



Beth Israel Deaconess
Medical Center



HARVARD MEDICAL SCHOOL
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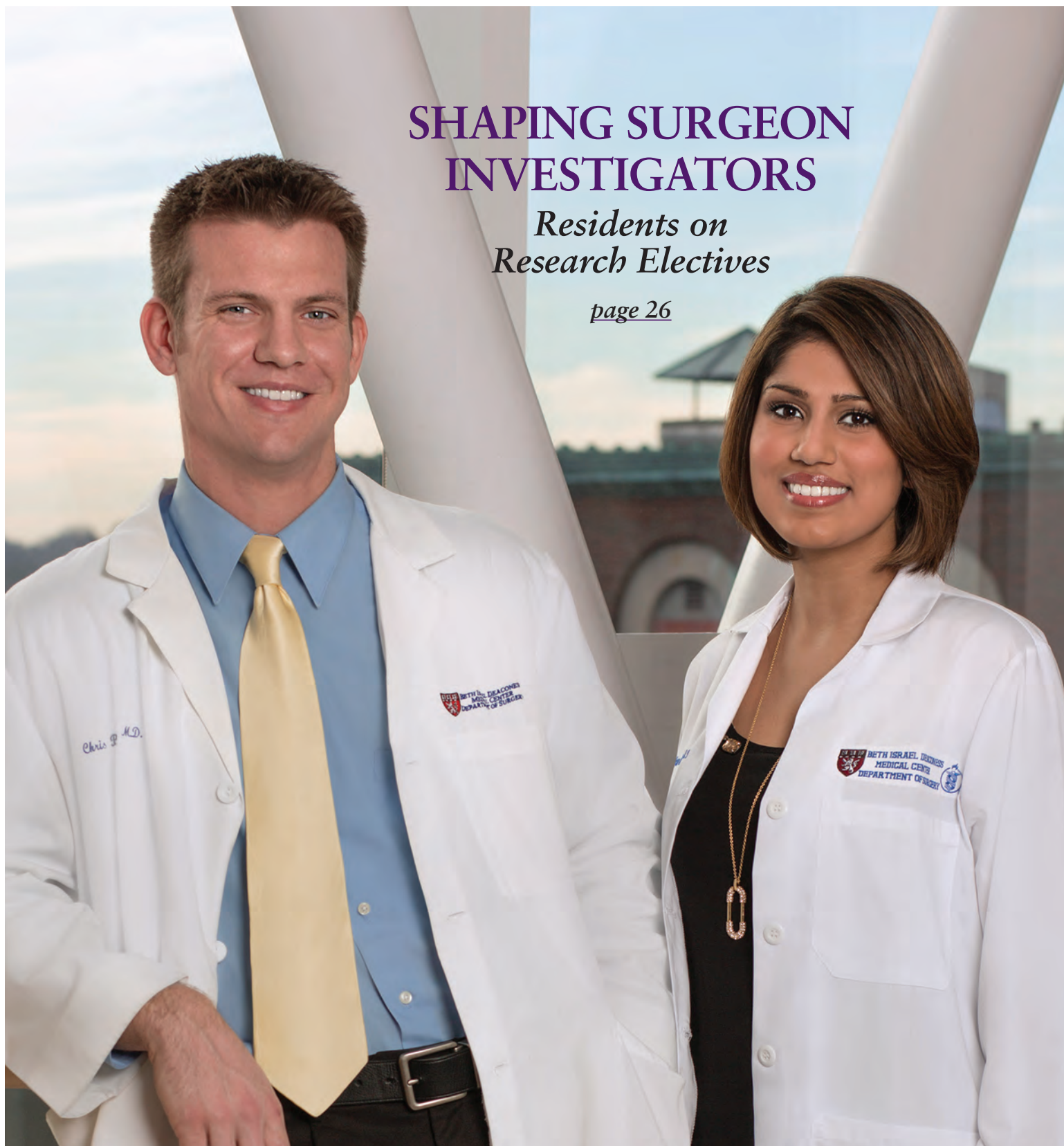
News from the Roberta and Stephen R. Weiner Department of Surgery
at Beth Israel Deaconess Medical Center

INSIDE SURGERY

SHAPING SURGEON INVESTIGATORS

*Residents on
Research Electives*

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Message from the Chairman

In her recent book, *The Invention of Nature*, Andrea Wulf recounts in fascinating detail the remarkable life and times of Alexander von Humboldt (1769-1859), the famous German explorer and naturalist whose achievements included his “opus of my life,” *Cosmos: A Sketch of the Physical Description of the Universe*, published in 1845. As Humboldt’s title implies, the subjects of this multi-volume, bestselling book spanned the entire universe — from nebulae millions of light years away to Earth and all its inhabitants, from microscopic organisms to humans.

Despite the vast diversity in nature, Humboldt saw not differences but rather “perpetual interrelationships.” At a time when science was becoming specialized into separate disciplines and based solely on observable facts, Humboldt believed that all of life was interconnected — an ecosystem — and further that it could only be fully understood with the imagination.

In the Department of Surgery, we believe in the power of imagination in the pursuit of knowledge and recognize that we are part of a unique ecosystem. Ours is an ecosystem of care and discovery that includes surgeons and other clinicians, surgeon-investigators, trainees, laboratory scientists, patients and family members, and many others who believe in and support our mission.

As the article on the facing page about our Rongxiang Xu, MD, Center for Regenerative Therapeutics illustrates, our ecosystem extends far beyond the medical center to include surgeons, scientists, and citizens worldwide. Indeed, we are as influenced by and motivated to find cures for diabetic patients in China suffering from wounds that will not heal as we are for those in our own community.

We are, as Humboldt put it, in “perpetual interrelationships” with a shared goal: to improve lives.



Elliot Chaikof, MD, PhD



Beth Israel Deaconess Medical Center



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The mission of the Department of Surgery:

- Provide care of the very highest quality
- Improve health through innovation and discovery
- Prepare future leaders in American surgery
- Serve our communities with sensitivity and compassion

Chairman, Surgery

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bidmc.org/surgery

Cover photo:

Residents Christopher Barrett, MD, and Prathima Nandivada, MD

Save the Date

March 2

Surgery Grand Rounds

Fabrizio Michelassi, MD: Capper-Hermanson Visiting Professor of Surgery
Weill Cornell Medical College
"Novel Strategies to Reduce Recurrence Rates in Crohn's Disease"

April 1-2

New England Robotics Course in Urologic Surgery

Course Director: Andrew Wagner, MD
BIDMC Department of Surgery,
Harvard Medical School
Information/registration: 617-667-2898
or sdiflami@bidmc.harvard.edu

April 6

Surgery Grand Rounds

K. Craig Kent, MD: Clowes Visiting
Professor of Surgical Research
University of Wisconsin School
of Medicine and Public Health
"The Future of Surgical Research"

April 27

Surgery Grand Rounds

David A. Geller, MD: Distinguished Visiting
Professor of HPB and Pancreatic Surgery
University of Pittsburgh School of Medicine
"A World Review of Laparoscopic
Liver Resection"

May 4

Surgery Grand Rounds

John D. Mitchell, MD: Ellis Visiting
Professor of Thoracic Surgery
University of Colorado School of Medicine
"Surgical Treatment of Pulmonary
Mycobacterial Disease"

May 25

Surgery Grand Rounds

William Cohn, MD: Distinguished
Visiting Professor of Cardiac Surgery
Texas Heart Institute
"Fostering a Culture of Physician Innovation"

Surgery Grand Rounds are held
from 8-9 a.m. in the Joslin Diabetes
Center Auditorium, One Joslin Place,
Boston, MA

Gift Establishes New Center and Endowed Professorship

The Department of Surgery has received a substantial gift from the National Rongxiang Xu Foundation. This remarkably generous gift enabled the establishment of the Rongxiang Xu, MD, Professorship of Surgery in the Field of Regenerative Therapeutics at Harvard Medical School, and the formation of the Rongxiang Xu, MD, Center for Regenerative Therapeutics through an endowment fund.

The late Rongxiang Xu, MD (1958-2015), graduated from Qingdao Medical College in China. Trained as a surgeon, Dr. Xu witnessed the pain and scarring of burn patients treated with conventional therapy and was determined to discover a more effective, less painful approach. He developed a new therapy for burns that helped to restore the physiological structure and function of the skin and other tissues, thereby dramatically reducing pain, illness, and death.

Through years of studies, Dr. Xu and his research team revealed important new fundamental principles for regenerating adult tissue and organs, translating this knowledge into novel topical therapies. Dr. Xu's significant contributions saved lives, revolutionized wound therapy, and dramatically improved the quality of life for countless patients around the world.

Over the past three decades, Dr. Xu's research in tissue repair and regeneration led to multiple U.S. patents and the growth of



The late Dr. Rongxiang Xu's research in tissue repair and regeneration led to multiple U.S.

patents. To honor Dr. Rongxiang Xu's many contributions, the Chinese government issued a commemorative postage stamp with his image.

his successful multi-national company, MEBO International. His scientific achievements have been acknowledged by U.S. Presidents Barack Obama, Bill Clinton, and George H. W. Bush.

Dr. Xu's interest in the translation of his work to a broad group of patients was further realized through a longstanding collaboration with Aristidis Veves, MD, DSc, in the Department of Surgery. In recognition of Dr. Veves's international leadership

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Third Annual 'Food is Medicine' Raises Record Amount

In October, the Department of Surgery's Committee on Social Responsibility, in partnership with BIDMC and many others within and outside the medical center, held its third annual "Food is Medicine" gala to support the Greater Boston Food Bank (GBFB), an official partner of BIDMC. All contributions from the event support the GBFB and the hungry families throughout eastern Massachusetts it serves.

Several hundred people from throughout the Boston health care and business communities attended the event, which was held at the GBFB. Central to this year's unprecedented success was the participation and support of 26 co-chairs (listed on [page 7](#)).

Speaking briefly at the event were Department of Surgery members Elliot Chaikof, MD, PhD, Surgery Chairman, and Allen Hamdan, MD, a Vice Chair of Surgery, the driving force behind the event, and chairman of the GBFB Board of Advisors. Dr. Hamdan pointed out that part of a doctor's mission is to help people achieve a basic level of nutrition to ensure good health.

GBFB CEO and President Catherine D'Amato; Deborah Goldberg, Massachusetts State Treasurer and a member of the GBFB Board of Advisors; and Eileen Dern, Director of Community Services at Hallmark Health System, also gave brief remarks. Ms. Goldberg stated that "hunger in the United States is immoral and entirely preventable."

Food is Medicine helps provide the most important medicine — food — to hungry families in eastern Massachusetts. This year's fundraiser brought in \$94,000, the equivalent of 282,000 meals and more than twice the amount raised in the inaugural event in 2013.

In the three years since its inception, Food is Medicine has raised nearly \$187,000 (more than half a million meals) to help feed hungry families. Funds come from ticket sales and a silent auction as well as individual donations.

For more information about Food is Medicine



Vascular surgeon Mark Wyers, MD (left), and nurse Cyndi Casey, RN (center), perusing some of the silent auction offerings, which featured gift certificates to the area's top restaurants, Red Sox tickets, framed photographs, sports memorabilia, and more.



From left: Eileen Dern, Carol Anderson, Allen Hamdan, MD, Catherine D'Amato, and Deborah Goldberg were among those who spoke at the 2015 Food is Medicine fundraiser.



Among the principal co-chairs of the 2015 Food is Medicine gala was Steve Kay (center), former chairman of the BIDMC Board of Directors, here with Surgery Chairman Elliot Chaikof, MD, PhD, and Suzanne Battit, Vice President of External Affairs and Advancement at the Greater Boston Food Bank.

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HARVARD MEDICAL SCHOOL

Promotions and Appointments

The Department of Surgery congratulates the following faculty members on their Harvard Medical School promotions or appointments.

PROMOTED TO: ASSISTANT PROFESSOR OF OTOLARYNGOLOGY



Pavan S. Mallur, MD

Pavan S. Mallur, MD, is a member of the Division of Otolaryngology-Head and Neck Surgery. He received his medical degree from New York University (NYU) School of Medicine, completed his residency at NYU, and underwent fellowship training in Laryngology and Care of the Professional Voice at the University of

Pittsburgh Medical Center before coming to BIDMC in 2011. Dr. Mallur's clinical focus is the care of patients with voice disorders, upper airway stenosis, and swallowing disorders. His research focuses on treatment outcomes and standardization of the 532nm KTP laser, as well as developing novel treatments and algorithms for voice, swallowing, and airway stenosis. Dr. Mallur teaches medical students, residents, and fellows across disciplines, and has had his research published in numerous high-impact journals.

PROMOTED TO: ASSISTANT PROFESSOR OF SURGERY



Vitaliy Poylin, MD

Vitaliy Poylin, MD, has been a member of the Division of Colon and Rectal Surgery since 2010. A native of Ukraine, Dr. Poylin received his medical degree from the University of Wisconsin School of Medicine. He completed a research fellowship and his general surgery residency at BIDMC and a fellowship in colorectal

surgery at the University of Minnesota. Dr. Poylin's clinical interests include laparoscopic and robotic surgery for colon and rectal cancer, ulcerative colitis, Crohn's disease, and colon polyps. Dr. Poylin conducts clinical research of outcomes following open and minimally invasive colorectal surgery, and basic science research in inflammatory bowel disease. He also teaches and mentors medical students, residents, and fellows.

PROMOTED TO: ASSISTANT PROFESSOR OF SURGERY



Venkatachalam Senthilnathan, MBBS

Venkatachalam Senthilnathan, MBBS (Dr. Senthil Nathan), is a member of the Division of Cardiac Surgery and the BIDMC Cardiovascular Institute who joined BIDMC in 2004. Dr. Nathan received his medical degree from Stanley Medical College in his native India. He completed his general surgery residency at hospitals in India and the

United Kingdom, and a cardiothoracic surgery residency at hospitals in the United Kingdom. He completed a fellowship in cardiothoracic surgery at St. Vincent Hospital in Portland, Oregon. Dr. Nathan's clinical interests include off-pump coronary artery bypass grafts, minimally invasive valve repair and replacement, complex aortic surgeries, and surgical treatment of arrhythmias. He is involved in several clinical trials, and teaches general and cardiothoracic surgical residents.

APPOINTED AS: ASSISTANT PROFESSOR OF NEUROSURGERY



Martina Stippler, MD

Martina Stippler, MD, is the Director of Neurotrauma in the Division of Neurosurgery. A native of Austria, she received her medical degree from Leopold Franzens University in Innsbruck, Austria, and completed a neurological surgery residency at the University of Pittsburgh Medical Center, where she also earned a

master of science degree in clinical science. Dr. Stippler's clinical areas of expertise are traumatic brain injury (TBI), complex and open minimally invasive spine surgery, and endoscopic pituitary surgery. Her clinical research is largely focused on TBI, specifically inflammatory markers in chronic subdural hematoma and multimodality monitoring in severe TBI. Dr. Stippler teaches residents and fellows and is actively involved in numerous professional societies.

ALUMNI SPOTLIGHT

SUSAN M. LOVE, MD, MBA, 1979

Susan M. Love, MD, MBA, is widely respected as a breast surgeon, but it is her breast cancer advocacy that propelled her onto the national stage. After joining the first breast center in Boston, Dr. Love moved to the Revlon/UCLA Breast Center in Los Angeles. Along the way, she helped found the National Breast Cancer Coalition and, in 1990, wrote *Dr. Susan Love's Breast Book*, now in its six edition.

"Advocacy is about being the right person at the right time, and recognizing it," she says. "In the 1990s, as the breast cancer advocacy movement got underway, I found myself in settings where I was the only person in the group with a medical degree. And as a female surgeon, I was uniquely able to have an impact."

Dr. Love applied to medical school because she enjoyed science and wanted to help people. "I was the first person in my family to finish college," she says. When she arrived at SUNY Downstate Medical Center in 1970, she discovered she was attracted to surgery. "I like thinking about anatomy, fixing things, and using my hands."

Surgical leaders

Dr. Love's surgical training at Beth Israel Hospital helped prepare her to assume a leadership role. "At Beth Israel, we were trained to be both patient- and research-focused," she says. "We were encouraged to think about the disease process and look for data. As a result, I believe the program produced people who were especially thoughtful, and thus more likely to become surgical leaders."

"Bill Silen held us to a high standard," she says of William Silen, MD, Surgeon-in-Chief at Beth Israel Hospital from 1966 to 1994. "He taught us that you could figure out the problem by listening to the patient. He emphasized that the patient came first, no matter what."

Dr. Love encountered few female surgeons during her training years. However, in 1980 she opened a practice of general surgery and became the first female general surgeon on staff at Beth Israel. "As it turned out, people mostly sent patients with breast problems to me," she says. "This was the era of breast conservation, and the field was becoming interesting. I thought I could make a difference with these patients."



Susan Love, MD, '79, lectures nationally and internationally and has been awarded six honorary doctoral degrees. Her Dr. Susan Love's Breast Book is widely considered the "Bible" for women with breast cancer.

What started out as a job soon became a mission."

Dr. Love began to realize that many women were seeking a more complete explanation about their breast cancer, and wanted to understand their treatment options. "Things had changed. Baby-boomers were now developing breast cancer, and with the model of AIDS activism for inspiration, the time was right to launch the breast cancer advocacy movement," she says, noting that her book played a role.

Foundation focused on research

She joined Boston's first breast center, which was located at Dana-Farber Cancer Institute, and was recruited to establish the Faulkner Breast Center — the first in the country staffed entirely by women physicians. By 1992, Dr. Love was recruited to UCLA, where she developed a model multidisciplinary breast center. In 1996, she decided to earn a business degree at the UCLA Anderson School and focus on research through the Dr. Susan Love Research Foundation. The foundation's mission is to achieve a future without breast cancer by engaging the public and scientific communities in innovative research of its cause and prevention.

"How and where does breast cancer start? I believe the unit of study is the ductal system. We're trying to map the anatomy of the breast, which is not fully understood," says Dr. Love, noting that it is a challenge to obtain funding for anatomy research. Her current research includes mapping breast ducts in lactating women using automated whole-breast 3D ultrasound.

Dr. Love has never lacked for creative solutions.

She launched the Army of Women®, a resource for women with and without breast cancer throughout the country who are helping accelerate breast cancer research. In 2012, her foundation established an online cohort study (the Health of Women, or HOW Study™) that aims to identify the cause of breast cancer.

Questioning the status quo

Although she has retired from the active practice of surgery, Dr. Love is as dedicated as ever to the urgent work of breast cancer prevention. “We can be the generation that ends breast cancer,” she says. “It is doable. Look at cancer of the cervix. It used to be that when a woman was diagnosed, she was given a total hysterectomy. Thanks to research, we determined what causes cervical cancer, and now we have a vaccine that prevents it.”

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or how you can help, please contact Dr. Hamdan, Co-Chair of the Department of Surgery’s Committee on Social Responsibility, at: ahamdan@bidmc.harvard.edu.

Donations to Food is Medicine are still greatly appreciated. To make a donation of any amount, go to: gbfb.org/events/foodismedicine.



Allen Hamdan, MD, the driving force behind the Food is Medicine event, spoke passionately about his commitment to helping feed hungry families. Co-Chair of the Department of Surgery Committee on Social Responsibility, Dr. Hamdan also serves as Chairman of the Greater Boston Food Bank Board of Advisors.

Dr. Love is concerned about the current trend of treating women with more aggressive surgery. “Patients are having bilateral mastectomies again,” she notes. “I don’t believe we need to do that. Dr. Silen taught me to be a scientist, to question the status quo and not just accept things the way they are.”

She took a stand against the status quo in writing her second book, *Dr. Susan Love’s Menopause and Hormone Book*, published in 1998. It cautioned against the long-term use of post-menopausal hormones, which were being prescribed almost routinely.

Looking back, Dr. Love says that her training at Beth Israel provided a clarity that has shaped her life as a surgeon. “That is where I learned that the patient is the most important priority,” she says, “and that is what continues to drive my advocacy, my writing, and my research.”

Food is Medicine 2015 Co-Chairs

Principal Co-Chairs

Ms. Carol Anderson, BIDMC Board of Directors
 Dr. Elliot Chaikof, Chairman, Department of Surgery, BIDMC
 Mr. Joel Cutler, Managing Director, General Catalyst Partners
 Mr. Ted Cutler, BIDMC Director *Emeritus*
 Dr. Allen Hamdan, Vice Chairman, Department of Surgery, BIDMC
 Mr. Daniel J. Jick, Chairman, Board of Directors, BIDMC
 Mr. Steve Kay, Former Chairman, Board of Directors, BIDMC, and
 Ms. Lisbeth Tarlow
 Mr. Ronald P. O’Hanley, CEO, State Street Global Advisors; Vice
 Chairman, Board of Directors, BIDMC
 Mr. John Szum, Executive Vice President and Chief Financial Officer,
 CareGroup
 Dr. Kevin Tabb, President and CEO, BIDMC
 Mr. Stephen R. Weiner and Mrs. Roberta Weiner

Co-Chairs

Dr. Ram Chuttani, Director, Interventional Gastroenterology and
 Endoscopy, BIDMC
 Ms. Jeanette Clough, President and CEO, Mount Auburn Hospital
 Dr. Marc Gebhardt, Chief of Orthopaedics, BIDMC
 Dr. William Greenberg, Chief, Department of Psychiatry, BIDMC
 Mr. Peter Holden, Beth Israel Deaconess Hospital-Plymouth
 Dr. Jonathan B. Kruskal, Chairman, Department of Radiology,
 BIDMC
 Ms. Cynthia Phelan, Executive Director, CardioVascular Institute,
 BIDMC
 Dr. DeWayne Pursley, Chief, Department of Neonatology, BIDMC
 Dr. Hope Ricciotti, Chair of Obstetrics and Gynecology, BIDMC
 Dr. Jeffrey E. Saffitz, Chairman, Department of Pathology, BIDMC
 Dr. Mary Ann Stevenson, Chief, Radiation Oncology, BIDMC
 Dr. Daniel Talmor, Chief of Anesthesia, Critical Care, and Pain
 Medicine, BIDMC
 Dr. Carrie Tibbles, Emergency Medicine, BIDMC
 Dr. Richard Wolfe, Chief, Emergency Medicine, BIDMC
 Dr. Mark Zeidel, Chairman, Department of Medicine, BIDMC

NEWS BRIEFS

Leaders from the Alliance of Families Fighting Pancreatic Cancer (AFFPC) visited BIDMC in the fall to present a check for \$165,000 to **A. James Moser, MD** (second from right), co-director of the BIDMC Pancreas and Liver Institute. The gift is used to fund the AFFPC clinical research fellow and other ongoing pancreatic cancer research at BIDMC. The AFFPC is a partnership of grass-roots foundations and families across the country unified in a quest to defeat pancreatic cancer. In late December, the group donated another \$31,000 to BIDMC for pancreatic cancer research, bringing the 2015 total to \$196,000. Last year, as part of its five-year commitment to support pancreatic cancer research at BIDMC, the AFFPC gave \$100,000.

During a daylong visit, the group heard presentations from researchers, including current AFFPC clinical research fellow and surgery resident **Courtney Barrows, MD** (far right), and met with BIDMC leaders, including Surgery Vice Chair of Education **Tara Kent, MD, MS**, and Surgery Chief Administrative Officer **Ron Jones**. Later, the group visited “Project Survival” partner Berg Health, a biopharmaceutical company. Project Survival is a cross-sector international collaboration in pancreatic cancer research led by Dr. Moser to discover and validate treatment biomarkers for pancreatic cancer.



Presenting a check to Drs. Moser and Barrows (right) were AFFPC representatives (from left): Ken Grey, DOM, a board member; Theresa Dukovich, Executive Director; and Kendra Haywood, chair of the AFFPC board.

In 2015, two other patient and family charitable organizations donated funds to support pancreatic cancer research at BIDMC. The John F. Fortney Charity donated \$30,000 and J's Run made a gift of \$7,000.

“We are enormously grateful to AFFPC, the John F. Fortney Charity, and J's Run for their tireless efforts to support our work,” says Dr. Moser. “Their passion and dedication inspires us to devote ourselves to curing this terrible disease every day.”

The following members of the Department of Surgery were cited as “top doctors” in the December 2015 issue of *Boston Magazine*: Michael Cahalane, MD, Mark Callery, MD, Elliot Chaikof, MD, PhD, Anurag Das, MD, Raul Guzman, MD, Allen Hamdan, MD, Daniel Jones, MD, Kamal Khabbaz, MD, Abraham Morgentaler, MD, Marc Schermerhorn, MD, Benjamin Schneider, MD, Sumner Slavin, MD, and Richard Whyte, MD, MBA.



Barbara Wegiel, PhD, Transplant Surgery, recently received an RO1 grant from the NIH for her research project entitled “The role of biliverdin reductase during sterile inflammation in the liver.” She also was invited to be a NIH reviewer

at the Transplant, Tolerance, and Tumor Immunology study section.



Alok Gupta, MD, Acute Care Surgery, Trauma, and Surgical Critical Care, was selected as the recipient of an Eastern Association for the Surgery of Trauma (EAST) Leadership Development Workshop scholarship. The scholarship, which

was presented at an awards ceremony in January, provides Dr. Gupta with tuition to attend the annual EAST Leadership Development Workshops for three years.



The Association of Women Surgeons (AWS) supports female surgeons at various stages in their career — from medical school through retirement — with services and programs, mentorship, education, and networking. In the fall, women from the Harvard Medical School chapter of AWS gathered together for a wine and cheese reception. Among those who attended was former AWS President **Susan Pories, MD**, a breast surgeon at Mount Auburn Hospital (front row, far right, standing).



Jim Rodrigue, PhD, Transplant Surgery and Vice Chair of Clinical Research, was appointed to serve as an at-large member of the Vascularized Composite Allograft Committee of the Organ Procurement and Transplantation

Network. Dr. Rodrigue also gave invited presentations at the University of Minnesota (on the non-medical impact of living donation) and at the American Society of Transplant Surgeons' symposium in Florida (on finding living donors). This spring, Dr. Rodrigue will give two presentations at the 4th International Congress on Ethical, Legal, and Psychosocial Aspects of Organ Transplantation in Rome: one on strategies to expand the living donor pool, and the other on strategies to reduce inequities in transplantation.



Nurhan Torun, MD, Ophthalmology, was accepted into the BIDMC Academy of Medical Educators as an Academy member in 2015-2016. Dr. Torun was also the recipient of the 2015 Outstanding Teacher Award by the Harvard Neurology Residency

Program at Longwood.



The Division of Colon and Rectal Surgery and the Division of Gastroenterology held their inaugural “Endoscopic and Surgical Innovations in Colorectal Disease” course in the fall. The daylong program, which was designed for gastroenterologists, surgical endoscopists, GI fellows, and GI nurses, will be offered annually.

Attended by approximately 50 individuals, the course included live case presentations performed by senior BIDMC faculty in Surgery and Gastroenterology, as well as lectures on novel endoscopic and surgical techniques in the management of colorectal disease. Surgery course faculty were Chief of Colon and Rectal Surgery **Deborah Nagle, MD**, and colon and rectal surgeons **Thomas Cataldo, MD**, and **Vitaliy Poylin, MD**. Gastroenterology faculty were Tyler Berzin, MD, Ram Chuttani, MD, Douglas Pleskow, MD, and Mandeep Sawhney, MD.

“The course was truly excellent and I have suggested to my colleagues that they attend this year,” said Rosaline Barron, MD, a gastroenterologist at Mount Auburn Hospital in Cambridge, Mass. “The opportunity to watch leaders in their fields work their magic live was so exciting and instructive. I feel privileged to have the outstanding staff of BIDMC as a resource to me and my patients.”

For information about the 2016 course, please contact Joseph Marinelli at jmarinel@bidmc.harvard.edu.

NEWS BRIEFS



A paper co-authored by **Michael Yaffe, MD, PhD**, the Division of Acute Care Surgery, Surgical Critical Care, and Trauma and the Division of Surgical Oncology, and colleagues at Massachusetts Institute of Technology and the University of Pennsylvania, was selected by the journal *Clinical*

Cancer Research for its October 1 cover. The title of the paper is “Tumor-Targeted Synergistic Blockade of MAPK and PI3K from a Layer-by-Layer Nanoparticle.” The cover depicts a tumor-targeting nanscale drug formulation based on layer-by-layer self-assembly, here penetrating deeply through a dense tumor spheroid as imaged by confocal fluorescence microscopy.



Kamal Khabbaz, MD, Chief of Cardiac Surgery, was named to the endowed David S. Ginsburg Professorship of Cardiothoracic Surgery at Harvard Medical School. Formerly held by Ronald M. Weintraub, MD, the professorship was established in 1992 by the Sharon Rosier Family Fund and the David and Ethel Ginsburg Fund.



Three faculty members were inducted as Fellows of the American College of Surgeons in October: **Ranjna Sharma, MD**, Surgical Oncology, **Alia Qureshi, MD**, General Surgery, and **Michael Yaffe, MD, PhD**, the Division of Acute Care Surgery, Trauma, and Surgical Critical Care and the Division of Surgical Oncology.



Ramzi Alami, MD, a general and bariatric surgeon at the American University of Beirut Medical Center in Beirut, Lebanon, was a guest of **Daniel Jones, MD**, and the Department of Surgery for a week in September. Dr. Alami was

selected as the recipient of the prestigious International Scholarship by the American College of Surgeons. Dr. Alami, whose primary interest was learning more about surgical education and simulation in training, spent the week at BIDMC observing, learning from, and sharing his perspectives with many Surgery faculty members.



Every fall, the BIDMC Brain Aneurysm Institute, in collaboration with the nonprofit Brain Aneurysm Foundation, holds a weeklong event to disseminate information about brain aneurysms and the importance of early detection in saving lives. In September, members of the Brain Aneurysm Institute and brain aneurysm survivors staffed a table in the lobby of BIDMC's Rosenberg Building to share informational materials with visitors and staff. The Brain Aneurysm Foundation was co-founded in 1994 by Brain Aneurysm Institute Director **Christopher Ogilvy, MD**, and his Institute colleague **Deidre Buckley, NP**. Pictured are (from left): **Rebecca Tshonas**, Brain Aneurysm Institute; brain aneurysm survivors **Steve McAuliffe**, **Maureen O'Donnell**, and **Jim Fitzpatrick**; **Ms. Buckley**; and **Billy Weiland**, a brain aneurysm survivor.



The BIDMC Weight Loss Surgery Program was recently re-accredited as a Bariatric Comprehensive Center by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP).

The MBSAQIP is a joint program of the American College of Surgeons (ACS) and the American Society for Metabolic and Bariatric Surgery (ASMBS). This accreditation demonstrates that a program meets the needs of patients by providing multidisciplinary, high-quality, patient-centered care. To earn this designation, the Weight Loss Surgery Program underwent an extensive site visit last August. The program was first accredited in 2012.



Kevin Hart, MBA, was promoted from Operations Manager for the Division of Ophthalmology to Administrative Director for the Division of Otolaryngology/Head and Neck Surgery and the Division of Ophthalmology. Mr. Hart has been employed at BIDMC for 14 years and is a recent graduate of the BIDMC Sloan Fellowship Program.



The 2015 recipients of the Resident Teaching Awards, who are chosen by Harvard Medical School clerkship students, were: **Antonio Lassaletta, MD**, and **Simon Yang, MD** (February – April 2015);

Tommy Curran, MD, and **Arthur Celestin, MD** (May – July 2015); and **Polina Osler, MD**, and **John (“Jack”) McCallum, MD** (August – October 2015), with a special “Humanism in Medicine Award” given to **Mike Tran, MD**.

Elliot Chaikof, MD, PhD, Department Chairman, received two NIH grants in 2015 — an RO1 Grant and a UO1 grant for drug discovery focused on blocking pathways of inflammation that contribute to thrombosis, atherosclerosis, and metabolic syndrome.

Other members of the research team include **Richard Cummings, PhD**, and **Lijun Sun, PhD**, Department of Surgery; and Robert Woods, PhD, the University of Georgia.



Christiane Ferran, MD, PhD, Vascular and Endovascular Surgery, was the first recipient of the Avicenna Award in Medical Sciences 2015 by the Harvard Arab Alumni Association, the Harvard Arab Weekend 2015 Organizing Committee, and the Avicenna Healthcare & Science Committee. The Avicenna Award in Medical Sciences recognizes exceptional and innovative achievements of senior Arab or Arab-American scientists who have contributed to scientific developments in medicine. Dr. Ferran was chosen for this award based on her outstanding achievements in identifying the role of the molecule A20 in liver regeneration and repair, organ transplantation, and many diseases, as well as her leadership at BIDMC and Harvard Medical School. She was honored during the ninth annual Harvard Arab Weekend in November.



Mark Callery, MD, Chief of General Surgery, received the inaugural Albany Medical College Department of Surgery Alden March Distinguished Surgeon

Award in October. Named after surgeon Dr. Alden March, the founder of Albany Medical College (AMC), the award honors an alumnus or previous trainee who has made significant contributions to medical education and/or research, resulting in national recognition for his or her accomplishments. Dr. Callery was presented with the award at the annual AMC reception at the American College of Surgeons (ACS) Clinical Congress in Chicago in October. Above is Dr. Callery (right) with his wife, Angela, and Vincent Verdile, MD, Dean of Albany Medical College.

NEWS BRIEFS



David Caradonna, MD, DMD, Otolaryngology/Head and Neck Surgery, was named a fellow member of the American Rhinologic Society (ARS). The ARS promotes excellence in clinical care, investigation, and education in the fields of rhinology and sinusology.



Cerebrovascular neurosurgery fellow **Christoph J. Griessenauer, MD**, was the recipient of a \$15,000 Brain Aneurysm Foundation research grant. Dr. Griessenauer's research mentor is **Christopher Ogilvy, MD**, Director of the BIDMC Brain

Aneurysm Institute. The grant was awarded for Dr. Griessenauer's research relating to the roles of various proteins in the pathophysiology of delayed cerebral ischemia after aneurysmal subarachnoid hemorrhage.

The fifth annual Harvard Surgery Research Day will take place May 6 at the Joseph B. Martin Center at Harvard Medical School (HMS). Tim Billiar, MD, Chief of Surgery at the University of Pittsburgh, is this year's visiting professor. Led by program director **Christiane Ferran, MD, PhD**, Harvard Surgery Research Day was started at BIDMC as a forum for trainees from the four HMS-affiliated teaching hospitals (BIDMC, Boston Children's Hospital, Brigham and Women's Hospital, and Massachusetts General Hospital) to share and discuss their research through oral presentations, a poster session, and interactions with peers.



More than 30 BIDMC teams with 260 walkers participated in the 2015 Boston Heart Walk in September, which raised funds for the American Heart Association (AHA).

The BIDMC teams raised more than \$57,000, earning BIDMC the AHA's "Top Hospital" trophy for the third consecutive year. Chief of Cardiac Surgery **Kamal Khabbaz, MD**, was chairman of the BIDMC team.



Daniel Jones, MD, a Surgery Vice Chair and Director of BIDMC's Weight Loss Surgery Program,

received the 2015 Patient Safety and Quality Award from the American Society for Metabolic & Bariatric Surgery Foundation. The foundation's annual LEAD awards honor leaders in the field of bariatric surgery. The Patient Safety and Quality Award recognizes an individual who has made significant contributions to improving patient safety and quality of care for bariatric patients. Dr. Jones was recognized at the LEAD Awards reception in Los Angeles in November, held in conjunction with Obesity Week.

Dr. Jones is also a new member of the Halsted Society. Membership in the Halsted Society, formed in 1924 and named for renowned American surgeon William Stewart Halsted, MD (1852-1922), is limited to 80 surgeons and others in allied branches of medicine.



Anurag Das, MD, Urology, was recently elected as the Eastern Massachusetts representative to the Board of Directors of the New England American Urological Association (AUA). Dr. Das is also a member of the AUA's Coding and Reimbursement Committee.



A. James Moser, MD, Co-Director of the Pancreas and Liver Institute and a member of the Division of Surgical Oncology, appeared on a panel with several other medical professionals and a patient in "Pancreatic Cancer," the tenth episode of the PBS show Second

Opinion. Now in its 12th season, Second Opinion airs on more than 250 public television stations nationwide.

At an event celebrating the 40th anniversary of Cape Verde's independence, **Michael Kearney, MD**, Urology, accepted a certificate and medal of appreciation from Cape Verde Prime Minister José Maria Neves on behalf of Project Health Cape Verde, Inc., a nonprofit he co-founded with BIDMC interpreter Ernestina DaMoura-Moreira and the help of many others. For the past five years, Dr. Kearney has led a team of BIDMC medical staff and interpreters to Cape Verde to provide health care and help improve the nation's health systems. During this time, the group has treated more than 1,500 patients.

Others from the department who attended the event were **Peter Chang, MD, MPH**, Urology, and **Nakul Raykar, MD**, a Surgery resident. This spring the group will return to Cape Verde on a consensus-building trip that will focus on engaging local stakeholders in improving health systems. The trip is part of the Lancet Commission on Global Surgery, an international partnership that includes several members of the Department of Surgery.



ALUMNI NEWS

Christopher Caldarone, MD, was recently appointed Surgeon-In-Chief and Chief of Perioperative Services at the Hospital for Sick Kids in Toronto, Ontario. Dr. Caldarone is a Professor in the Department of Surgery and Chair of the Division of Cardiac Surgery at the University of Toronto. Dr. Caldarone spent two years in the laboratory of **Sidney Levitsky, MD**, and in 1998 completed his residency in Cardiothoracic Surgery at BIDMC.



David Shibata, MD, was named the Scheinberg Endowed Chair of Surgery for the University of Tennessee Health Science Center and a Professor of Surgery following a national search. Dr. Shibata, who assumed his new position in September, is a 1988 graduate of the BIDMC General Surgery Residency Program.

IN MEMORIAM: Kenneth H. Cohn, MD, MBA



We are sad to report that Kenneth H. Cohn, MD, MBA, 64, passed away on June 24, 2015. Dr. Cohn earned his MD from Columbia University and completed his general surgery residency at BIDMC in 1984.

Dr. Cohn completed fellowships and residencies at Karolinska Hospital, Stockholm, and Memorial Sloan Kettering Cancer Center in New York. He then joined the faculty of SUNY Downstate, Brooklyn, as an Assistant Professor of Surgery. He later served as an Associate Professor of Surgery at Dartmouth-Hitchcock Medical Center in New Hampshire, and Chief of Surgical Oncology at

the VA Hospital at White River Junction, Vermont. Thereafter, he remained active as a surgeon in Vermont, Maine, and New Hampshire.

After earning an MBA at the Tuck School of Business, Dr. Cohn founded a company, Healthcare Collaboration. He was also a consultant, a speaker, a frequent seminar facilitator with the American College of Healthcare Executives, and a physician mentor. Also a prolific writer, Dr. Cohn wrote and edited numerous articles and books, including his first work of fiction, entitled *Dead at His Desk*, a medical mystery thriller published in 2015. He is survived by his wife, Diane Stowe-Cohn; his two children; and his mother and siblings.

In Body Language, Anatomy Matters



Kris Stribble, Harvard University

Endocrine surgeon Per-Olof Hasselgren, MD, PhD, is a lifelong lover of words.

Per-Olof Hasselgren, MD, PhD, Vice Chair for Research in Surgery and Director of Endocrine Surgery, knows about writing and publishing scholarly articles *like the back of his hand*. Indeed, he has more than 350 published scholarly works to his credit, including research papers, book chapters, reviews, and editorials.

But when it came to writing and getting a book published for a broader audience, Dr. Hasselgren admits that at first he was *in over his head*. But in typical fashion he put his *nose to the grindstone*, and the delightful result is his recently published book, “Body Language — from Head to Toe.”

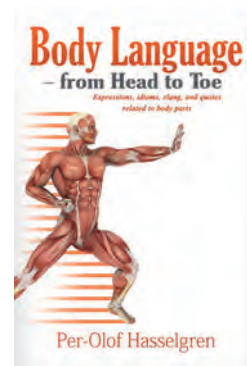
The 390-page book contains more than 2,000 English expressions, idioms, slang, and quotes related to anatomy, a subject about which Dr. Hasselgren is passionate. “I always remind residents and students that anatomy matters,” he says, “and it matters not only in the operating room but also in our everyday language.”

When he first came to the United States from his native Sweden 31 years ago, Dr. Hasselgren was fluent in English but often mystified by expressions and slang he heard every day. The meaning of phrases like *elbow grease*, *bend your ear*, *shake a leg*, and *brainwashed* left him, well, *scratching his head*.

A lifelong lover of words, Dr. Hasselgren began compiling lists of anatomy-related phrases and what they mean. Several years ago, he decided to systematically compile them into a book, which is organized by parts of the body. In the book, each word or phrase is defined and used in a sentence, with its first known usage noted in many cases.

While Dr. Hasselgren enjoyed working on the content of the book in his free time — often involving family members and friends in the process of identifying phrases — he discovered that going from manuscript to a published book was a much more involved process than he imagined.

But that has not deterred him from planning his next book — a compilation of commonly used, but not often taught, American phrases translated into Swedish to help visitors from his homeland *get a leg up* on the many peculiarities of the English language.



“Body Language — from Head to Toe” is available from the publisher (Strategic Book Publishing and Rights Co.), Amazon.com, and Barnes & Noble.



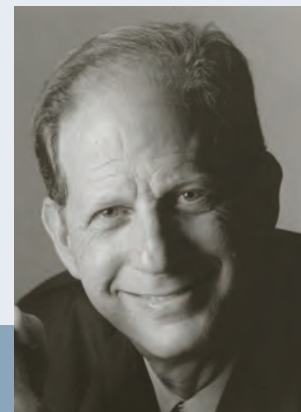
Julio Garcia-Aguilar, MD, PhD



Stuart Altman, PhD



Grace Rozycki, MD, MBA



Scott Spear, MD

Department Hosts Distinguished Visiting Professors

The Department of Surgery's Distinguished Visiting Professors Series brings national experts in surgery and other relevant fields to BIDMC throughout the academic year to educate trainees and faculty, stimulate the exchange of ideas, and present at Surgery Grand Rounds. During their stay, visiting professors are also guests at a dinner in their honor. This fall, the department was pleased to host four distinguished visiting professors.

In September, **Julio Garcia-Aguilar, MD, PhD**, came to BIDMC as the Greenberg Visiting Professor of Colorectal Surgery. An alumnus of the BIDMC General Surgery Residency Program, Dr. Garcia-Aguilar is Chief of the Colorectal Service at Memorial Sloan Kettering Cancer Center (MSKCC) in New York City, Bennot C. Schmidt Chair in Surgical Oncology at MSKCC, and Professor of Surgery at Weill Cornell Medical College. Dr. Garcia-Aguilar's Grand Rounds presentation was on neoadjuvant therapy in rectal cancer.

Stuart Altman, PhD, was the Visiting Professor of Surgery in mid-October. Dr. Altman, an economist, is the Sol C. Chaikin Professor of National Health Policy at the Heller School for Social Policy and Management at Brandeis University in Massachusetts. He has five decades of experience working closely on issues of federal and state health policy within government, the private sector, and academia. Dr. Altman's Grand Rounds topic addressed whether a state can help its healthcare system become more efficient, with a focus on the Massachusetts experience.

In late October, Grace S. Rozycki, MD, MBA, was the Silen Visiting Professor of Surgery. Dr. Rozycki presented at Grand Rounds on "The Use of Ultrasound in the Acute Setting: Lessons Learned after Two Decades." Dr. Rozycki is the Willis D. Gatch Professor of Surgery, Chief of Surgery at Indiana University Health Methodist Hospital, and the Director of the Indiana Injury

Institute. Former Surgeon-in-Chief of Beth Israel Hospital **William Silen, MD**, and his wife, Ruth, and family members attended the dinner in Dr. Rozycki's honor, as did many of Dr. Silen's trainees ([see page 28](#)).

In November, **Scott Spear, MD**, visited the department as the Goldwyn Visiting Professor of Plastic Surgery, where he spoke at Grand Rounds on advances in breast reconstruction. Also an alumnus of the BIDMC General Surgery Residency Program, Dr. Spear is the founding chairman of the Department of Plastic Surgery at Georgetown University Hospital and founder of the Washington, D.C. area's six-year integrated training program in plastic surgery.



For information about the Distinguished Visiting Professors Series 2015-2016, including the speakers, topics, and schedule for the rest of the academic year, please visit our website:

bidmc.org/surgery/surgery_events



Robert Fisher, MD (above), is Chief of Transplant Surgery and Director of the BIDMC Transplant Institute.

BIDMC Transplant Institute

*Continuing a Legacy of
Innovation and Excellence*



Chief of Hepatology Michael Curry, MD, confers with transplant surgeon Amy Evenson, MD.

Ever since organ transplantation became a viable treatment for end-stage organ failure, the demand for donor organs has always outstripped their availability.

Today, with the rise in liver disease due to hepatitis C and non-alcoholic steatohepatitis (NASH), and kidney disease due to the diabetes epidemic, the demand for donor organs has only increased, while the donor pool is decreasing. The current reality of patients becoming sicker as they wait for increasingly scarce organs brings new urgency to the need for innovative approaches.

Ever since his arrival at BIDMC in 2014, **Robert Fisher, MD**, Chief of the Division of Transplant Surgery and Director of the BIDMC Transplant Institute, has been working with his colleagues to identify and implement new innovative strategies aimed at improving the outlook for patients who need organs.

“I was attracted to BIDMC because it is one of the oldest and most revered of the Harvard transplant programs,” says Dr. Fisher, who previously served as Director of the Liver Transplant Program and Director of Transplant Research at The Medical College of Virginia. Among other noteworthy achievements, BIDMC performed New England’s first liver transplant in 1983, and about 15 years ago, initiated Donation after Circulatory Death (DCD) organ transplantation,

which now accounts for approximately 40 percent of organ donations in New England.

“At BIDMC, we have one of the best surgical services in the nation. For the past year or so, we have focused on improving our infrastructure so that our doctors can expand their scope of practice. Our goal is to accommodate more patients and provide them with better access to our services.” Toward that goal, Dr. Fisher is developing plans to upgrade inpatient and outpatient facilities, among numerous other improvements.

“What better place to take on what is needed than here, by a group of pioneers who understand all the complexities?”

Robert Fisher, MD

Liver Tumor Clinic

Many patients for transplantation are referred from BIDMC’s Liver Center, which has 14,000 patient visits a year. “Ours is one of the largest liver centers on the East coast,” says Chief of Hepatology Michael Curry, MD, the Transplant Institute’s primary transplant hepatologist. “We have approximately 100 patients currently listed for liver transplants. In the last decade, 386 transplants — 40 percent for liver cancer, an area in which we have



Khalid Khwaja, MD, and Kristin Raven, MD, with the recipient of a donor kidney and her donor (standing).



Transplant surgeon Khalid Khwaja, MD, and Martha Pavlakis, MD, Medical Director of Kidney Transplantation, in a multidisciplinary kidney meeting.

particular expertise — have been performed.”

One of Dr. Fisher’s goals was to have patients scheduled, evaluated, and listed, when appropriate, for donor livers in a fraction of the previous time. “Our multidisciplinary Liver Tumor Clinic has made this possible and also easier for patients by having all the experts available to them at one time,” he says. “We’ve also addressed systems issues and developed a clinical pathway for patients undergoing testing. As a result, we went from seeing eight new patients a month to eight new patients a week.”

With estimates putting NASH cases at 25 million, Dr. Fisher recently established a clinic devoted to these patients. “Some of them need liver transplants, and we know this is just the tip of the iceberg,” says Dr. Curry. “Although not everyone with NASH develops significant liver disease, if even a small percentage of 25 million go on to develop liver cancer or need a transplant, it represents a huge number.”

Kidney transplantation

Martha Pavlakis, MD, Medical Director of Kidney Transplantation, is pleased about the Transplant Institute’s steadily improving rate of performing kidney transplants before patients must begin dialysis, which is now between 42 and 65 percent of all live donor transplants. “There is a misconception that patients need to be on dialysis prior to kidney transplant,” she

says. “Actually, the less time on dialysis, the better for the patient.”

Dr. Pavlakis also points out that live donor kidney transplantation yields better patient outcomes and graft survival than deceased donor transplantation. At BIDMC, approximately 350 patients are currently listed for a kidney transplant. “If patients don’t have a live donor, they often wait four to six years for a deceased donor kidney,” says Dr. Pavlakis.

To help connect patients with compatible donors, the Transplant Institute participates in the national Kidney Paired Donor Exchange program, which matches live donor/recipient pairs from around the nation.

Immune suppression, which is required lifelong to minimize the risk of organ rejection, has also improved in recent years, notes Dr. Pavlakis. “We used to have a limited number of drugs to prevent rejection,” she says. “Now we have a variety of immune-suppressing drugs that we can use. We can usually find a regimen that works well, with less toxicity than in the past.”

Working toward immune tolerance

Still, immune suppression can take its toll, says **Anthony Monaco, MD**, the first Chief of Transplant Surgery at BIDMC and the Peter Medawar Professor of Surgery at Harvard Medical School.

“Patients face an increased incidence of super-infections, new malignancies, and the transfer of malignancies from donors, as well as problems with metabolism, such as diabetes, cardiovascular disease, and renal failure,” says Dr. Monaco. “Many patients feel they have exchanged one chronic illness — organ failure — for another.”

It is not surprising, therefore, that there is enormous interest at BIDMC in finding ways to induce immune tolerance in patients. Dr. Monaco is a giant in the field, dating to the 1960s when he was the first to demonstrate in preclinical studies that a short course of anti-lymphocyte antibodies (ALG) given at transplantation caused lymphocyte depletion, thereby reducing the amount of chronic immunosuppression needed to maintain a successful transplant. This remains the major use of ALG today. Dr. Monaco also showed that ALG, combined with other strategies such as bone marrow infusion, could facilitate tolerance (complete elimination of immunosuppressive drugs), a concept that

is currently being clinically evaluated.

Dr. Fisher has asked Dr. Monaco to form a team to develop a tolerance-induction protocol for the kidney transplant program. Transplant Institute researchers Terry Strom, MD, and Maria Koulmanda, PhD, are now using approved medical therapies to induce tolerance in patients four to five years following transplant. “What better place to take on what is needed than here, by a group of pioneers who understand all the complexities?” says Dr. Fisher.

Research is also underway on cellular regeneration. “We need more organs, so we have to resurrect or repair sick organs,” says Dr. Monaco. Toward that goal, the Transplant Institute is pursuing strategies for direct organ restoration and regeneration, as well as cell-based therapies to replace critical organ functions.

Dr. Curry does his part to keep patients off the transplant list. He was lead author of a 2015 study published in the *New England Journal of Medicine* of a trial of patients with advanced liver disease who failed prior treatment for hepatitis C infection. “Our

trial showed that a daily combination of two antiviral medications was successful in treating between 83 and 94 percent of patients,” says Dr. Curry.

The Transplant Institute also has a unique resource in transplant psychologist and Surgery Vice Chair

of Clinical Research **James Rodrigue, PhD**, whose research is largely focused on how to narrow the gap between patients who need organs and the availability of organs for transplantation. Dr. Rodrigue

serves as principal investigator of five federally funded studies, including one that is evaluating his innovative “House Calls” intervention, which seeks to reduce racial disparities in live donor kidney transplantation rates. He also conducts research aimed at increasing organ donation by reaching drivers at motor vehicle registries.

Through a combination of innovative and patient-focused clinical improvements, basic and clinical research, and education, the Transplant Institute is focused on a single goal — extending and improving the lives of patients.

“We need more organs, so we have to resurrect or repair sick organs.”

Anthony Monaco, MD

The Transplant Institute Surgical Team



Amy Evenson, MD, MPH



Robert Fisher, MD



Khalid Khwaja, MD



Anthony Monaco, MD



Kristin Raven, MD

The Transplant Institute's clinical services include:

- Kidney (living and deceased donor) transplantation
- Liver (living and deceased donor) transplantation
- Pancreas and islet cell transplantation
- Transplant hepatology, nephrology, immunology, and infectious diseases
- Dialysis Access Center
- Non-transplant hepatobiliary surgery
- General surgery for dialysis and transplant patients
- Transplant-related behavioral health services



To make a referral or appointment, call 617-632-9700

A Conversation with Richard Cummings, PhD

Vice Chair, Basic and Translational Research

Chair, Surgery Research Council

Associate Director, Center for Drug Discovery and Translational Research

In September 2015, Richard (“Rick”) Cummings, PhD, was recruited to the Department of Surgery from Emory University, where he was Chair of the Department of Biochemistry.

Dr. Cummings is an international leader in the rapidly emerging field of glycobiology, serving as Chair of the Consortium for Functional Glycomics, an international group of some 600 investigators, and Director of the NIH-funded National Center for Functional Glycomics, which now resides in the Department of Surgery at BIDMC. He is also an editor of *Essentials of Glycobiology*, the leading textbook in the field. Pending final approval by Harvard Medical School, Dr. Cummings will establish and lead the Center for Glycosciences at HMS, which will be based in the BIDMC Department of Surgery.

In this interview, Dr. Cummings talks about glycobiology and his goals for the new center.

Q: In broad lay terms, what is glycobiology?

A: Glycobiology involves the study of the structure, biology, evolution, and function of glycans — chemically linked chains of sugars, or carbohydrates. Glycans are widely prevalent throughout nature and are present in all our

cells, connective tissue, and bodily fluids.

They play an essential role in how our cells work and, therefore, virtually all aspects of health and disease as well as development.

The roles of glycans, which are complex three-dimensional structures, are many and diverse. For example, glycans ensure that new proteins in our bodies are folded into the right shape so they can function properly. Some glycans direct white blood cells to sites of infection or send proteins to their correct destinations. Signals that enable the brain and immune system to function are also assisted by glycans.

Glycans are commonly found linked to proteins [glycoproteins] or fats [glycolipids]. These have critical roles that include, in the first case, the fertilization of eggs and the attachment of fertilized eggs to the uterine wall and, in the second, determining our blood type. Glycans inside cells affect the expression of genes and proteins, influencing how a cell responds to biological signals.



Richard Cummings, PhD, is an international leader in the rapidly emerging field of glycobiology.

Many viruses and bacteria attach to glycans on the surfaces of cells, so glycans play an important role in infection, too.

The myriad roles of glycans, which are still being revealed, are as fundamental to development, growth, functioning, and survival as nucleic acids [such as DNA or RNA], yet we have so much to learn about them.

Q: Why is learning about glycans and the field of glycobiology so important?

A: Alterations in glycan structure — due to genetics, the environment, or aging, for example — almost always lead to disease. In fact, glycans are associated with vast numbers of diseases

DRUG/BIOMARKER	SELECTED CLINICAL APPLICATIONS
Heparin and low-molecular-weight (LMW) heparins	anticoagulants for prevention/treatment of venous thromboembolism and myocardial infarction
CEA, CA19-9, CA125, CA15-3	cancer biomarkers (including colon, pancreatic, ovarian, and breast cancer)
Oseltamivir (Tamiflu®)	antiviral to treat influenza
Aminoglycoside antibiotics	to treat infections
N-butyl-deoxynojirimycin (DNJ)	treats Type 1 Gaucher's Disease, Niemann-Pick's disease Type C
Hyaluronan (e.g., Amvisc plus®)	used in ocular and plastic surgery and for osteoarthritis treatment
Hyaluronidase	used for <i>in vitro</i> fertilization to prepare oocytes
Acarbose (Precose®) and Miglitol (Glyset®)	diabetes treatment
Topiramate (Topamax®)	anticonvulsant to treat epilepsy; also for migraine treatment

In addition to its great promise, glycobiology research has already led to many important applications in clinical practice. Here are some currently used drugs and biomarkers that are glycoconjugates or based on sugars, with selected examples of clinical applications.

and disorders, including cancer, inflammation, infectious diseases, immunity, and congenital disorders, to cite just a few.

Because glycans play a role in almost every biological process and are involved in every major disease, having a clear understanding of their structure and function will certainly lead to the development of novel drugs to treat or prevent a wide range of conditions, and biomarkers to detect diseases.

In fact, our lab has been studying the role of glycans in cancer, and out of that work new biomarkers are being developed based on changes in the glycome of tumor cells. This is just one example of the enormous potential that exists for new drugs, diagnostics, and vaccines based on glycobiology. As a translational scientist who has founded two biotechnology companies, I am always focused on how glycobiology research can benefit patients.

Q: Considering its importance and potential, why has glycobiology only relatively recently become a research priority among investigators worldwide?

A. Until fairly recently, glycobiology, a term first introduced in the 1980s, has received little attention from

the research community.

The sequencing of the human genome and the technology of mass spectrometry, which are essential to understanding the human glycome, opened up the field, which is now growing very rapidly. Within BIDMC and the Harvard community, there are many investigators from diverse specialties who are involved in and contributing to glycobiology research.

Another hurdle has been the lack of tools to probe the often complex structures and properties of glycans. The recent development and availability of new technologies for exploring the structures and functions of glycans, some of which were developed in our center, have also led to an increase in the number of investigators involved in this field.

Then, there is the incredible complexity of the human glycome, which unlike the human genome, is different for each cell type. But that is part of the challenge for all of us involved in this field — this is a new and exciting frontier!

Q: What is your vision for the Center for Glycosciences at HMS?

A: The mission of the Center for Glycosciences at HMS, which will be large in both size and scope,

will be to improve human health through basic and clinical research in glycoscience.

Specifically, we plan to lead highly collaborative, interdisciplinary glycobiology research and translate this knowledge into the prevention, detection, and cure of a host of diseases. The center will provide investigators from throughout Harvard with the opportunity to network, form collaborations, share resources, and work together on solving problems, which is the way science must be conducted in the 21st century.

The center will provide education and training in glycobiology, including hands-on and virtual training in the technologies critical to glycoscience inquiry, as well as provide access to the technologies and resources critical for progress in this field. We will also engage junior investigators with an interest in glycobiology and assist them with their career development.

There is a great deal of excitement in the BIDMC and Harvard communities about this initiative, which we envision will be the epicenter of translational glycoscience research around the world.

Selected Faculty Publications

Acute Care Surgery, Trauma, and Surgical Critical Care

Bao Y, Ledderose C, Graf AF, Brix B, Birsak T, **Lee A, Zhang J, Junger WG**. mTOR and differential activation of mitochondria orchestrate neutrophil chemotaxis. *J Cell Biol* 2015; 210(7): 1153-64.

Barrett CD, Celestin A, **Eskander MF**, Fish E, **Glass CC**, Murillo R, Gospodinov G, **Gupta A, Hauser CJ**. Surgical wound assessment by sonography (SWATS) in the prediction of surgical wound infections. *J Trauma Acute Care Surg* 2015; in press.

Cannell IG, Merrick KA, Morandell S, Zhu CQ, Braun CJ, Grant RA, Cameron ER, Tsao MS, Hemann MT, **Yaffe MB**. A pleiotropic RNA-binding protein controls distinct cell cycle checkpoints to drive resistance of p53-defective tumors to chemotherapy. *Cancer Cell* 2015; in press.

Ledderose C, Bao Y, Ledderose S, Woehrle T, Heinisch M, Yip L, **Zhang J, Robson SC, Shapiro NI, Junger WG**. Mitochondrial dysfunction depletes purinergic signaling mechanisms needed for T-cell vigilance and immune defense. *J Infect Dis* 2015; in press.

Wegiel B, Hauser CJ, Otterbein LE. Heme as a danger molecule in pathogen recognition. *Free Radic Biol Med* 2015; 89:651-61.

Cardiac Surgery

Gelfand EV, **Khabbaz K**. Noninfectious mitral annular disruption: An unusual complication of a 25-meter fall. *Circulation* 2015;132(2):e14-5.

Colon and Rectal Surgery

Bliss LA, Maguire LH, Chau Z, Yang CJ, **Nagle DA**, Chan AT, **Tseng JF**. Readmission after resections of the colon and rectum: Predictors of a costly and common outcome. *Dis Colon Rectum* 2015;58(12): 1164-73.

Cataldo TE, Nagle D. Evolving and emerging technologies in colon and rectal surgery. *Clin Colon Rectal Surg* 2015;28(3): 129-30.

Curran T, Poylin V, Nagle D. Real world dehiscence rates for patients undergoing abdominoperineal resection with or without myocutaneous flap closure in the National Surgical Quality Improvement Project. *Int J Colorectal Dis* 2015; in press.

General Surgery

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Caron TJ, Scott KE, Fox JG, **Hagen SJ**. Tight junction disruption: *Helicobacter pylori* and dysregulation of the gastric mucosal barrier. *World J Gastroenterol* 2015;21(40):11411-27.

Jones DB, Brunt LM, Feldman LS, Mikami DJ, Robinson TN, Jones SB. Safe energy use in the operating room. *Curr Probl Surg* 2015;52(11):447-68.

Kamine TH, Elmadhun NY, Kasper EM, Papavassiliou E, Schneider BE. Abdominal insufflation for laparoscopy increases intracranial and intrathoracic pressure in human subjects. *Surg Endosc* 2015; in press.

Robinson TN, **Olasky J**, Young P, Feldman LS, Fuchshuber PR, Jones SB, Madani A, Brunt M, Mikami D, Jackson GP, Mischna J, Schwaartzberg S, **Jones DB**. Fundamental Use of Surgical Energy (FUSE) certification: Validation and predictors of success. *Surg Endosc* 2015; in press.

Interdisciplinary Center Research

Hu L, Ramani S, Czako R, Sankaran B, Yu Y, Smith DF, **Cummings RD**, Estes MK, Venkataram Prasad BV. Structural basis of glycan specificity in neonate-specific bovine-human reassortant rotavirus. *Nat Commun* 2015;6:8346.

Kudelka MR, Antonopoulos A, **Wang Y**, Duong DM, Song X, Seyfried NT, Dell A, Haslam SM, **Cummings RD**, Ju T. Cellular O-glycome reporter/amplification to explore O-glycans of living cells. *Nat Methods* 2015; in press.

Mickum ML, Rojsajakul T, Yu Y, **Cummings RD**. *Schistosoma mansoni* α 1,3 fucosyltransferase-F generates the Lewis X antigen. *Glycobiology* 2015; in press.

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Dolati P, Eichberg DG, **Thomas A, Ogilvy CS**. Application of pipeline embolization device for iatrogenic pseudoaneurysms of the extracranial vertebral artery: A case report and systematic review of the literature. *Cureus* 2015;7(10):e356.

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Stippler M, Boone MD. Neurotrauma. *Int Anesthesiol Clin* 2015;53(1):23-38.

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Ophthalmology

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IN MEMORIAM: Robert L. Berger, MD

The Department of Surgery mourns the loss of cardiothoracic surgeon Robert L. Berger, MD, who passed away on January 1 at age 86.

Dr. Berger joined the BIDMC Department of Surgery faculty in 1983 and in 2007 became Director of Clinical Research in the department's Division of Thoracic Surgery and Interventional Pulmonology. He was an Associate Clinical Professor of Surgery at Harvard Medical School. Previously, Dr. Berger served as Chief of Cardiac Surgery at St. Elizabeth's Hospital, Director of Cardiothoracic Surgery at Boston City Hospital, and Chief of Cardiothoracic Surgery at [Boston] University Hospital.

Born in Hungary in 1929, Dr. Berger was a Holocaust survivor who as a teenager fought with the resistance in Budapest during WWII. He came to the United States in 1947, speaking virtually no English. Supported by scholarships and summer jobs, he attended and graduated from Harvard College and earned his medical degree from Boston University School of Medicine. He completed his residency training at Boston City Hospital and fellowships in cardiothoracic surgery at Mearns Kirk Hospital in Scotland and Boston City Hospital. Dr. Berger met his wife of 44 years, Dr. Patricia Downs Berger, at St. Elizabeth's Hospital. The couple had two daughters, Shana, now of Somerville, Mass., and Ilana, now

of Kingston, New York.

Dr. Berger was a pioneering surgeon whose research and clinical innovations led to advances that have improved and saved countless lives. Among his many important accomplishments were his contributions to the development of the left ventricular assist device (LVAD), and research that enabled transcatheter aortic valve replacement, a minimally invasive treatment that formerly required open surgery.

Dr. Berger also led a national clinical trial that shed light on the value of lung volume reduction surgery as a treatment for emphysema. In addition, he was a medical consultant to numerous medical device companies, playing an instrumental role in developing novel devices and approaches such as an implantable microsensor for wireless monitoring of left atrial pressure in patients with congestive heart failure, a polymer to temporarily stop blood flow during therapeutic procedures, and a biologic approach to lung volume reduction.

Based on his meticulous research, in 1990 Dr. Berger debunked widely cited "science" based on cruel hypothermia experiments conducted in concentration camps by the Nazis. He reported in the *New England Journal of Medicine* that the Nazis' methods were deeply flawed and their conclusions were based on inconsistent and fabricated data, writing that their



work "cannot advance science or save human lives."

Dr. Berger was a highly respected teacher and mentor to numerous surgical trainees, many of whom are women or members of minority groups, and was deeply beloved by his patients.

In addition to his many professional roles, Dr. Berger was instrumental in planning Boston's Holocaust Memorial and served in a leadership position with Schechter Holocaust Services at Jewish Family and Children's Service.

According to his family members, in addition to being an outstanding surgeon and researcher, Dr. Berger was a generous, caring, and passionate father, husband, friend, storyteller, and joker.

"Dr. Berger was a great colleague and contributor to the research efforts of the Thoracic and Interventional Pulmonology division," says the division's Chief, **Sidhu Gangadharan, MD**. "His productivity, enthusiasm, and creativity were ever-present, and he was inspirational to all of us whom he mentored. His passing is a great loss to our group and the entire surgical community."

A surgical residency is typically thought of as the years when a medical school graduate progressively acquires the skills and knowledge to become a practicing surgeon or, as is often the case, enter a fellowship program to become a surgical specialist.

But in an academic medical center like BIDMC, surgical residents are preparing for a career not only as clinicians but also as investigators who, through laboratory or clinical research, seek to improve patient care. Their goal is to become not just the best possible surgeon or investigator, but the best possible surgeon-investigator.

Shaping Surgeon-Investigators

RESIDENTS ON RESEARCH ELECTIVES

Toward that goal, BIDMC surgical residents typically spend two and sometimes three years conducting research in addition to their five years of clinical training. Often residents elect to do their research electives between their second and third clinical years.

A wide variety of options are available to BIDMC Surgery residents for their research electives. For example, they can choose to do research with department faculty, with other investigators within Harvard University or Massachusetts Institute of Technology (MIT), or go virtually anywhere they choose. Indeed, residents have done research at institutions throughout the nation and abroad.

Here we introduce two residents who share what the research elective experience means to them and their career development.

Prathima Nandivada, MD, recently completed three years engaged in basic and translational research in the lab of BIDMC Residency Program alumnus **Mark Puder, MD, PhD**, the William E. Ladd Chair in Surgery at Boston Children's Hospital (BCH) and a Professor of Surgery at Harvard Medical School.

A graduate of MIT who earned her medical degree from SUNY Stony Brook University School of Medicine, Dr. Nandivada enjoyed her pediatric surgery rotation at BCH. When it came time for her research elective, Dr. Nandivada felt that increased exposure to pediatrics and pediatric-related research would help her decide if this specialty is right for her. She was grateful for the opportunity to work with Dr. Puder, a practicing pediatric surgeon whose translational research led to a lifesaving treatment for children with liver disease resulting from long-term intravenous nutrition.

"Dr. Puder is an ideal role model of a surgeon-scientist who does both clinical work and meaningful research," says Dr. Nandivada, who is considering a career in pediatric surgery. "He is living the life that we will live someday, and by observing and learning from him, I've discovered a great deal about how to balance my time, mentor others, and choose a question for my research."

The main question Dr. Nandivada pursued was how to rapidly regenerate the lungs of infants born with congenital diaphragmatic hernia (CDH). CDH is a condition in which the lungs of a developing fetus may be unable to grow because they are crowded by abdominal



Resident Prathima Nandivada, MD, spent three years working in the lab of Boston Children's Hospital surgeon-investigator Mark Puder, MD, PhD.

organs pushing up through a hole in the diaphragm. Newborns with CDH can be put on a type of cardiopulmonary bypass (extracorporeal membrane oxygenation) while their lungs grow and adapt, but only for about three weeks, so a fast-acting, safe, and effective therapy is desperately needed.

Dr. Nandivada's research focused on using VEGF (vascular endothelial growth factor) to accelerate lung regeneration. This work, which began in the laboratory and later proved effective in mice, will soon move into larger clinical models of CDH, with support from a grant from Children's and a pharmaceutical company.

"It was exciting to be involved in a project from the planning stage [to pre-clinical testing] that may help these vulnerable patients," says Dr. Nandivada, who received the top award for this work at the 2015 Dr. Judah Folkman Research Day at Children's.

Says Dr. Puder, "Among

my roles as a mentor to surgical residents is to teach proper methods of conducting scientific research, how to write [manuscripts, reviews, and grants], how to present results in an organized way and, most importantly, research integrity. Dr. Nandivada has not only accomplished all this and done it extremely well, but she has also become a mentor and role model to others in the lab."

Dr. Nandivada is back on clinical rotations now and says her research years have made her clinical experience richer. "I question things more now, and when I'm in the OR or on rounds, I look to patients for inspiration for other important questions to ask," she says. "My research time was incredibly valuable, and validated my decision to pursue a career that combines research and clinical care. Still, it's good to be back taking care of patients because in the end, it's all about the patients."

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William Silen, MD, Endowed Visiting Professorship

The William Silen, MD, Endowed Visiting Professorship honors Dr. Silen, the renowned former Surgeon-in-Chief of Beth Israel Hospital. The professorship will provide the Department of Surgery with the resources to host a surgical leader at BIDMC each year.

In October, the Department was pleased to welcome Grace S. Rozycki, MD, MBA, as the 2015 Silen Visiting Professor of Surgery. At a dinner in Dr. Rozycki's honor, Dr. Silen, accompanied by his wife, Ruth, and other family members, was warmly welcomed by former trainees, some of whom traveled long distances to honor their mentor. Among those who spoke at the dinner were Sumner Slavin, MD, Bartholomew Tortella, MD, MTS, MBA, Mary Wilde, MD, and Hon Chi Suen, MD.

Following concluding remarks from Chairman of Surgery Elliot Chaikof, MD, PhD, the guests joined in a standing ovation to Dr. Silen.

Thank you to the following donors for their very generous support of the William Silen, MD, Endowed Visiting Professorship. *This list includes all gifts received as of December 31, 2015.*

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Dr. and Mrs. Silen enjoyed some of the recollections of several former trainees who spoke at the dinner.



Former Beth Israel Hospital President Mitchell Rabkin, MD, his wife, Adrienne, and BIDMC breast surgeon and former Silen trainee Mary Jane Houlihan, MD (seated), chat with Dr. Silen.

< Continued from page 27

Christopher Barrett, MD, is currently in his second of three years of basic research in the MIT lab of surgeon-investigator **Michael Yaffe, MD, PhD**, the David H. Koch Professor of Biology and Biological Engineering at MIT. In addition to running his MIT lab, Dr. Yaffe treats patients at BIDMC as a member of the Division of Acute Care Surgery, Trauma, and Surgical Critical Care and the Division of Surgical Oncology.

After spending four years in the military, including serving in Iraq as a paratrooper in the U.S. Army 82nd Airborne Division, Dr. Barrett earned his undergraduate degree from the University of Minnesota Duluth and his medical degree from Washington University School of Medicine in St. Louis.

Following a sub-internship in trauma surgery and critical care, Dr. Barrett felt he had found his calling. “In this specialty, you’re taking care of people who have probably had the worst day of their life and helping them live to see better days,” he says. Dr. Barrett also finds it rewarding

“A lot of what I do in the lab is informed by clinical knowledge, and I can also see a pathway from the lab to the clinical setting.”

Christopher Barrett, MD

to interact with family members of critically ill patients.

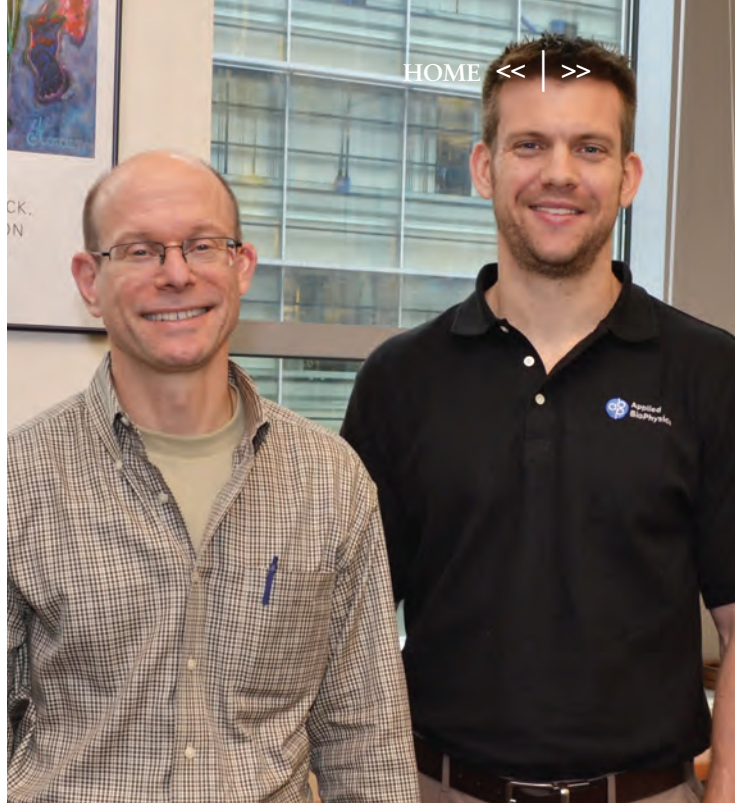
When the time came for his research elective, Dr. Barrett was thrilled to have the opportunity to work in Dr. Yaffe’s lab on

research related to the biology of trauma-induced complications. Specifically, Dr. Barrett is focusing on the biology of neutrophils. Following major traumatic injury, these “first responders” of the immune system, which in less extreme situations are protective, can contribute to systemic inflammation and hemorrhage that can lead to serious complications or death.

“Dr. Yaffe is the best example of a surgeon-scientist that exists and an amazing role model,” says Dr. Barrett, noting that among many other accomplishments, Dr. Yaffe is Chief Scientific Editor of *Science Signaling*, one of the leading research journals, and has co-founded several pharmaceutical companies. Dr. Barrett also feels a strong connection to Dr. Yaffe because of their shared military service: Dr. Yaffe is a Lieutenant Colonel in the U.S. Army Reserve Medical Corps, and recently served as a trauma surgeon in Afghanistan.

As one of the only members of Dr. Yaffe’s lab with a medical degree, Dr. Barrett believes that his clinical experience gives him a unique perspective.

“I always strive to have at least one doctor working in my lab, as doctors have the opportunity to see clinical problems firsthand and to ask the questions that will have an impact on patient care,” says Dr. Yaffe. “One of my goals as a mentor to surgical residents is to have



Resident Christopher Barrett, MD (right), is working in the Massachusetts Institute of Technology lab of surgeon-investigator Michael Yaffe, MD, PhD, a Department of Surgery faculty member.

them learn to look for a molecular basis for the clinical problems they encounter. Chris has done that and in the process become a fantastic basic scientist. In fact, I would be surprised if Chris’s work doesn’t lead to a new treatment for trauma patients in the foreseeable future. He also has strong leadership qualities that make him a role model for others.”

After he graduates, Dr. Barrett hopes to follow in Dr. Yaffe’s footsteps and divide his time between research and patient care, ideally spending at least some of his time caring for veterans in a Veterans Affairs hospital.



For more information about the BIDMC General Surgery Residency Program or to download our program brochure, please visit our website:

[bidmc.org/surgery>Surgical Education>Training Programs>General Surgery Residency](http://bidmc.org/surgery>SurgicalEducation>TrainingPrograms>GeneralSurgeryResidency)

In many issues of *Inside Surgery*, we focus on the question a member of our faculty “owns” — a question that inspires his or her research.

THE QUESTION I OWN — Samuel Lin, MD, MBA

At first glance, it might seem that the diverse research projects being conducted by plastic surgeon Samuel Lin, MD, MBA, an Associate Professor of Surgery, share little in common.

One project, for example, involves developing silk-based screws for bone fixation.

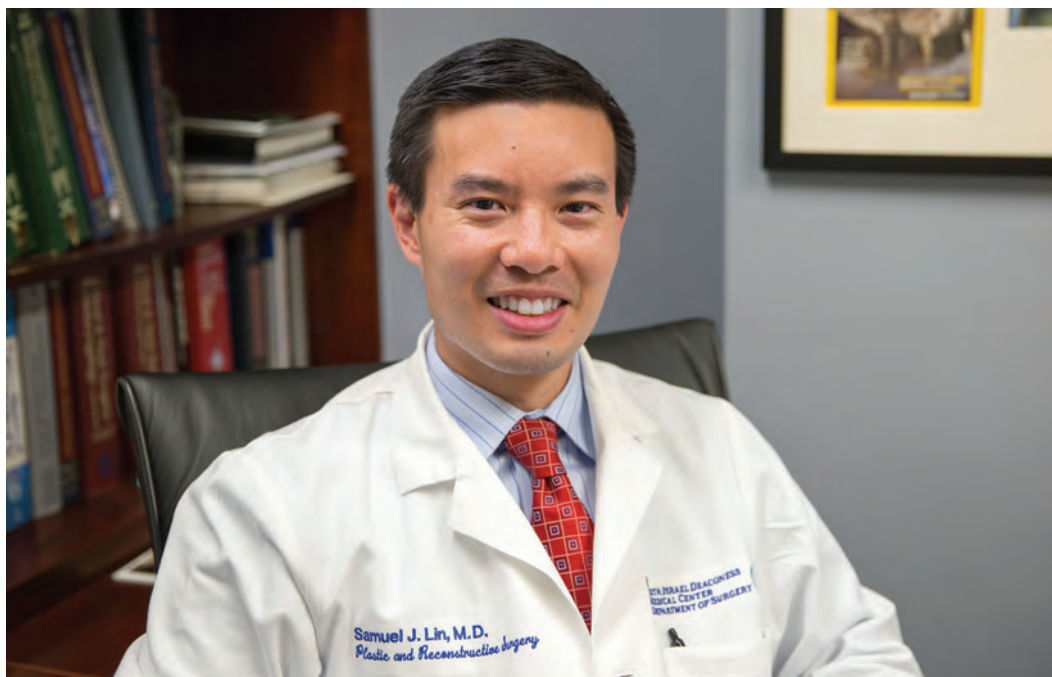
Another focuses on a novel method of stimulating or inhibiting nerves in people with facial paralysis, neurological disorders, or pain.

Yet another involves developing a portable, bedside device to determine whether tissue of patients who have undergone reconstructive surgery or suffered burns is receiving sufficient oxygen.

And then there is a project to develop a training model to teach soldiers in the field to identify and relieve eye pressure to prevent blindness, and still another to design a temporary wound dressing for battlefield eye injuries.

Despite the seemingly disparate nature of these projects, all of which receive federal and other external funding, there is a strong underlying theme in all of Dr. Lin's investigations. “The question I own and what drives my research is this: How can I use emerging and new technologies to develop longlasting new technologies that enable surgeons to take better care of patients?” says Dr. Lin, who since childhood has been fascinated by how things work.

Another common feature of Dr. Lin's research is that



it is highly collaborative and interdisciplinary. In fact, all of his projects involve working with scientists, clinicians, and/or engineers throughout Boston's leading academic institutions. His collaborators include faculty from Harvard University, Tufts University, Massachusetts Institute of Technology (MIT), Boston Children's Hospital, and Massachusetts General Hospital. “I'm very fortunate to work in this unique environment where you are close to so many talented people with common interests and goals and who are eager to collaborate,” says Dr. Lin.

Here we describe two of Dr. Lin's ongoing research projects.

Dimmer switches for nerves

Functional electrical stimulation (FES) is an existing therapy used to restore motor activity in patients with disabilities resulting from

nerve injury, spinal cord injury, or neurological disorders. But FES-related interventions currently lack an effective, implantable method that can reliably stimulate injured nerves and muscles.

In a paper published in 2011 in *Nature Materials*, Dr. Lin and then-research fellow Ahmed Ibrahim, MD, reported on a novel electrochemical method they and their colleagues, including MIT electrical engineer Jongyoon (“Jay”) Han, PhD, developed that can not only stimulate nerve activity but also inhibit it. By altering the nerve's local environment, their method reduces the threshold for nerve stimulation or, conversely, blocks the nerves from firing.

“In effect, our method functions like a ‘dimmer switch’ for nerves and neuromuscular junctions to control how much signal is going to the nerve and, thus, how much muscle activity there is, or in the

case of pain, to dampen incoming signals by a significant amount,” explains Dr. Lin.

This novel electrochemical-stimulation method, which has been evaluated in pre-clinical models, could have potential applications in existing devices to selectively stimulate nerves in patients with total or partial paralysis of facial or peripheral nerves. It could also offer an effective intervention for patients with chronic conditions caused by uncontrolled nerve activation, such as pain or involuntary muscle or limb movement.

This work, which now has several patents pending and is supported by grants from the American Association of Plastic Surgeons and the BIDMC Department of Surgery, has grown to encompass another laboratory, headed by renowned MIT scientist Emilio Bizzi, MD, PhD. Dr. Lin predicts it may be a number of years before a product using this new technology comes to market but that when it does, it could have a significant impact on many patients’ quality of life.

The silk road

Several years ago, Dr. Lin visited Tufts University to tour the lab of David Kaplan, PhD, a leader in the use of silk for biomedical applications. He noticed an object that resembled a tiny screw constructed of silk protein tossed aside on a postdoc’s desk and immediately saw its potential clinical use. Ever since, Dr. Lin has collaborated with Dr. Kaplan to develop and evaluate screws and

plates made from pure silk protein derived from silkworm cocoons for bone-fracture fixation.

The current gold standard for fixating fractured bones are metal screws and plates, but these have many disadvantages, says Dr. Lin. For example, they sometimes have to be removed in a second operation, and the differences in mechanical properties between bone and much stiffer metal can cause bone degradation. There are resorbable fixation devices made from synthetic polymers but they have significant limitations that limit their widespread use.

In 2014, Drs. Lin and Kaplan had a paper published in *Nature Communications* that described the results of their ongoing work. In their pre-clinical studies, silk-based screws and plates have been found to offer many advantages over conventional devices. For instance, because they are absorbed by the body, there is no need for a second operation to remove them. They also promote bone remodeling, are less likely to trigger inflammation, and compared to existing resorbable devices, are simpler to implant. In the future, silk-based screws and plates could also incorporate compounds to promote bone growth and prevent infection.

‘Huge applications’

While the initial goal is to use silk-based screws to treat facial injuries, which affect several hundred thousand people each year, the devices could potentially be used in the treatment of many different types of bone fractures. “Having a



Silk from silkworms is the source of biocompatible bone screws and plates that have many advantages over conventional devices. Dr. Lin is co-principal investigator of a National Institutes of Health RO1 grant to continue his investigations of silk-based devices.

resorbable and longlasting plate and screw system has potentially huge applications,” says Dr. Lin.

In early 2015, Dr. Lin became co-principal investigator with Dr. Kaplan of a five-year, \$1.25 million RO1 grant from the National Institutes of Health to continue their investigations of silk-based devices. “We’re very excited to continue this work and ultimately evaluate it in clinical trials,” says Dr. Lin.

In addition to his research activities and a busy clinical schedule, Dr. Lin, who is married with three young children, is also actively involved in and passionate about education. He serves as Associate Program Director of the Harvard Plastic Surgery Residency Training Program and is Co-Director of the Harvard Aesthetic and Reconstructive Fellowship at BIDMC. Dr. Lin also mentors Harvard Medical School (HMS) students, for which he was awarded a Young Mentor Award by HMS in 2013. In addition, he serves as Associate Editor of *Plastic and Reconstructive Surgery-Global Open* and is on the editorial board of *Plastic and Reconstructive Surgery*, the leading journal in the field.

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in the field of regenerative therapeutics and wound healing, he was nominated to serve as the first Rongxiang Xu, MD, Professor of Surgery at Harvard Medical School. Dr. Veves will be the Director of the BIDMC Rongxiang Xu, MD, Center for Regenerative Therapeutics.

Dr. Veves focuses much of his research, which also receives funding from the NIH and other agencies, on understanding what impairs wound healing in diabetic patients and using that knowledge to develop novel products that can help promote healing in patients with chronic wounds resulting from diabetes, venous ulcers, and many other serious conditions, as well as burns. Dr. Veves is focusing largely on neuropeptides, protein-like molecules that have many functions in the body. He and his collaborators at BIDMC, the Wyss Institute, Massachusetts Institute of Technology, Tufts University, and other institutions are working on developing new biomaterials, such as topical dressings, that will deliver neuropeptides and other factors to wounds to help promote healing.

"We are very honored by and excited about this extraordinary gift. This center will be one of a kind."

Aristidis Veves, MD, DSc



Aristidis Veves, MD, DSc, is the Director of the BIDMC Rongxiang Xu, MD, Center for Regenerative Therapeutics. Visit the center's website at bidmc.org/xucenter.

The Rongxiang Xu, MD, Center for Regenerative Therapeutics will provide critical resources to further advance the treatment of patients throughout the world with chronic wounds, burns, and other conditions resulting from a failure of tissue repair and regeneration. The center will also conduct collaborative bench-to-bedside research with investigators worldwide, and educate physicians and scientists internationally about new therapies and the management of the problems they treat. The center will also sponsor an annual lecture by a world-renowned expert.

"We are very honored by and excited about this extraordinary gift," says Dr. Veves. "This center will be one of a kind. Through research, education, and clinical innovations, the center will improve the lives of millions of people around the world suffering from chronic wounds, burns, and other serious conditions. By working collaboratively with the National Rongxiang Xu Foundation and its partners, including the Clinton Global Initiative, we are well-positioned to have a global impact on these pressing health problems."