

Major milestones for Ragon Institute

MGH receives \$200 million to advance research into complex diseases

THE MGH HAS RECEIVED the largest gift in the hospital's history – \$200 million – to endow the Ragon Institute of MGH, MIT and Harvard. This landmark contribution from philanthropists and longtime hospital



SUSAN AND TERRY RAGON

supporters Phillip T. (Terry) and Susan M. Ragon comes as the institute marks the 10th anniversary of its founding, made possible by an initial \$100 million commitment from the Ragons in 2009. The new gift strengthens and secures the future for institute scientists as they continue pursuing novel ways to harness the immune system to prevent and cure disease.

The Ragon Institute is directed by physician-investigator Bruce D. Walker, MD, of the MGH Infectious Diseases Division, who has built and nurtured a vibrant research enterprise by breaking down traditional scientific boundaries and leveraging ideas and perspectives from nontraditional collaborations. (See related story at right.)
(Continued on page 4)

Study identifies viral targets critical to natural HIV control

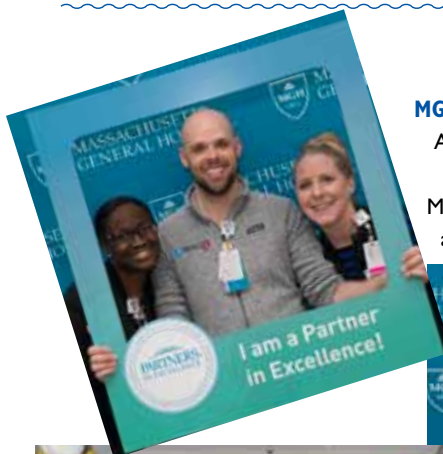
A STUDY BY INVESTIGATORS at the Ragon Institute of MGH, MIT and Harvard may be a major milestone in the search for a vaccine to prevent or treat HIV infection. In the May 3 issue of *Science*, the researchers describe identifying what could be the way the immune systems of a few individuals control HIV infection with no antiviral drugs – by targeting amino acids in the protein structure of the virus that are essential to its ability to function and replicate.

“Our findings provide a putative mechanism for a major component of successful immune control of HIV,” says Gaurav Gaiha, MD, DPhil, of the Ragon Institute and the MGH Gastrointestinal Unit, co-lead author of the *Science* paper. “We believe these findings could have major implications for the development of T-cell-based vaccines for HIV and for other pathogens as well.”

In the 25 years it has been known that a few individuals infected with HIV are able to suppress the virus with their immune systems, a powerful response by pathogen-killing CD8 T cells has been suggested as a probable mechanism. The Ragon team used a novel approach to examine the complex, structural
(Continued on page 4)

Sweet as PIE

MGH STAFF CELEBRATED the 23rd annual Partners in Excellence (PIE) Awards April 25. The 155 individual and 100 team recipients were congratulated by Peter L. Slavin, MD, MGH president, and Margaret Norton, Partners HealthCare chief of staff, and treated to a photo booth with picture frames, props and, of course, pies. ■



RESEARCH ROUNDUP

Experiencing adverse events at a young age may increase risk of mental health disorder

A recent MGH study found that children who experience adverse events such as poverty, family and financial instability, and abuse before the age of 3 may be more likely to have changes in gene function that may negatively impact their mental health later in life.

The report – which analyzed data from more than 1,000 randomly selected mother and child pairs – found the timing of adverse experiences before age 3 has a more powerful effect than the number of such experiences or how recently they took place.

“One of the major unanswered questions in child psychiatry has been ‘How do the stressors children experience in the world make them more vulnerable to mental health problems in the future?’” says Erin Dunn, ScD, MPH, of the Psychiatric and Neurodevelopmental Genetics Unit in the Center for Genomic Medicine, the corresponding author of the study.

If the findings are replicated, they could help to prioritize treatment strategies to help children in this vulnerable group.

Are women paying too much for skin care products?

Over-the-counter facial moisturizers are a widely used and commonly recommended skin care product, but a new study from MGH dermatologists finds that, when it comes to price, men’s and women’s products are not considered equal.

The team reports finding significant, gender-based price discrepancies in a 2018 survey of 110 facial moisturizing products from three top online retailers – Amazon, Target and Walmart.

They found that, on average, skin care products targeted at women cost \$3.09 more per ounce than those marketed to men. The total number of fluid ounces per bottle was not significantly different between the groups.

“If skin is dehydrated, it can lead to serious problems like eczema and rosacea,” says the study’s lead author Maryanne Senna, MD, of the Department of Dermatology. “Despite some recent government-led efforts to restrict gender-based pricing differences in the retail market, our study shows that discriminatory pricing persists and remains a real issue when it comes to dermatologic products.”

A better model for testing new cancer treatments

MGH researchers have developed a new zebrafish model for testing cancer treatments that is less expensive, easier to use and can provide cellular level detail of interactions between drugs and cancer cells.

The fish have been genetically engineered to have compromised immune systems, which enables scientists to implant and grow human cancer cells within them. The fish are also transparent, which allows researchers to observe drug characteristics and cellular processes in real time.

The study was led by David Langenau, PhD, of the MGH Molecular Pathology Unit and the MGH Cancer Center.

Making the ordinary extraordinary

“IT IS FITTING that MGH has a hospitalwide award honoring the crucial but easily overlooked job of secretary. In my third decade here, I continue to encounter extraordinary people at that position, everywhere from the Bulfinch executive suites to the nursing units and CT scan desk. MGH teems with wonderful, helpful people who are the face and voice of this hospital. Amidst that throng of 20,000 very helpful people, JoAnne Reilly stands out.”

–Walter J. O’Donnell, MD

Clinical director, Pulmonary and Critical Care Unit

JoAnne Reilly, executive staff assistant in the Pulmonary and Critical Care Unit, was honored as the annual Pamela J. Ellis Memorial Secretarial Award recipient at the April 24 Administrative Support Staff Day Luncheon. Reilly was recognized for her kindness, extraordinary ability to handle difficult situations, patience and consistent ability to go above and beyond – qualities highlighted by O’Donnell in his nomination letter for Reilly.

“Other hospitals are made up of the same concrete, the same bricks, the same glass as ours,” said Peter L. Slavin, MD, MGH president. “But it really is the people of this hospital – each of you – that makes it so special and a beacon of hope for all our patients.”

The award was established in recognition of the outstanding performance and values of Ellis, who served as an executive secretary at the MGH from 1992 – 1996, and honors MGH secretarial staff who exhibit outstanding qualities in their work. This year, 137 staff members were nominated for the award. The complete list of nominees is featured in a framed plaque hanging on the wall opposite the MGH Gift Shop and will remain there for the upcoming year.

“Even at an extraordinary place like Mass General, even in an ordinary job like secretary, JoAnne is exceptional and extraordinary, helping to make MGH the incomparable place that it is.” ■



AMAZING ADMINISTRATORS: From left, O’Donnell, Reilly and Alice DuBois, NP, Pulmonary and Critical Care Unit

NOTABLE NURSES: A celebration of Nurses Week 2019

In honor of National Nurses Week, May 6-12, *MGH Hotline* shines a light on some of the hospital's amazing nurses, and how they help promote the MGH mission – advancing practice, research, education and community outreach. Thank you MGH nurses for all you do for our patients every day.



SHEILA ARSENAULT, RN (31 years at the MGH)

Unit Nurse Leader, Chelsea HealthCare Center | Specialty/focus: Primary Care

“I was drawn to the Chelsea HealthCare Center because of its diversity. I realized soon after I started working how dedicated the staff was in caring for this population. I love being able to help our patients navigate the health care maze, and how much they appreciate our help. One of my greatest joys is mentoring staff to help them work at their highest level and continue their education in health care. I have had two medical assistants receive their registered nurse degree, and four more staff are in school to become nurses. I have been a nurse for 53 years and would choose this amazing profession again.”



SAHEEDA MOHAMMED-KELLY, RN (18 years at the MGH)

Certified Childbirth Educator; Staff Nurse; AHA CPR Instructor, Blake 14

Specialty/focus: Labor and Delivery, Childbirth Education

“As long as I can remember, I always wanted to help deliver a baby. I initially thought I would become an obstetrician but looked into nursing instead and am so grateful that I did. Nursing, especially being a Labor and Delivery nurse, allows me to contribute to the positive experience patients have during their labor and delivery. I have always had a passion for caring for women at their most vulnerable times. I feel truly blessed to be allowed to support and help women at this very special time in their lives, which has also helped me to achieve my lifelong goal of birthing a baby. I can honestly say I love my job!”



GINO CHISARI, RN-BC, DNP (35 years at the MGH)

Director, Norman Knight Nursing Center for Clinical and Professional Development; Dorothy Ann Heathwood Endowed Chair in Nursing Education

Specialty/focus: Nursing Education and Professional Development

“In 2015, I was asked to develop a nursing competency model for the Jiahui International Hospital (JIH) in Shanghai, China. Once the model was accepted, the next step was to determine the gaps in knowledge and skill between current Shanghai nursing practice and the international nursing standards JIH adopted. Identifying the gaps lead to the development of several comprehensive curriculums focused on nursing practice across the life span. Most recently, my focus has shifted from clinical teaching to mentoring, coaching and overseeing the development of the JIH Educational Department. The experience has once again demonstrated to me that the noble work of nurses is the same everywhere in the world and being allowed to provide care to a patient and their family is an honor and privilege.”



KRISTEN SPRIGGS, RN (11 years at the MGH)

Infusion Nurse, Termeer Center | Specialty/focus: Oncology - Phase One Clinical trial unit

“My experience as an infusion nurse in the Termeer Center has given me a new perspective on research and the ability to contribute to cutting-edge cancer treatment development while still providing patient-centered care. In Termeer, we are able to work on research without sacrificing our patients’ needs. We take a holistic approach to patient care while maintaining research standards.”



INES LUCIANI-MCGILLIVRAY, RN, BSN, CEN (34 years at the MGH)

Clinical Nurse, Emergency Department (ED) | Specialty/focus: ED Post-discharge phone calls

“I feel honored to be part of a great team of nurses that help provide post-discharge calls to patients. Decreased patient follow-up with providers soon after being discharged home from the Emergency Department can lead to an increase in preventable ED readmissions, which contributes to many challenges. Nurses provide more than 100 calls per day – 24 to 48 hours post-ED discharge over 8- to 10-hour shifts. I feel that nurses are usually the first and last people that interact with the patient and can have a significant impact on high-quality, coordinated, safe patient discharge and increased patient compliance with follow-up.”

College education achievable through MGH resources

SANDRA THOMAS knows how to use the resources available for employees to grow at the MGH. She began working at the hospital in 1998 as an operations associate on the Central Resources Team and soon wanted to focus on career development and confidence-building. With encouragement from her family and MGH mentors Christine Annese, RN, staff specialist, and Maureen Schnider, RN, nursing director, Thomas was accepted to UMass Boston in 2003.

By taking one class at a time, Thomas was able to use several resources available to MGH staff – the Tuition Assistance Program, the Support Service Employee Grant and the Association of Multicultural Members of Partners (AMMP) Scholarship – to finance tuition costs. This allowed her to avoid taking out a loan and complete her education at her own pace. Thomas graduated with a bachelor's degree in management in 2015.

"Always be positive and look on the bright side of things," says Thomas, who is now planning to attend the UMass Boston MBA program.

"MGH employees are encouraged to pursue these opportunities and take advantage of the resources to help with career development," says Christopher Conant, training coordinator, MGH Training & Workforce Development. "The Support Service Employee Grant is not only a financial resource but also is a chance for employees to set up job shadows and learn more about other areas of the hospital."

Applications for the 2019 MGH Support Service Employee Grant are being accepted through May 15 at 5 pm. The grant is available to eligible non-exempt employees in administrative, clinical, service or technical support roles. For more information about the Support Service Employee Grant, the Tuition Assistance Program, AMMP Scholarship or financial aid workshops, email MGHTraining@partners.org. ■



THOMAS

– \$200 million gift

(Continued from page 1)

One of the major challenges that has been a focus for Ragon scientists has been the quest to develop an effective vaccine against HIV, a goal that has eluded the best efforts of researchers around the world for three decades. In recent years, however, Ragon scientists have made significant strides toward overcoming certain complicated obstacles. A vaccine developed by scientists at the institute is currently being tested in a large efficacy trial in Africa.

The expanding knowledge and encouraging progress achieved during the institute's first decade inspired the Ragons to increase their support in a meaningful and long-lasting way. "It is an honor and a great privilege to have the opportunity to participate in such an exciting effort to profoundly affect the lives of many people who struggle with infectious diseases such as HIV," said Terry Ragon, who is founder, owner and CEO of InterSystems Corporation, a database software company based in Cambridge. "We are confident and excited that we are well along the path to a vaccine, and hopefully, a cure as well, for HIV and ultimately a broad range of other diseases."

Susan Ragon, vice president of Finance, Administration, and Recruitment at InterSystems, also expressed pride in the work of the past decade and optimism for the future. "After a decade of steady progress, we could not be more proud of the success and achievements resulting from the interdisciplinary teamwork that is a hallmark of the Ragon Institute," she said. "Our organization was started with the support of some of the greatest local institutions in Massachusetts – MGH, Harvard and MIT. While this is a global effort, its local implications for patients, and their friends and families are profound."

Calling the Ragons "true visionaries," Peter L. Slavin, MD, MGH president, applauded their unwavering commitment to making the world a better, safer and healthier place. "The Ragon Institute is a hub where brilliant minds come together to collaborate and solve intractable health problems," he said. "Terry and Susan Ragon are two of these enlightened thinkers who, through their generosity and vision, are saving lives. Their support, leadership, passion and confidence enable the Ragon Institute to think boldly, be daring and aim high – now and long into the future." ■

– HIV control

(Continued from page 1)

bonds within and among viral proteins to identify specific amino acids crucial to viral function. Not only were they able to determine amino acids that, if mutated, impaired the ability of the virus to infect cells and replicate, they also found that those amino acids were specifically targeted by the functional CD8 T cells of HIV controllers but not of those in whom infection progresses.

Ragon Institute Director Bruce Walker, MD, who led the study says, "In 1994 we first encountered a patient who was able to naturally control HIV with his own immune system, and now we finally understand how he and others like him are able to do it." The Ragon team has already begun working on a vaccine based on this study's findings.



WALKER

