The Power of Believing

At the Lillehei Heart Institute, we believe in a world free of cardiovascular disease. Sound impossible? In 1961, America had never put a human in space. John F. Kennedy believed that we should not only put a man in space, but that we should land the first man on the moon. It sounded impossible, but eight years later, it was reality.

In 1980, Herb Brooks believed the USA hockey team could beat the Soviets—the team that had won nearly every world championship and Olympic tournament since 1954; the team that had previously beaten Team USA in head-to-head matchups by a combined score of 28-7. No one believed that the USA could overcome the Soviets, except Herb Brooks—and his team. And at the 1980 Winter Olympics in Lake Placid, Team USA performed the “miracle on ice” by beating the Soviets, and they went on to win the gold medal.

In 1951, Walt Lillehei believed that he could save lives if he could open the chest to operate on the heart. The medical world laughed at his idea. His bold beliefs changed the face of cardiovascular medicine, and today, millions of open heart surgeries have been successfully performed and lives have been saved.

Many will recall a classic story from our childhood days, “The Little Engine that Could.” The little engine had to scale a seemingly insurmountable mountain to deliver toys and candy to the children on the other side. Focusing on his limitations, the little engine sought the support of larger engines. When they all refused to help, the little engine had no choice but to rely upon hard work and his belief in himself. His mantra of “I think I can, I think I can,” soon transformed into “I know I can, I know I can.” And in the end, the little engine traveled over the mountain and triumphantly made his delivery.

What these stories portray is that believing is the first step in achieving. The definition of the word believe is: to accept something as true. Without a belief, we cannot establish goals, and without a goal it is difficult to measure accomplishments.

In science and medicine, we are often dictated by a system of beliefs that serve as a reliable guide, but that can also be confining. The late Steve Jobs, founder of Apple, once said: “Don’t be trapped by dogma, which is living with the results of other people’s thinking. Don’t let the noise of others’ opinions drown out your own inner voice.” Neither Kennedy nor Brooks nor Lillehei accepted dogma. Instead, they had the courage to believe... and their results were miraculous.

Finding a way to do the impossible is one of the trademarks of the Lillehei Heart Institute. So, on behalf of my colleagues, I can say that we believe we will find a cure for heart disease, and we believe it will be sooner rather than later.

We have a three-pronged approach: Prevention, Education, and Cure. As you read in this issue the highlights of each strategy, we hope you will become a believer, too. Our initiatives will lead us to do what others think is impossible. We Know We Can.
The most powerful word in the English language is YES. Every move forward starts with a YES. Every successful negotiation ends in a YES. Every relationship begins with two YES’s.

Four years ago, the Renaissance in Cardiovascular Medicine at the University of Minnesota was born out of a vision that the University of Minnesota would reclaim its title as the best and most innovative cardiovascular program in the country. That vision spurred on a lot of YES. The Cardiovascular Clinical Service Line was developed. Basic science research increased by 100 percent every year. The faculty grew by 50%. We have new programs in imaging, valvular heart disease, resuscitation, and adult congenital heart disease. We launched a new fellowship in Heart Failure and Transplantation. Next year, we will begin another fellowship in Advanced Cardiac Imaging. This is the power of people saying YES and moving forward.

To get to our vision of being the best and most innovative cardiovascular program in the country, we have a mountain of work left to do. We are renewing our infrastructure— from labs to offices. More importantly, we are building new infrastructure for this century; facilities that reflect the new reality of cardiovascular medicine where physicians, surgeons and scientists work side-by-side. We are funding a translational large animal hybrid lab for device innovation, experimental cell therapy, and training. Our hospital hybrid cath lab OR suite is being completely upgraded to accommodate the transcatheter valve program. Our offices will have modern image display and video conferencing to allow multicenter research and collaboration. With the addition of Sue Duval, PhD, we are building out our statistical core. Alan Berger is building our IT and database core. All of these build outs started with YES.

There is also work to do outside our cardiovascular division. We live in an unnecessarily complex administrative world. Even our Department Chairs feel the withering weight of our 100 year old organizational plan. That, combined with separate administrative structures in our hospital partners and University of Minnesota Physicians, reduces our efficiency in carrying out our missions of innovation, patient care and training the next generation of cardiovascular physicians and scientists. That has to change and it will take a lot of “YES” to get to a structure where people who work together belong to the same administrative unit. It starts with the vision. We have come a long way in 5 years—farther than anyone would have dreamed in 2006. Our great advantage is that we discovered the power of YES. The success it brings is contagious. Spread the word.

Bacaner Award Winner

The 2012 recipient of the Dr. Marvin and Hadassah Bacaner Faculty Award in Cardiovascular Research Excellence was Radbod Darabi, M.D., Ph.D. Dr. Darabi is an Assistant Professor whose research focuses on the efficacy of cell therapy using genetically modified stem cell populations for the treatment of muscular dystrophy. He has a number of high impact publications in the journals of Nature Medicine, Stem Cells, Experimental Cell Research and Cell Stem Cell.

Not everyone is inclined to say YES. When I hear people say, “Let me be the devil’s advocate,” I think, “Doesn’t the devil have enough advocates?” Progress begins with a vision for good. The need for careful planning, considering potential problems, engineering solutions or workarounds, and due diligence is obvious. Yet, in our desire for prudence, progress can be derailed inadvertently by the band of people trained to say no. They are the same people who whine about unsolvable problems. When we start with YES, however, big barriers become obstacles to overcome and potential pitfalls become hazards to hike around.

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The American Heart Association/American Stroke Association has named David Benditt, M.D., the winner of their Heart and Stroke Hero Award in the physician researcher category.

Dr. Benditt is a Professor of Medicine and Co-Director of the Cardiac Arrhythmia Center at the University of Minnesota, and a cardiologist with the University of Minnesota Physicians.

Dr. Benditt was nominated by Cardiovascular Division Director, Daniel J. Garry, M.D., Ph.D. who wrote:

“Dr. Benditt quickly established an international reputation for his innovative approaches towards the diagnoses and treatments of cardiac arrhythmias, syncope, sudden cardiac death and the use of device therapy. Over the past 33 years he has been one of the premier leaders in the field of syncope and cardiac electrophysiology. His research and clinical areas encompass all areas of cardiac electrophysiology diagnosis and treatment, including the introduction and development of rate-responsive pacing, physiological pacing, and transvenous defibrillation. In 2007 the Heart Rhythm Society awarded Dr. Benditt a Pioneer in Pacing and Electrophysiology Award. Dr. Benditt is also invested in the community. He is an active volunteer with many organizations, including local schools. He has also helped educate and establish new cardiovascular and electrophysiological care delivery models in China over the past 10 years, and has also been an active volunteer for the American Heart Association.”

Heart & Stroke Heroes were recognized at a patron party on September 21st and a gala on December 10th.

This is the 17th year the American Heart Association/American Stroke Association has held its award program celebrating a physician, a health care provider, and a survivor. A nominating committee, composed of a diverse group representing the local health care systems and past honorees, selects the winners from community nominations.

This is the fourth year in a row that a University of Minnesota Cardiologist has won this award. In 2008 Robert Bache, M.D. was awarded the honor, in 2009 Robert Wilson, M.D. received the recognition, and in 2010 Gary Francis, M.D. won the award.
Coronary Heart Disease: Clinical, Pathological, Imaging, & Molecular Profiles

Drs. Vlodaver, Wilson, and Garry lead collaboration on landmark book providing clinical, pathological, imaging, and molecular profiles.

A new University of Minnesota cardiovascular textbook was recently published in 2012 and its editors were Zeev Vlodaver, M.D., Associate Professor at the University of Minnesota, Robert F. Wilson, M.D., Clinical Chief at the University of Minnesota, and Daniel J. Garry, M.D., Ph.D., Director of the Lillehei Heart Institute and Chief of the Cardiovascular Division at the University of Minnesota. This is the second edition of a the landmark 1976 book titled “Coronary Heart Disease”. The original edition of this book, published over 30 years ago, was co-authored by Zeev Vlodaver, M.D., Kurt Amplatz, M.D., Howard Burchell, M.D., and Jesse Edwards, M.D.

The primary thrust of the book concerns coronary atherosclerosis, the pathology of which is presented in conjunction with the results of anatomic, non-invasive imaging and angiographic studies. Related chapters cover atherogenesis, presenting new insights into the pathophysiology of the vulnerable plaque, the role of progenitor cells in vascular injury, inflammation and atherogenesis, and the genomics of vascular remodeling. Additional topics covered include angina pectoris, acute coronary syndromes, healed myocardial infarction and congestive heart failure, catheter-based and surgical revascularization, and surgical treatment of myocardial infarction and its sequelae.

This book is a valuable resource for practitioners in clinical cardiology, thoracic surgery, pathology, and cardiovascular molecular research, as well as for students in training.

For more information on this book, or to reserve a copy, contact the Lillehei Heart Institute at (612) 625-8988.

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In Memoriam

Donald B. Hunninghake, M.D.
Dedicated to Preventing Heart Disease

-- by Jay N. Cohn, M.D., Director of the Rasmussen Center for Cardiovascular Disease Prevention

Donald B. Hunninghake, M.D. died on February 2, 2012 at the age of 78 after a prolonged illness. His illustrious career at the University of Minnesota will long be remembered and was commemorated at a memorial service in his honor at the University’s McNamara Alumni Center on May 5.

Dr. Hunninghake’s career spanned the development and application of therapy to slow progression of atherosclerosis through lipid reduction. After graduating medical school at the University of Kansas, he trained in clinical pharmacology and focused his interests on lipid metabolism in an era before there were powerful drugs to prevent morbid events. His dedication to the cause of prevention led him to organize and oversee the Heart Disease Prevention Clinic at the University of Minnesota. This Clinic became one of the nation’s leading centers in conducting clinical trials of new drugs for the control of elevated cholesterol levels. Don became the consultant to whom all hyperlipidemic patients at the University were referred, and he is fondly remembered by all of these colleagues and patients for his care and thoughtfulness in their management.

Donald Hunninghake’s expertise and skill were camouflaged by his self-effacing demeanor. It was in his close working relationship with trainees and colleagues that the depth of his knowledge and insights became apparent. His influence on the field of lipidology is being expressed through these junior colleagues who are now active throughout the world.

Dr. Hunninghake’s influence on preventive cardiology at the University of Minnesota is an important part of our institution’s legacy. We share the loss with his wife, Sherrie, and with his three children. The University, the medical community, and the public are all better because of his contributions.

Don, You Will Be Missed.
Dr. James Moller Completes Two New Books

James Moller, M.D., Professor of Medicine in the Cardiovascular Division, past AHA President, and Director of the Adult Congenital & Cardiovascular Genetics Clinic, recently published two new books. Over the course of his illustrious career, Dr. Moller has authored or edited 14 books, 23 chapters, and 200 scientific publications. These publications reflect his expertise in congenital heart disease and have focused on the long-term follow-up, exercise physiology, and pathology of cardiac malformations. Dr. Moller also directs the Pediatric Cardiac Care Consortium, a collaborative multi-institutional data base on cardiac surgery and catheterization.

Jesse E. Edwards: His Legacy to Cardiovascular Medicine

The medical career of Dr. Jesse E. Edwards spanned more than seven decades. Dr. Edwards, who was a leading cardiac pathologist for many years at the Mayo Clinic before he came to Saint Paul, MN in 1960 and established unprecedented collaborations with cardiologists and cardiac surgeons at the University of Minnesota, saw and participated in the transition from the time when heart disease was poorly understood and essentially untreatable to the era of cardiac catheterization, cardiac surgery, transplantation, and the development of minimally invasive treatments. This book, edited by Brooks S. Edwards and James H. Moller, was prepared for the 100th anniversary of Jesse Edwards’ birth.

This book reprints 27 of Dr. Edwards’ seminal publications regarding the structure of malformed or diseased hearts. For each of the papers, a leading expert, former colleague, or former student of Dr. Edwards wrote an accompanying commentary about the paper. Many of these publications provided a foundation for our current understanding of Congenital Heart Disease and the accompanying commentaries further highlight Dr. Edwards’ contributions.

Pediatric Cardiovascular Medicine

Authored by James H. Moller and Julien I. E. Hoffman, Pediatric Cardiovascular Medicine is the second edition of a book that set the standard for a single-volume, clinically focused textbook on this subject. This new edition, revised and updated by contributors from the United States and 15 other countries on five continents, offers increased coverage of the most important current topics, such as pediatric electrophysiology, congenital heart disease, cardiovascular genetics/genomics, and the identification and management of risk factors in children, while maintaining the clinical focus. Pediatric Cardiovascular Medicine, Second Edition, is the perfect reference for residents, fellows, pediatricians, as well as specialists in pediatric cardiology.

University of Minnesota Physicians-Heart/Lillehei Heart Institute Surgeon Recognized as Among Top 1% in the US

U.S. News & World Report recognized Kenneth Liao, M.D., Ph.D. as among the Top 1% of all cardiac and thoracic surgeons in the United States. This designation is based on thousands of nominations submitted by healthcare experts and physicians from all over the country and reviewed by a physician-led research team at Castle Connolly Medical, Ltd. Dr. Liao is currently the Surgical Director of the Cardiac Transplant Program (which recently received the Bronze Award for Outstanding Patient Survival) and leads the minimal invasive cardiac surgical program for University of Physicians-Heart.
Lillehei Heart Institute Tests Former NFL Players for Heart Disease

The lobby of the new Cardiovascular Clinic at the University of Minnesota was filled with former National Football League (NFL) players earlier in the year as it collaborated with the Living Heart Foundation (LHF) to host a cardiovascular screening event for retired NFL players in our region.

LHF is a national nonprofit organization established by retired cardiac surgeon, Arthur (Archie) Roberts, M.D., in 2001. Its mission is to combat sudden cardiac death and to provide early intervention through on-site screening and integrated health programs. Roberts, who played in the NFL during the 1960s while attending medical school, became concerned about the increasing size of football players and the risks associated with that added weight. That’s why he has partnered with the NFL Players Association to screen current and retired professional football players.

“Cardiovascular risk for these retired players is not much different than the general population” according to Dr. Roberts, whose foundation is analyzing the data collected from more than 1,500 players who have been tested. “However, pound for pound, body size is a major factor for anyone. We’ve found that linemen, who usually have larger bodies compared to players in other positions, have a higher risk of heart disease.”

Matt Blair, former Minnesota Vikings linebacker from 1974-1985, served as emcee for the January 21st event, where Dr. Daniel Garry, Dr. Daniel Duprez, and Dr. Roberts spoke with 28 former players about the importance of early detection and intervention to minimize the risks of heart disease.

“In most cases, heart disease is caused by blood vessel abnormalities,” said Dr. Duprez, Director of the Rasmussen Center for Cardiovascular Disease Prevention. “Thanks to advances in medicine, today these abnormalities can be identified long before the arteries become clogged and symptoms develop.” Based on 10 non-invasive tests, the Rasmussen Center determines a score that is a novel indicator and a highly accurate predictor of impending heart disease. The Rasmussen Score has been deemed to be a better predictor than the long-standing Framingham score, which focuses heavily on age as a key factor.

John Henderson, a Vikings wide receiver from 1968-1972, was pleased that he and the other players, including Oscar Reed, Walker Lee Ashley and Dave Osborn, had this opportunity to focus on their health. “For some, this might be a reality check, but now we have the measures, so we know where and how to incorporate the changes that will contribute to a healthy heart…and a healthy life.”

“Most athletes need a game plan and want to work with experts,” said Blair. “With this screening, the experts from the University of Minnesota helped us know our scores, and now we can each develop a game plan for our future to prevent more serious risks later in life.”

Dr. Garry, Chief of the Cardiovascular Division and Director of the Lillehei Heart Institute, compared the retired NFL players to the University’s medical icons who made so many advancements in the treatment of cardiovascular disease. “The men here today are legends of the game who stood for greatness. We are honored to work with them to help them achieve healthier lives and to deliver the message about early detection and prevention to the community.”
New Employees

As the University of Minnesota’s Cardiovascular Program evolves into one of the largest and most vigorous programs in the nation, the number of employees continues to grow. The program has already recruited an additional 15 outstanding cardiovascular experts with the goal that the University of Minnesota will continue to serve as a magnet for cardiovascular leaders. Our ultimate goal is to be one of the top 10 cardiovascular programs in the world by 2015, while at the same time never forgetting that providing outstanding, innovative clinical care to every patient is our guiding principle.

Here is a list of our newest faculty and staff:

Faculty
Susan Duval, PhD - Associate Professor
Renuka Jain, MD - Assistant Professor
Helina Kassahun, MD - Assistant Professor

Administrative Staff
Jessica Behm - Executive Administrative Assistant, Lillehei Heart Institute (LHI)
Kimberly Harkins - Program Manager, Minnesota Resuscitation Consortium
Lucinda Klann - Database Manager, Minnesota Resuscitation Consortium
Amber Kerr - Principal Office Administrative Assistant, Variety Club Research Center (VCRC)
Karen Miller - Statewide Campaign Manager, Minnesota State Cardiovascular Prevention Program
Marissa Weatherhead - Principal Office Administrative Assistant, Variety Club Research Center (VCRC)
Brandy Satchell - Regulatory Specialist, Lillehei Clinical Research Unit (LCRU)

Research Associates
Fengli Fu - Bioinformatics Research Associate in the lab of Dr. Daniel Garry
Liying Zhang - Research Associate in the lab of Dr. Jianyi Zhang
Claudia Zierold - Research Associate in the lab of Dr. Cindy Martin

Research Assistants
Jessica Springer - Research Assistant in the lab of Dr. Jianyi Zhang
Erin Austin - Research Assistant in the lab of Dr. Lin Yee Chen
Albert Jang - Research Assistant in the lab of Dr. Jianyi Zhang

Post-Doctoral Associate
Karen Porter - Post Doctoral Associate in the lab of Dr. Mary Garry

Research Fellow
Dongmin Kwak - Research Fellow in the lab of Dr. Yingjie Chen

Junior Scientists
Grace Hallenbeck - Junior Scientist in the lab of Dr. Rita Perlingeiro
Erin Schnettler - Junior Scientist in the lab of Dr. Rita Perlingeiro
Katie Zirbes - Junior Scientist in the lab of Dr. Daniel Garry

Assistant Scientists
Christopher Chapman - Assistant Scientist in the lab of Dr. Daniel Garry
Tim Matsuura - Assistant Scientist in the lab of Dr. Demetri Yannopoulos

Student Workers
Tanya Casta - Student Administrative Assistant, Histology & Microscopy Core
Rachel Gohla - Student Lab Assistant, Histology & Microscopy Core
Shawn Jarvis - Student Administrative Assistant, Lillehei Heart Institute (LHI)
Sravani Konkimalla - Student Administrative Assistant, Lillehei Heart Institute (LHI)
Stacey Nguyen - Student Administrative Assistant, Lillehei Heart Institute (LHI)
Dr. Yannopoulos is also the recipient of five American Heart Association Young Investigator Awards (2005 and 2008-2011), and has received AHA and NIH grant support for his work in CPR devices designed to improve blood flow and clinical outcomes.

“Dr. Yannopoulos is an outstanding physician who is always looking to improve the quality of life of his patients” said Daniel J. Garry, M.D., Ph.D., Cardiovascular Division Chief and Director of the Lillehei Heart Institute. “He epitomizes the clinician scientist who continually looks to transform research and innovation to clinical medicine, improving patient outcomes and changing forever the way we treat those in need.”

When did you first become interested in Medicine?
I came from a family with a long tradition in medicine. My parents and grandparents were physicians and it seems that this career came naturally, although I struggled a lot with the possibility of devoting my life to music.

What drew you to the field of cardiology?
Cardiology made more sense to me since it is the most evolved and mature, evidence-based, and research oriented medical specialty. I felt that by being a cardiologist I could really make a difference in people’s lives.

What is the key to effective patient-physician relationships?
Trust, communication, and mutual respect.

What are your research interests?
I have been lucky to have had the opportunity to work with a number of great mentors and friends. I am very interested in cardiopulmonary resuscitation, and am searching, with the help of a superb team, to identify ways to decrease reperfusion injury after prolonged cardiac arrest and improve outcomes by delivering the best quality of CPR and post resuscitation cardiology care available.

Who inspires you?
I am inspired by pioneers and giants in my field. I have the opportunity to work with some of the most influential scientist in the field of resuscitation. Those people, such as Keith Lurie, Henry Halperin, Tom Aufderheide and others, not only provided the support for me to evolve in the field but also inspired me to better myself and never give up when science and data throw you a curveball. They taught me to persevere and never quit, and lead the way with their actions, which inspires me to do the same. It takes a lot of patience and dedication to be a clinician-scientist and those people have shown me the way and inspired me greatly. Last but not least, I am

Demetri Yannopoulos, M.D.
Associate Professor of Medicine
Research Director, Interventional Cardiology
Director, Minnesota Resuscitation Consortium

Born in London, UK, Dr. Yannopoulos received his M.D. from the University of Athens in Greece. He completed his medicine residency and general-cardiology fellowship at the University of Minnesota. Following an interventional-cardiology fellowship at Johns Hopkins University in Baltimore, Maryland, Dr. Yannopoulos joined the University of Minnesota faculty in 2008. In March 2010, he became the Research Director for Interventional Cardiology, and was promoted to Associate Professor of Medicine. His clinical interests include emergent cardiac care, coronary-artery disease, and congenital and peripheral intervention.

Dr. Yannopoulos’s research involves cardiopulmonary resuscitation, hypothermia, and myocardial salvage during acute coronary syndromes. He is considered an authority in cardiorespiratory interactions and hypothermia during CPR. His work in the laboratories of Dr. Keith Lurie (at the University of Minnesota) and Dr. Henry Halperin (at Johns Hopkins University) has helped change current CPR practices.

Dr. Yannopoulos is a member of the American Heart Association’s CPR guidelines-writing committee, and of the basic life support and research working-group subcommittees. He also serves on the organization committee for the AHA’s Resuscitation Science Symposium (ReSS), the largest international conference addressing CPR and emergent cardiac/trauma care.
Hottest Party in Town Raises Funds for Research and Education

Nearly 800 guests attended the Red Hot Soiree, a gala benefit held last month, where more than $650,000 was raised to fund research and education at the Lillehei Heart Institute.

An equally important goal of the Red Hot Soiree was to inform attendees about the extraordinary discoveries of the Lillehei Heart Institute. The Corridor of Innovation highlighted progress in prevention, resuscitation, surgery and regenerative medicine. A brief video provided a compelling testimonial from a patient who is alive and well today only through the expertise of the doctors at University of Minnesota Physicians Heart and the coordinated care that exists at the U of M. The Red Hot Soiree also showcased the future home of the Lillehei Heart Institute in the University’s biomedical discovery district.

Music superstar Barry Manilow delivered an energetic show featuring a string of his legendary hits for an enthusiastic crowd that reveled in his performance. Manilow, who experiences an irregular heartbeat, a common condition known as atrial fibrillation, and whose personal cardiologist, David Cannom, M.D., was trained at the University of Minnesota, generously donated his performance once he learned of our long history of innovation related to cardiovascular disease and the ongoing discoveries being made today.

Where do you see yourself 10 years down the road?

I see myself doing exactly what I am doing today and trying to transfer the knowledge that we are generating in the animal laboratories to the clinical arena...helping patients have a second chance at a higher quality of life. I have to admit, though, that more frequent trips to my country, Greece, to enjoy the beauty of the sea, the people, and the food, would also be nice!

What does the U of M Cardiovascular Program mean to the Twin Cities?

The University's Cardiovascular Program has been at the forefront of medical advances for over 50 years. Our program has provided innovation that fed the engine of multiple biomedical companies, improved the lives of millions of patients around the world, and changed the way cardiology and surgery are practiced. For the last five years a new spark has again set the wheels of innovation in motion. Many great things are happening under our new Cardiovascular Division Chief, Dr. Daniel Garry, M.D., Ph.D. He has provided generous support to his new faculty, provided funding to stimulate research and growth, and has worked hard to put the program on the international map. Our Cardiovascular Program is leading the way in many areas, such as stem cell research, device innovation, and resuscitation science. As the program moves forward, the Twin Cities continues to be on the front page of medical news publications.

Recent studies emerging from the Yingjie Chen, M.D., Ph.D. laboratory support the notion that left ventricular heart failure induces pulmonary fibrosis and secondary pulmonary hypertension. This study, published in this month's Hypertension journal further suggests that effective treatment of advanced heart failure may require strategies to reduce lung fibrosis and inflammation.

Hypertension

JOURNAL OF THE AMERICAN HEART ASSOCIATION
Research Funding for the U of M Cardiovascular Program Continues to Rise

It’s an exciting time in the field of cardiovascular research at the University of Minnesota. Emerging technologies that include genomics, cell therapy, and new devices fuel innovation and continue to revolutionize the way we treat and prevent cardiovascular disease today and in the future.

Today, world-class investigators within the University of Minnesota’s Cardiovascular Program manage a portfolio of highly competitive federal, corporate, and private research grants totaling over $65 million, and are working together with the next generation of young investigators to lessen the toll of cardiovascular disease on all of us.

Here are some examples of our most recently funded research projects:

**Duprez, Daniel**
Genentech, Inc.
Intravenous MLD1278A in Patients with CV Disease
$339,991

**Colvin-Adams, Monica**
Minnesota Medical Foundation (MMF)
Evaluation of Genomic, Structural, and Molecular Changes Associated with Severe Cardiac Allograft
$15,000

**Yannopoulos, Demetri**
National Institutes of Health (NIH)
Sodium nitroprusside and mechanical CPR adjuncts for cardio-cerebral resuscitation
$2,630,983

**Kyba, Michael**
Muscular Dystrophy Association (MDA)
Development of Anti-DUX4 / d4z4 Therapeutics and Testing
$375,000

**Chen, Yingjie**
National Institutes of Health (NIH)
Molecular Mechanism of 4E-Binding Proteins on Heart Failure Development
$1,510,000

**Zhang, Jianyi (W. Shen, PI)**
National Institutes of Health (NIH)
Modular Assembly Approach to Engineer Prevascularized Large 3D Tissue Constructs
$19,574

**Chen, Lin Yee**
University of Minnesota Academic Health Center (AHC)
Arterial Structure and Function and Atrial Fibrillation
$141,966

**Eckman, Peter**
Thoratec Corp.
Risk Assessment and Effectiveness of LVAD
$131,730

**Das, Gladwin**
Abbott Laboratories
Evaluation of XIENCE PRIME
$63,538

IBP/LHI Faculty Member Receives $850,000 Decade of Discovery Grant:
“A new drug target for obesity and type 2 diabetes: the TLQP-21 peptide”

Because obesity is the greatest risk factor for Type 2 diabetes, University of Minnesota Integrative Biology and Physiology faculty member Alessandro Bartolomucci, Ph.D. has focused his research on developing an anti-obesity drug. To do so he needed to discover new molecular targets for the drugs. A prime drug candidate is the peptide TLQP-21, which was recently identified in Dr. Bartolomucci’s lab. It has been shown to prevent obesity in mice by increasing fat decomposition and decreasing the size of fat cells. For the next year, his research team will be uncovering how the peptide functions, as well as determining its receptor, its biochemical properties, and chemical structure. That knowledge will form the foundation of a new anti-obesity drug program. The goal is to create medications that, used in combination with lifestyle changes, will limit obesity and thus prevent Type 2 diabetes and associated cardiovascular disease.
Spurred by a major NIH construction grant, the new Animal Physiology and Behavioral Phenotyping and Imaging Core Facility (APBPI) has become a reality.

The state-of-the-art APBPI facility, awarded a $5 million NIH ARRA grant, was completed in the fall of 2011 and includes facilities for cardiovascular physiology and metabolic monitoring in living animals over periods of days to months. The core facility has over 7,000 sq. ft. of renovated space and is located on the first floor of Jackson Hall. It will also accommodate physiological monitoring in rabbits and will include surgical suites for both acute and recovery procedures for all core functions of both the North and South Wings.

U.S. News & World Report has recently recognized the Top Hospitals regionally and across the country. For the second year in a row, the University of Minnesota Medical Center was ranked #1 among the 38 Twin Cities’ hospitals. This designation recognizes the outstanding clinical expertise and innovations provided by the physicians, physician scientists, and healthcare team at the University of Minnesota Medical Center (UMMC).

Mark A. Sanders, Ph.D.
Program Director
University Imaging Centers

New Jackson Hall Animal Physiology Core Laboratories

John W. Osborn, Ph.D.
Professor of Physiology
Dept. of Integrative Biology & Physiology
upcoming Events

June 4
LHI Summer Research Scholars Program Begins

June 7
Cardiovascular Fellowship Graduation
McNamara Alumni Center, Minneapolis, MN

June 14
Interventional Fellowship Graduation
McNamara Alumni Center, Minneapolis, MN

June 28-30
Cardiovascular Research Retreat
St. John’s University, Collegeville, MN

July 5
2012 Stethoscope Ceremony
University of Minnesota Campus Club, Minneapolis, MN

July 23
6th Annual Bakken Symposium
University of Minnesota Mayo Auditorium, Minneapolis, MN

August 3
LHI Summer Research Scholars Program Graduation
University of Minnesota Campus Club, Minneapolis, MN

October 10
2nd Annual Dr. Robert Bache Lectureship
McNamara Alumni Center, Minneapolis, MN

November 16
14th Annual Dr. Robert Hebbel Research Day
University of Minnesota, Minneapolis, MN

Spring 2013
Red Hot Soirée (watch for Save the Date)
The Depot, Minneapolis, MN