

HUNTINGTON MEDICAL RESEARCH INSTITUTES

# HMRI INSIGHTS

Summer 2017

HUNTINGTON MEDICAL RESEARCH INSTITUTES

*celebrates*  
**65 YEARS**



## IT'S STARTING TO LOOK LIKE... THE NEW HOME OF HMRI!

If you drive by 686 South Fair Oaks Avenue in Pasadena, you will see the features of our new biomedical research building. The glass walls are going in on the north and west sides and the interior walls give way to the definition of office spaces and laboratories. We are on schedule to move in early 2018.

## HMRI BIDS FAREWELL TO DR. MARIE CSETE

After 3 ½ years of creative and innovative leadership, Dr. Marie Csete has resigned as Chief Executive and Chief Science Officer of HMRI, effective July 15, 2017.

Marie has accomplished a great deal in her tenure at HMRI. Among other accomplishments, she helped lead the “Forward” campaign for a state-of-the-art biomedical building that gained momentum and clarity under her vision to bring world class

science to Pasadena. We wish her well in her future endeavors.

Frank Davis, Vice President of Finance, will serve as Interim Chief Executive Officer and Dr. Robert Kloner, Vice President of Translation, will serve as Interim Chief Science Officer.

The HMRI Board of Directors has appointed a search committee to lead the recruitment efforts for new leadership.

### HMRI BOARD OF DIRECTORS

John L. Mothershead – Chair  
James Gamb – Vice Chair

Jonathan F. Atzen  
M. Helen Baatz RN MA  
John Babcock  
John D. Baldeschwieler PhD  
C. Joseph Chang  
Dave Davis  
Roger Engemann  
James J. Femino MD  
Lawrence W. Jones MD  
Nelson D. Jones  
Kathleen Kane  
Susan E. Kane PhD  
Dan Kimbell  
George Leal  
Allen W. Mathies Jr. MD  
Peter M. Menard  
Lary J. Mielke  
Lynn H. Myers  
William E. Thomson  
Robert E. Tranquada MD

### Emeritus

William F. Agnew PhD  
Michael C. Doyle  
Jerry M. Harrington  
Herbert Hezlep III  
Mitchell B. Howe Jr.  
R. William Johnston  
Robert J. Mackin Jr. PhD  
Philip V. Swan

# REMEMBERING THE AMAZING JACK ROBERTS



Jack Roberts was a world-class chemist, pioneer of nuclear magnetic resonance, and an influential teacher. Jack served as HMRI's Board Chairman, and collaborated with many HMRI scientists. As noted by Dr. Brian Ross, Jack was the "founding father" of HMRI's award-winning clinical magnetic resonance imaging (MRI) and spectroscopy (MRS) research

program. To quote a colleague, "Jack supported our new direction, and particularly loved giving advice between bites of lunch." HMRI was considerably enriched by Jack's wisdom over decades. He died, age 98, on October 29, 2016.

Prof. Roberts courageously and enthusiastically endorsed a major investment by HMRI's Board of Directors in MRI and MRS. Beginning in 1980, when any "medical" utility for Jack's chemistry work seemed highly unlikely, Jack accompanied a team from HMRI to General Electric in Schenectady, New York to win approval to bring one of the first clinical MRI machines to HMRI. Thus began his four decades-long support and encouragement for MRI-based research at HMRI. A medical director and many pioneers of MRI/MRS were recruited to HMRI, often with direct recommendations from Dr. Roberts' wide international circle of colleagues. A joint Caltech-HMRI fellowship was established whereby Jack (and later a succession of his Caltech colleagues) could offer an Associate position in chemistry, engineering or biology at Caltech and work at HMRI. Between 1983, when the first patient was "scanned" until now, HMRI has studied thousands of research volunteers and patients, many from Huntington Hospital, which did not acquire its own MRI scanner until 1988! HMRI's MR programs have delivered more than 500 peer-reviewed publications (including some co-authored by Dr. Roberts) to the literature over time, and HMRI's researchers continue this legacy (See ISMRM article, page four).

HMRI is well-known worldwide for MRI research, highlighted by the award of three Gold Medals and several Young-Investigator and Distinguished scholarships from various professional societies. HMRI developed MRI research programs in diseases of brain, heart, prostate, liver, kidney and orthopedics, including diagnosis and therapy for cancers. Among the first pieces of research equipment was Dr. Roberts' own pioneering 180 MHz magnet from his lab at Caltech, moved into HMRI's "makeshift" MR Center. This was followed by construction of a purpose - built Clinical MR Center at 10 Pico Street (which remains today, adjacent to the substantial new HMRI Laboratory rising on Fair Oaks Avenue) to house commercial MRI machines, state-of the art instrumentation suitable for HMRI's vision; first at 0.35T, then 1.5T and finally 3Tesla. So much has happened at 10 Pico - a human-heart imager from one of our founding pioneer's concept of metabolic cardiology (Dr. Richard Bing); a brain imager to improve on CT scanning as a neurosurgical guide (Dr. Hunter Sheldon and Dr. Robert Pudenz); an innovative prostate cancer imaging from Dr. Larry Jones. Two of Dr. Roberts' more "outlandish" ideas received their initiations into medicine at HMRI in the form of a stable-isotope imaging program (nitrogen 15 unique to HMRI) and hyperpolarization by technology designed to amplify MR signals ten-thousand fold.

Why Jack chose to invest his energies in medical research at HMRI is something of a miracle, given Caltech's deliberate distancing from medicine, especially decades ago. Likely through leaders like Dr. Brian Ross, Prof. Roberts found colleagues at HMRI who spoke his language. HMRI is so grateful for the years of guidance from a giant whom we consider the father of MR in chemistry. HMRI will continue to develop advanced clinical MRI/MRS tools useful throughout medicine as a living memorial to Prof. Roberts.

# HMRI AT THE INTERNATIONAL SOCIETY FOR MAGNETIC RESONANCE IN MEDICINE ANNUAL MEETING, HONOLULU APRIL 2017

There is one international meeting where HMRI investigators do not have to explain what and where HMRI is—the annual meeting of the ISMRM—because HMRI has long been a leader in MRI and MR spectroscopy research. The meeting is attended by over 6000 researchers, and getting a coveted slot on the schedule is competitive. HMRI's potent presence at the meeting goes beyond presentations by current HMRI scientists; it is seen in the myriad presentations by former HMRI interns and researchers. Some of these illustrious alums of HMRI's imaging program gathered for dinner in Honolulu to catch up on professional progress and personal stories.

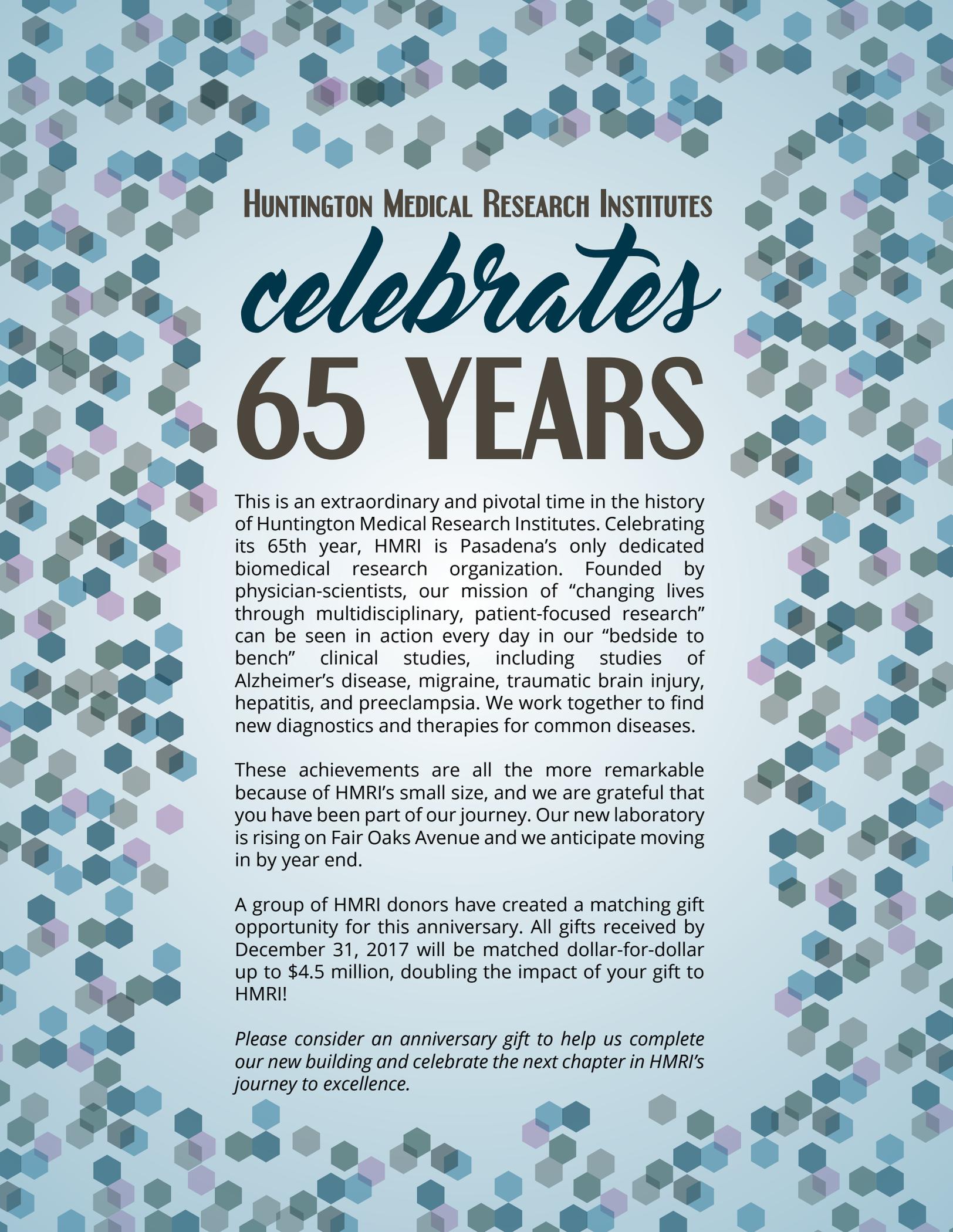
This year, HMRI's research was highlighted in several sessions. Dr. Kevin King spoke on the "Association of vascular risk factors with cerebral metabolic rate" in the ISMRM session "From Aging to Alzheimer's Disease." He was also an author on an ePoster, "Aging effects on kurtosis measures of limbic and association white matter tracts." Dr. King established a research program this year at HMRI around his deep interest in the brain's blood supply and how it contributes to neurologic disorders such as Alzheimer's disease and traumatic brain injury. Thao Tran and Dr. Marie Csete presented a poster, "Diagnosing traumatic brain injury using magnetic resonance spectroscopy (MRS)" with Dr. Brian Ross as co-author. The poster described results from a collaboration started by Dr. Ross with researchers at the FDA's National Center for Toxicology Research. The goal of the research is to develop quantitative MRS tools not only for diagnosing concussions, but for following progression or recovery of concussion over time. In anticipation of the poster presentation, Dr. Csete and Prof. John Doyle of Caltech visited with the FDA scientists, John Wilkes and Dan Buzatu and colleagues, to make plans for next steps in this research program.



The annual HMRI reunion at ISMRM brought together past and present scientists, as well as collaborators of the imaging program.

One HMRI scientist who did not attend the ISMRM was very much present in spirit. Dr. Mike Harrington has been using very high field MRI (in the National High Field Magnet Lab in Florida) to image sodium in the brain of mice who are made to experience something like migraine. Mike has been interested in imaging sodium using MRI in human migraineurs, but until recently the magnet power required was too much for human use. This year's ISMRM featured presentations showing specialized coils that allow sodium imaging in the human brain to be done on a standard clinical 3 Tesla magnet. At all the ISMRM talks on sodium imaging, Mike's papers were the focus of discussion.

Thao Tran, Marie Csete and John Doyle took time off from weekend ISMRM tutorials to join the March for Science in Honolulu. It was an inspiring event featuring talks by local scientists, mostly from the University of Hawaii faculty, focused on the importance of science in protecting the unique ecosystem and cultures of Hawaii. Plus we all loved the spirited T-shirts, "Girls just want to have fun-ding."



HUNTINGTON MEDICAL RESEARCH INSTITUTES

*celebrates*

65 YEARS

This is an extraordinary and pivotal time in the history of Huntington Medical Research Institutes. Celebrating its 65th year, HMRI is Pasadena's only dedicated biomedical research organization. Founded by physician-scientists, our mission of "changing lives through multidisciplinary, patient-focused research" can be seen in action every day in our "bedside to bench" clinical studies, including studies of Alzheimer's disease, migraine, traumatic brain injury, hepatitis, and preeclampsia. We work together to find new diagnostics and therapies for common diseases.

These achievements are all the more remarkable because of HMRI's small size, and we are grateful that you have been part of our journey. Our new laboratory is rising on Fair Oaks Avenue and we anticipate moving in by year end.

A group of HMRI donors have created a matching gift opportunity for this anniversary. All gifts received by December 31, 2017 will be matched dollar-for-dollar up to \$4.5 million, doubling the impact of your gift to HMRI!

*Please consider an anniversary gift to help us complete our new building and celebrate the next chapter in HMRI's journey to excellence.*

## VICKI CHENG RETIRES FROM THE HMRI NEURAL ENGINEERING PROGRAM AFTER 43 YEARS

## DONOR SPOTLIGHT: GREG BEARMAN PHD



Joseph Chang (member of HMRI Board of Directors) and Vicki Cheng at a recent celebration of the Chinese Society of Southern California.

Victoria Lan-Yun Cheng, aka Vicki, was hired at HMRI in 1974 as Senior Medical Research Technician. Her title quickly migrated to reflect her job and skills, Senior Electrode Fabricator. Vicki was born in Shanghai China, and received her undergraduate degree in chemistry from Chung Yung University in Taiwan. She received her MS in radiation biology from the University of Iowa, and then was hired by HMRI—her first and only job. The commendation plaque presented to Vicki upon her retirement says it all:

“Huntington Medical Research Institutes acknowledges and celebrates Vicki Cheng upon her retirement after 43 years of dedicated service to the HMRI Neural Engineering program. You made the program better by your enthusiasm for the science, exquisite attention to detail, and loyalty to the program’s leadership. We wish Vicki a productive and joyful retirement.”

Sometimes you get lucky. Greg Bearman was introduced to HMRI by a former Board member, and we have benefited from his contribution of time and wisdom (and his generosity in the traditional sense) enormously. Greg’s volunteerism is remarkable in many ways, including doing something he swore he wouldn’t do after retirement, write a grant—of course to benefit HMRI. Greg’s NIH biosketch casually mentions (in parentheses) that his group at JPL “developed new instruments for planetary exploration.” What better background could there be for helping HMRI develop a sleep apnea device, EEG-based diagnostics, and other devices that spring from our scientists? Fortunately, Greg also has considerable experience in the practical issues involved in commercializing real products for use by earthlings. Greg has a ferocious intelligence and a broad curiosity that make him a perfect partner for guiding product development at HMRI. Without his encouragement (or maybe more accurately his nudging) it is unlikely that Doug McCreery’s clever sleep apnea device would have seen the light of day. Now, rewritten patent, revamped hardware, and a grant application later, development of the device is finally underway. Greg and Board member Dan Kimbell have been the core team helping to secure intellectual property for HMRI inventions. Dan’s background as a patent attorney has also been a boon to HMRI, and their shared passion for supporting HMRI is essential for HMRI’s mission.

Greg is a graduate of Cornell followed by a PhD in physics from Brandeis. From 2008-14 he applied technologies from JPL to imaging the Leon Levy Digital Dead Sea Scrolls Library. He developed a way to image the ancient, priceless texts as a tool for conservationists, including software methods to detect subtle changes to the scrolls over time. This work established the gold standards used for reading and deciphering damaged ancient texts. He also makes gorgeous Craftsman furniture and is a great cook.

## OUT WITH THE OLD: THE KINGMAN PAPER PURGE

## 66TH ANNUAL HOME TOUR BENEFITS HMRI



As a long-standing employee at Huntington Medical Research Institutes, Jim Kingman saw the rampant accumulation and unwieldy storage of a vast number of files and paperwork at the 99 North El Molino facility. One of Jim's greatest fears was that someone in authority would come to him and say, "Jim we're leaving here in 10 days and we need to clear everything out." So, Jim started devising a plan to get everything out before the call came. That meant all dated hard copy needed to go, scanning what needed to be archived and the rest into the shredder. For months Jim has been executing projects to clear the El Molino facility of fifty years of accumulated documents.

For the past year, Jim has led each department through their "purge" assignments. Months of sifting through files to remove paperwork and staples ensued; Jim is still scanning away, with a tentative completion this fall. The wealth of scanning also allows HMRI to effectively utilize SharePoint – a computer software system.

A similar effort has been underway, again spearheaded by Jim, to divest the labs of equipment clutter. "It's great to have everyone on board," says Jim, "because it becomes more of a team effort, more of a challenge to accomplish, and less of a daunting task that has haunted my dreams. On the other hand, I have seriously grown to dislike staples."

With the theme "A Day in the Highlands", Scottish bagpipers ushered in the Altadena Guild's 66th Annual Home Tour on Sunday, May 7, 2017. Unusual weather brought afternoon, intermittent showers. "It may have been a partially rainy day, but it didn't stop people from walking the street, listening to great live music and partaking in all that the tour had to offer!" said one participant.

In early June the members of the Altadena Guild gathered in the beautiful garden of Freddi Hill to present a check for \$65,000 to Huntington Medical Research Institutes, a donation made possible by the proceeds of the home tour. The Guild's generous gift will support the purchase of a Flow Cytometer for HMRI's scientists as well as the campaign for the new building.

Huntington Medical Research Institutes is grateful to all associated with this year's event – from the Guild members who planned for months to make the tour another success, to the owners of the homes and gardens on the tour, the sponsors and all who attended.

We would especially like to thank the mother and daughter co-chairs Linda Salinas and Suzy Burkhard for producing a beautiful, seamless event.

# HMRI

**MISSION** CHANGING LIVES  
THROUGH MULTIDISCIPLINARY  
PATIENT-FOCUSED RESEARCH

HUNTINGTON MEDICAL RESEARCH INSTITUTES  
99 North El Molino Avenue  
Pasadena, California 91101  
ADDRESS SERVICE REQUESTED  
[www.hmri.org](http://www.hmri.org)

## HMRI INSIGHTS

*is Going Green!!*

**We will be publishing one more print issue** in the Winter of 2017-2018 and then with our Summer 2018 issue we will present a fully electronic newsletter powered by e-mail and posted on our website. If you would like to continue to receive the newsletter in 2018 and beyond, and we don't already have your e-mail address, please send your e-mail address to Denise Chacon, Philanthropy Coordinator, at [denise.chacon@hmri.org](mailto:denise.chacon@hmri.org) or call Denise at (626) 795-4343.

We want to continue to update you on what is happening at HMRI, so please make sure we have your current e-mail address. If you would like to continue to receive the newsletter and you don't use e-mail, please contact us at (626) 795-4343.

[Allyson Simpson, Vice President of Philanthropy](#)  
[Susie Berry, Director of Philanthropy](#)