injury Task Force – meeting co-chair. The next version of this document will be published in late 2017 or early 2018.

**Revascularization Dilemmas in Stable Ischemic Heart Disease Session** - panel discussant.

Geriatric Cardiology Section Executive Committee meeting - member.

Late Breaking Trials session of the PIONEER randomized open label study of various anti-platelet strategies in patients with atrial fibrillation and acute ischemic heart disease - chairperson for the data monitoring committee of this trial and a co-author on the final report. Ankit Desai, MD

**Poster Sessions - Established and Novel** *Therapies for Heart Failure* – poster presenter: Beta-blocker Dose Stratifies Both Mortality Risk and Circulating Procollagen Levels in African-Americans with Heart Failure.

Mechanical Circulatory Support Simulation - After seeing the potential of the circulatory system engineered by Richard Smith (see page 4), Dr. Jennifer Cook proposed a novel session at AHA 2015, a Shock and Mechanical Circulatory Support Simulation, that would allow attendees hands-on experience with difficult cases in advanced heart disease. The sessions were such a hit that Dr. Cook was invited back to AHA 2016, where expanded simulation sessions included Pulmonary Hypertension Diagnosis and Treatment, and Congenital Heart Disease, as well as continuing the Shock and Adult Heart Failure sessions started in 2015. Moderated by Dr. Cook (holding the microphone), these lively and interactive sessions included audience participation and expert commentary, not the lecture style of most AHA sessions. In addition to Smith, Ankit Desai, MD, and Eddie Betterton also participated in these exciting sessions. They have been so popular that not only will they be continued at AHA 2017, but they will likely be expanded to other cardiology meetings.

**Right Ventricular Failure, Signaling Physiology and HFpEF** – Poster coauthor: Hispanic Disparities in PAH: Multi-Modality Validation of Increased Susceptibility to Right Ventricular Dysfunction.

**Exome Sequencing reveals a novel SNP in TRPC6 in Pulmonary Arterial Hypertension** Senior scientist and coauthor.

#### Rajesh Janardhanan, MD

**Abstract Poster Session** - Role of Late Gadolinium Enhancement in Non-Ischemic Cardiomyopathy: A Meta Analysis, poster co-author.

#### Karl B. Kern, MD, Kapil Lotun, MD, and Tam Truong, MD

American Heart Association Resuscitation Science Symposium - Mechanical Chest Compression or Percutaneous Left Ventricular Assist Devices Improve Survival In Cardiac Arrest in the Cath Lab, poster presenters.

#### Jason Karnes, PharmD, PhD

**Poster Session** - Cost-Effectiveness of Anticoagulants for the Management of Suspected Heparin-Induced Thrombocytopenia in the U.S., poster co-author.

Zain Khalpey, MD, PhD Cardiovascular Seminar: Mechanical Unloading and Myocardial Recovery - Stem



Cells and Mechanical Support to Enhance Recovery, presenter.

#### Jagdesh Kandala, MD, Franz Rischard, DO, Mark J. Friedman, MD, Frank I. Marcus, MD

The Response to Valsalva Maneuver Predicts Left Ventricular Filling Pressure in Patients With Heart Failure, Pulmonary Hypertension, and Cardiac Transplant Recipients, poster presentation.

Wilber Su, MD Etiology of Atrial Fibrillation Recurrence after Previous Successful Pulmonary Vein Isolation with Cryoablation; a Two-center Review of Redo AF Ablation Data, oral presentation.

Incidence of Atrial-Esophageal Fistula in Cryoballoon Ablation for Atrial Fibrillation is Dose Dependent, oral presentation.

AZ Multi-center Experience in Reduction of Phrenic Nerve Injury with Second Generation Cryoballoon Ablation Using the Proximal Seal Method, poster presentation. Elimination of Inappropriate Subcutaneous ICD Shocks by using a Non-absorbable Pouch when Noninvasive Reprogramming Fails, poster presentation.

**Time-to-Effect Based Cryoballoon Dosing to Achieve Permanent Pulmonary Vein Isolation** - The First Chronic Study, oral presentation.

Different Types of EP Career Options. Transition from Ivory Tower to the Real World: The Practice of EP, faculty mentor.

## Sarver Heart Center Other Professional Activities

**Kwan Lee, MD,** associate professor of medicine, served as a member of the Society of Cardiac Angiography and Interventions (SCAI) delegation, lecturing at fellows' courses at the National Vietnam Congress of Cardiology in Hanoi, and the Great Wall International Congress of Cardiology in Beijing.

Dr. Lee met with the Vietnamese Emergency Response national leadership to discuss the current state of affairs for out-of-hospital cardiac arrest management in Vietnam, and advised Hanoi Medical University, the oldest medical school

in Vietnam, on ways to modernize the medical school curriculum.

Dr. Lee also had a prominent role for a fifth year in a row at TCT 2016 (Transcatheter Cardiovascular Therapeutics) as a faculty blogger. Sasanka Jayasuriya, MD, former faculty member and cardiovascular medicine fellow alumnus, joined Dr. Lee on the faculty blog team this year.



On the research front, Dr. Lee led a team of UA fellows and residents to develop an online Cath Lab Mapping Project that identifies all hospitals in the state of Arizona with cardiovascular services, with particular emphasis on those with emergency cardiac catheterization capabilities. This is a first step toward developing a statewide heart-attack care network. Dr. Lee's effort is a collaboration with the Arizona Chapter of the American College of Cardiology, with a goal to better organize the complexity of emergent cardiac care in Arizona, ensuring the

highest quality care for all citizens with cardiovascular disease.

Dr. Lee intends to take this project worldwide. He is working with the Cardiovascular Research Foundation under Ivan Rokos, MD, of the American Heart Association, who is setting up a global cath lab directory. So far, 2,700 cath labs in more than 40 countries have been identified. This technology could be used to identify the closest centers of excellence in the world for patients and emergency responders.

### **SPECIAL RECOGNITION**

Ruth Taylor-Piliae, PhD, RN, FAHA, associate professor in the UA College of Nursing, received the 2016 Mathy Mezey Excellence in Aging Award from the American Heart Association's Council on Cardiovascular and Stroke Nursing (CVSN). The award recognizes individuals who have distinguished themselves in promoting competence in caring for elderly cardiovascular or stroke patients through teaching, research and practice.

Dr. Taylor-Piliae has studied Tai Chi as a way to prevent falls in adult stroke survivors. Her overall research goal is to reduce the negative impact of disabilities and improve physical functioning among cardiovascular disease populations.

Mathy Mezey, EdD, RN, FAAN, was most recently professor emerita, senior research scientist and associate director, The Hartford Institute for Geriatric Nursing, New York University College of Nursing. CVSN's original award, the Nurse Competence in Aging Award, was established when the Council received a grant to highlight care for older adults, a nationwide project led by Dr. Mezey. CVSN re-named this award after this esteemed leader in geriatric nursing who recognized the importance of multidisciplinary care and the need for involvement by specialty organizations to improve care delivery for older adults.

### Construction Updates





A Sarver Heart Center, Winter 2016-2017

# ECHOCARDIOGRAPHY RECEIVES PRESTIGIOUS



The Inter-societal Accreditation Commission (IAC) fully re-accredited the Banner - University Medical Center Echocardiography Laboratory for five types of heart ultrasound, or echocardiograms. "This is an important achievement that we can all be proud of. Currently there are just a handful of centers in Tucson that are IAC accredited in echocardiography. As far as I know, Banner - University Medical Center Tucson is the only facility in Tucson accredited in all possible heart ultrasound modalities," said **Raj Janardhanan, MD**, interim director of the Echo Lab. Because accreditation must be renewed every three years, accredited labs have a commitment to maintaining quality through selfassessment, new technology adoption, and continuous improvement. Because accreditation requires high standards and has strict guidelines to maintain exceptional quality, being re-accredited means that Banner-University Medical Center is engaged in maintaining the highest of standards.

#### Gootter Foundation Supports Visiting Professors

UA Sarver Heart Center Grand Rounds Lectures will be more robust this coming year, thanks in part to funding from a longstanding partner of the Sarver Heart Center, The Steven M. Gootter Foundation. Support provided by the Gootter Foundation will enable Sarver Heart Center to invite four internationally renowned visiting professors whose research focuses on sudden



cardiac death. The first Gootter Foundation-sponsored lecturer was Peter J. Schwartz, MD, (second from right), director of the Center for Cardiac Arrhythmias of Genetic Origin and the Cardiovascular Genetics Laboratory at the IRCCS Istituto Auxologico Italiano, Milan, Italy. Dr. Schwartz is internationally known for his expertise in the long QT syndrome, the relationship between the autonomic nervous system and life-threatening arrhythmias, and risk stratification of patients at risk for sudden death. Also pictured (from left): Andrew Messing, president of the Steven M. Gootter Foundation, Paulette and Joe Gootter, and Nancy K. Sweitzer, MD, PhD.

## INFLUENTIAL HEALTH AND MEDICAL LEADERS

Tucson Local Media honored several Sarver Heart Center members and affiliates as "Influential Health and Medical Leaders" at its recent awards program.

- Lifetime Achievement in Health Care Individual: Karl B. Kern, MD, co-director and the Gordon A. Ewy, MD Distinguished Endowed Chair of Cardiovascular Medicine of the UA Sarver Heart Center and professor of medicine at the UA College of Medicine – Tucson, Division of Cardiology in the Department of Medicine.
- Outstanding Heart Care: Peter Ott, MD, associate professor of clinical medicine at the UA College of Medicine – Tucson and the Peter Ott, MD Endowed Chair of Electrophysiology at the UA Sarver Heart Center.
- Achievement in Medical Devices: Marvin J. Slepian,
  MD, professor of medicine and biomedical engineering,
  UA College of Medicine Tucson, Division of Cardiology
  in the Department of Medicine and director of the Arizona
  Center for Accelerated Biomedical Innovation (ACABI).

- Outstanding Health Organization: Large award: Banner-University Health Center
- Achievement in Wellness Programs: Individual or Organization: Steven M. Gootter Foundation

"It is inspiring that out of 20 award categories, the contributions of these Sarver Heart Center faculty members and affiliated organizations were so prominently recognized by Tucson Local Media," said Nancy K. Sweitzer, MD, PhD, director of the UA Sarver Heart Center and chief of cardiology.

More than 100 nominations were submitted by patients, colleagues, families and associates. The final vote was taken by a panel of independent judges.

#### CARDIOLOGY RESEARCH REGISTRY INFORMATION FORM CLICK HERE

## Want to Participate in Clinical Research?

Patient care advances rely on highquality clinical research. Please complete a Cardiology Research Registry Information Form to learn about new clinical research studies for which you may be eligible.

Visit heart.arizona.edu/clinicalresearch for an online form and more information. Or call 520-626-5431.

## INVESTIGATOR AWARDS 2016-2017

#### Advancing Heart Disease Research: UA Sarver Heart Center Investigator Awards

Donations large and small from generous donors have enabled the University of Arizona Sarver Heart Center to provide critical funding to investigators for years. "The Investigator Awards program is a unique and special feature of membership in the Sarver Heart Center, and is one of a number of factors that enables us to recruit and retain the most talented cardiovascular scientists to the University of Arizona. These funds allow our scientists to collect critical pilot data to support larger grant applications, can support high risk, innovative projects unlikely to be funded through more traditional sources, and can bridge an investigator who is between funding sources in these difficult times with declining scientific support at the national level. This year, we are pleased to announce that we will fund four Investigator Awards during the 2016-2017 academic year," said Nancy K. Sweitzer, MD, PhD, director of the UA Sarver Heart Center



Brett Colson, PhD, assistant professor of Cellular and Molecular Medicine, received an award supported by Dr. Alex Frazer and Frank H. Frazer, Jack and Mildred Michelson, Mark and Emma Schiffman, and Anthony and Mary Zoia. His project, "Identifying Novel Heart Muscle Therapeutics to Target Sudden Cardiac Arrest," addresses the critical need for identifying and understanding novel drug interventions and personalized therapies for calcium-triggered arrhythmias in inherited diseases such as hypertrophic and dilated cardiomyopathies. His Sarver Heart Center mentor is Henk Granzier, PhD, professor of Physiology and Cellular and Molecular Medicine, and the Allan and Alfie Norville Endowed Chair for Heart Disease in Women Research. Ankit Desai, MD, assistant professor of Medicine, successfully submitted a proposal titled "Sudden death in sickle cell disease - A novel role for Gadd45a signaling." Cardiovascular disease and sudden cardiac arrest are the top causes of premature death in individuals with sickle cell disease. This research, supported by Phil and Bobbie Hanft and J. G Murray, will further understanding of a previously unrecognized human sickle cardiomyopathy, a condition that disproportionately affects African Americans. Dr. Desai's mentor is Jil C. Tardiff, MD, PhD, professor of Medicine and Cellular and Molecular Medicine, and the Steven M. Gootter Endowed Chair for the Prevention of Sudden Cardiac Death.



**Heddwen Brooks, PhD**, professor of Physiology and Pharmacology, received support from **William and Dorothy Shaftner** to study "T cell-mediated regulation of blood pressure in postmenopausal hypertension." Hypertension, or high blood pressure, is the number one risk factor for heart disease in postmenopausal women, yet current therapies do not control blood pressure in 64

percent of these women. Before menopause, antiinflammatory T cells, an important part of the immune system, may be an important reason that blood pressure tends to be lower. The goal of this project is to use gene analysis to examine how T cell populations are impacted when estrogen is lost during menopause.



Mei So, a second-year medical student at the UA College

of Medicine - Phoenix, is working with her mentor, Rayna Gonzales, **PhD**, associate professor of Basic Medical Sciences, on the "Role of Doxorubicin on cyclooxygenase-2 levels and activity in primary human coronary artery vascular smooth muscle cells." The project, supported by the Margarito Chavez **Undergraduate/** 



**Medical School Award**, is studying whether a drug used to treat breast and other cancers causes vascular cell death and arterial changes that may contribute to heart disease risk in cancer survivors.

#### Updates on Past Investigator Award Recipients



Steve Goldman, MD, (right) and Jordan Lancaster, PhD, (center) received Sarver Heart Center Investigator Awards in years past. These grants, plus support from the Southern Arizona Veterans Administration, enabled them to create MyCardia™, a biologically active cardiac graft in development as a new treatment for chronic heart failure. With support from Tech Launch Arizona at the University of Arizona, they teamed up with Jennifer Koevary, PhD, (left) a UA biomedical engineer, to launch Avery Therapeutics, Inc., a company dedicated to advancing tissue-engineered therapeutics to treat diseases and injuries to human muscle. Avery Therapeutics was awarded a \$483,000 Small Business Innovation Research (SBIR) grant from the National Institutes of Health to develop manufacturing, cryopreservation, storage and reconstitution methods for Avery's first product, MyCardia™. The company recently won the "Get Started Tucson" competition and was selected to present at the White Hat Investor's conference in Phoenix, and Falling Walls Venture in Berlin, Germany.

**John Konhilas, PhD**, another past recipient of Investigator Awards, received a \$153,982 award from the American Heart Association for his research: "Angiotensin II-mediated Hypertension in Mice with Ovarian Failure." He has additional proposals under review at the National Institutes of Health (NIH).



## DEDICATED SUPPORTER GIVES HER ALL: MARY ANNE FAY

It's common for organizations such as the UA Sarver Heart Center to encourage people to provide support in any way they are able – whether through time, talent or treasure. It's uncommon to find supporters who wholeheartedly give all three. Mary Anne Fay is a supporter who has given her all to the Sarver Heart Center for more than a decade.

Mary Anne and her husband, Mark, joined the Sarver Heart Center Advisory Board in 1999. The Sarver Heart Center identified cardiovascular disease in women as a top priority in 2004, and Dr. Gordon A. Ewy, then-director of the center, asked Mary Anne to establish and chair the Women's Heart Health Education (WHHE) Committee.

Under her leadership, the WHHE Committee helped Sarver Heart Center build relationships with donors who established an endowed chair specifically to study gender and cardiovascular disease. Committee members also provided seed grants to research teams investigating heart disease in women from diverse ethnic backgrounds and worked to educate thousands of women about their own cardiovascular risk factors.

"We have done so much during the past 12 years, but there is still a great need for resources to continue to make progress," said Mary Anne, who stepped down as chair of the women's committee earlier this year. "My husband Mark and I committed a gift to help fund much-needed research that will deepen our understanding of this disease and how best to prevent the effects on women," said Mary Anne.

When Mark passed away in 2013 due to complications from a stroke, a combination of bequests and annuities was in place to create a meaningful legacy in his memory.



Wanda Moore (left) who served as interim chair of the Women's Heart Health Education Committee, thanks Mary Anne Fay for her 12 years of service as chair. To the right of Mary Anne: Dr. Kathleen Wishnick, current chair, Bobbe Dexter, adviser, Shirley Cox, co-chair.

Mary Anne, a dedicated business executive before her retirement, continues to serve as a member of Sarver Heart Center's board, executive committee and women's committee.

"Thoughtful planning from people such as the Fays is so important to research at the Sarver Heart Center," said Nancy K. Sweitzer, MD, PhD, director of the center and chief of cardiology. "We are grateful to Mary Anne, not only for her thoughtful planned gifts, but also for the leadership skills she has devoted to help advance our mission during her many years of service and to the focus on women's heart health she has fostered at the Sarver Heart Center."



## The IRA Charitable Rollover Is Back, and Now It's Permanent

The Protecting Americans from Tax Hikes (PATH) Act of 2015, which was passed by Congress and signed into law by the president on Dec. 18, 2015, made permanent what is popularly known as the IRA charitable rollover.

Charitably minded taxpayers have enthusiastically embraced the IRA charitable rollover as an opportunity to transfer up to \$100,000 each year to charity without it being treated as a taxable distribution. Despite its popularity since being introduced in 2006, the IRA charitable rollover has faced extinction several times and had actually expired on Dec. 31, 2013. Now it has been reinstituted and made permanent.

#### Here are the requirements and restrictions for making an IRA charitable rollover gift:

- The donor must be 70½ or older.
- The gift must be made directly from the IRA to an eligible charitable organization.
- Gifts to all charities combined cannot exceed a total of \$100,000 per taxpayer for the year.
- The gift is not included in taxable income, and no charitable deduction is allowed.
- The gift can be made only from an IRA. Gifts from 401(k), 403(b), and 457 plans are not permitted.

The qualified distribution described above applies to a traditional IRA. Distributions from employer-sponsored retirement plans, including simple IRA plans and simplified employee pension (SEP) plans, are not eligible for the tax-free rollover.

#### This may be the right gift for you to make if:

- You want to make a charitable gift and your IRA constitutes the largest share of your available assets.
- You are required to take a minimum distribution from your IRA, but you do not need additional income.
- You do not itemize your deductions. In that case a personal IRA distribution increases your taxable income without the benefit of an offsetting deduction. An IRA charitable rollover will not be included in your taxable income even if you do not itemize other deductions.

Here are the steps to make a gift from your IRA to Sarver Heart Center:

- If you want to make a qualifying transfer, contact your IRA administrator and instruct that person to transfer funds to UAF/Sarver Heart Center.
- Contact the UA Foundation's Office of Gift Planning, (520) 621-1993 or Toll Free: (800) 845-4877, plangift@al.arizona.edu. We will answer your questions and provide instructions for completing your gift.

#### Thank you!

Source: University of Arizona Foundation, Office of Gift Planning, http://uafoundation.giftplans.org/

#### Yes! I would like to Support the University of Arizona Sarver Heart Center!

Address:		
City:	State:	Zip Code:
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Payable to the U	JA Foundation/UA Sar	rver Heart Center
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P.O. Box 245046, Tucson AZ 85724.



The University of Arizona Health Sciences Sarver Heart Center PO Box 245046 Tucson AZ 85724-5046

ADDRESS SERVICE REQUESTED



The UA Sarver Heart Center is celebrating its 30th anniversary by providing community lectures in Tucson and Green Valley. Here is our upcoming schedule.

#### Tucson

#### **January 18** - Discovering More Ways to Cheat Death: Resuscitation Research

Karl B. Kern, MD, Co-director and the Gordon A. Ewy, MD Distinguished Endowed Chair of Cardiovascular Medicine, UA Sarver Heart Center; and Professor of Medicine, and Gordon A. Ewy, MD, Professor Emeritus and Director Emeritus, UA Sarver Heart Center

#### **March 15** - Tracking Your Health with Wearable Technology: A Look at What's on the Drawing Board

Marvin J. Slepian, MD, Professor of Medicine and BioMedical Engineering; and Director, Arizona Center for Accelerated Biomedical Innovation, and David Armstrong, DPM, MD, PhD, Professor of Surgery; and Director, Southern Arizona Limb Salvage Alliance

## **April 19** - Sleeping for Peak Performance and Your Heart

Michael Grandner, PhD, Director, Sleep and Health Research Program, Department of Psychiatry, and Assistant Professor of Medicine and Psychiatry

#### **May 17** - Right Treatment, Right Person, Right Time: Progress in Precision Cardiovascular Care at the Sarver Heart Center

Carol Gregorio, PhD, Vice Dean for Innovation and Development; Chair, Department of Cellular and Molecular Medicine; Professor of Molecular,

Cell Biology and Anatomy; Co-Director, UA Sarver Heart Center; Director, Molecular Cardiovascular Research Program, and Nancy Sweitzer, MD, PhD, Director, UA Sarver Heart Center; Chief, Division of Cardiology, and Professor of Medicine

All Tucson lectures are Wednesdays, 6 – 7:15 p.m. in room 5403, University of Arizona College of Medicine –Tucson, 1501 N. Campbell. Doors open at 5:30 p.m. with information tables and chest-compressiononly CPR training.

#### Green Valley Thursday, January 26, 2017

#### The Future is Now: Saving Hearts with Technology

Jennifer L. Cook, MD, Associate Professor of Medicine, University of Arizona Sarver Heart Center; and Director, Advanced Heart Failure, Mechanical Circulatory Support and Cardiac Transplantation at Banner -University Medical Center Tucson

#### Thursday, February 16, 2017 Keeping Your Heart in Sync: What You Need to Know About Atrial Fibrillation

Mathew Hutchinson, MD, Professor of Medicine, UA Sarver Heart Center; and Director, Cardiac Electrophysiology Program at Banner - University Medical Center Tucson

#### Thursday, March 16, 2017

#### Tracking Your Health with Wearable Technology: A Look at What's on the Drawing Board

Marvin J. Slepian, MD, Professor of Medicine (Cardiology) and BioMedical Engineering; and Director, Arizona Center for Accelerated Biomedical Innovation, and David Armstrong, DPM, MD, PhD, Professor of Surgery; and Director, Southern Arizona Limb Salvage Alliance

All lectures are held at at 10 a.m. at Canoa Hills Social Center, 3660 S. Camino Del Sol, Green Valley.

#### Visit heart.arizona.edu and click on Events for more information.