



SOMnews



Point of Pride

In 1999, researchers at the School of Medicine developed **a successful blood cleansing procedure** to enable people on kidney dialysis to receive a **kidney transplant without fear of immediate rejection.**

DEAN'S MESSAGE

It is no secret that our transplant center is one of the busiest in the nation, performing over 450 transplants annually. This is truly one of our destination marquee clinical programs, and one which draws patients from around the world to seek care from leading experts in the field.

The strength of our program is derived from the exceptional surgeons and surgeon-scientists we have on the faculty. For example, **Jonathan Bromberg, MD, PhD**, Vice Chair for Research in the Department of Surgery, is a leading expert in the field of immune tolerance and preventing immune rejection of transplanted organs and tissues, which is a major barrier to long-term transplant success. **Rolf Barth, MD**, Director of the Division of Transplantation in the Department of Surgery, performed Maryland's first laparoscopic kidney removal surgery on a living donor, and is a leader in liver transplant. **Sunjay Kaushal, MD, PhD**, Director of the Division of Pediatric Cardiac Surgery, is quickly becoming known as a leader in the field of pediatric cardiac stem cell therapy. **Bartley Griffith, MD**, is a senior surgeon, scientist and entrepreneur in the Department of Surgery who developed a wearable artificial lung, a "bridge" device to help patients waiting for an organ transplant. Finally, **Stephen Bartlett, MD**, Chair of the Department of Surgery, led the team that performed the most comprehensive full face transplant to date.

Founded in 1968, only 14 years after the first successful organ transplant — a kidney transplant performed at Brigham and Women's Hospital — our transplant center has moved beyond solid organ transplantation into the most cutting-edge procedures in medicine today, namely, xenotransplantation, which uses a cell, tissue or organ donor from one species to transplant into a recipient from another species. Xenotransplantation may seem like the stuff of science fiction, but, in reality, is providing very real hope for the thousands of patients waiting to receive a life-saving transplant.

Now, the School of Medicine is positioning itself to become a national leader in xenotransplantation through its recent recruitment of **Muhammad Mohiuddin, MD**, one of the world's experts in the field, who had been working at the National Heart, Lung and Blood Institute at the National Institutes of Health. I strongly encourage you to become familiar with the newest member of the School of Medicine transplant team.

What's on My Mind...



...is the transformative power of modern medicine, exemplified by the advances we've made in transplantation science.

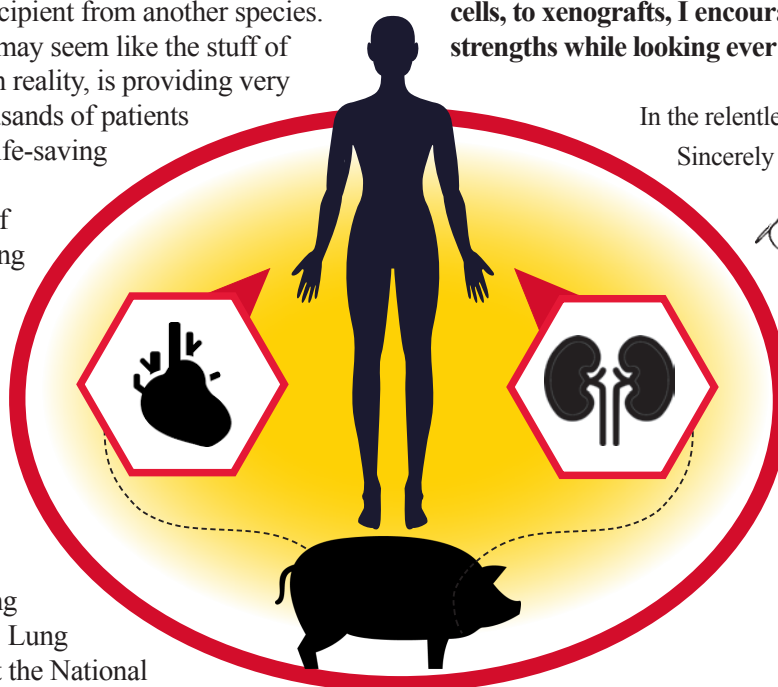
I am pleased that Dr. Mohiuddin's research will be further fueled by the support of the United Therapeutics Corporation, led by **Martine Rothblatt**, whose mission is to improve care and provide treatments for people with chronic, life-threatening conditions. Ultimately, we envision creating a new destination center of excellence for xenotransplantation, which draws upon the research conducted by our faculty to deliver the state-of-the-art care to our patients. Building upon the strong clinical practice foundation we already have, I am confident that we will perform, fairly soon, the first-in-man, successful trial of an animal donor organ into a human transplant recipient.

It was not by chance that we included transplantation as one of our key areas of research strength at the **May 1, 2017 Research Strategy Forum**. We have some incredible faculty working in this area — not only those who provide the best possible care to the patients who come to the University of Maryland for their care, but those who conduct simultaneous research to advance the science and discovery medicine that our patients receive. However, we should always challenge ourselves to do more, aim higher, and solidify our position as a top-tier transplant center.

Now in our Third Century, we have an incredible opportunity to become the global leaders in transplantation — from solid organs and tissues, to stem cells, to xenografts, I encourage us to capitalize upon our strengths while looking ever forward into the future.

In the relentless pursuit of excellence, I am
Sincerely yours,

E. Albert Reece, MD, PhD, MBA
Vice President for Medical Affairs,
University of Maryland
John Z. and Akiko K. Bowers
Distinguished Professor and
Dean, University of Maryland
School of Medicine



What's New...

SOMnews has now expanded to eight pages, with more information and special sections on Research & Discovery, Clinical Care, Academic Innovations and Community Engagement.

What's Inside...

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"Our approach of building cooperative relationships with local community practices has worked well for us, as more than half of the practitioners in the state have some past affiliation with the University of Maryland, as School of Medicine or resident alumni."

— Bennie H. Jeng, MD
Chair, Department of Ophthalmology & Visual Sciences

A Look Ahead:

OPHTHALMOLOGY BUILDS BROAD CLINICAL NETWORK THROUGH COOPERATIVE STRATEGY

You would think that America's oldest academic department for treating "diseases of the eye" (established in 1873) might be tempted to rest on its laurels. But **Bennie H. Jeng, MD**, has a vision — and it's firmly focused on the future.

Dr. Jeng, a distinguished National Institutes of Health (NIH)-funded physician-scientist, joined the School of Medicine's Department of Ophthalmology & Visual Sciences as its chair in 2013. Since his arrival, the department has doubled the number of its clinical faculty members to now represent all ophthalmologic subspecialties. In addition, the department also has built a clinical research enterprise from the ground up, which currently receives nearly \$1 million in funding from NIH and other sources to pursue studies in neuroprotection, glaucoma, and corneal diseases. At the same time, the department's educational program has become increasingly popular with UM SOM medical students, while its residency program has gained national stature. In the last three years alone, 11 of its 12 graduating residents have gone on to highly competitive subspecialty fellowships. "Together," affirms Dr. Jeng, "we really have put this department and our academic program in ophthalmology on the map."

Speaking of maps, nowhere is Ophthalmology's dramatic growth more evident than in the rapid expansion of its clinical network. Up until 2013, that system consisted of just four sites — the University of Maryland Professional Building site at 419 West Redwood St., the Baltimore VA Medical Center, a resident's clinic at the University of Maryland Medical Center Midtown Campus (formerly Maryland General Hospital), and a very small satellite practice in suburban Owings Mills, Maryland.

Today, under the banner of University of Maryland Eye Associates (UMEA), the department's clinical network has grown to 13 sites that serve all of central Maryland and even York County, Pennsylvania. The older sites at Redwood Street, UMMC Midtown, and Owings Mills have expanded in physical size and capabilities to become full-service faculty practice locations. A fourth full-service practice and optical shop opened in 2016 at the

new University of Maryland Faculty Physicians, Inc. medical community in Columbia, which also features a walk-in Immediate Care Center, multi-specialty care services, surgical consults, family medicine, and an onsite Ambulatory Surgery Center.

But to broaden the growth of this regional network even further, Dr. Jeng has pursued a strategic tactic that has proven to be a thorough success — what he calls "a relationship-based model."

"I have gone out to various regions of the state and just asked the practices in those areas what clinical support they needed, so that we could work together," he explains. "As a result, our satellite sites at those locations are more focused on the provision of subspecialties that are needed specifically in that community."

Dr. Jeng was well aware that more than half of the practitioners in the state have some past affiliation with the University of Maryland, as School of Medicine or resident alumni. "Many of them have wanted to be more engaged with the university and department but have not had the opportunity," he says. "This was the key to creating these win-win relationships. We're able to provide the ophthalmological care that's vitally needed by patients in those areas, while partnering with highly regarded practitioners in the community."

As a result of these efforts, the department has built its patient volume from 13,000 patient visits in 2013 to 31,000 in 2017 — a 140 percent increase. "And," Dr. Jeng adds, "we still have room to grow." While UMEA is looking carefully at other regions of the state for possible expansion, for the present, the goal is to fully utilize their current practice locations before adding more. "Even with our specialty sites, the fact that we continue to build good relationships in those communities may lead to us to add other onsite subspecialties and services," notes Dr. Jeng. "It's an approach that is working well for us."

UM Eye Associates Network Map

Full-Service Practice Locations

BALTIMORE CITY

University of Maryland Eye Associates
University of Maryland Professional Building
419 West Redwood St., Suite 420
Baltimore, MD 21201

University of Maryland Eye Associates
UMMC Midtown Campus
827 Linden Ave.
Baltimore, MD 21201

BALTIMORE COUNTY

University of Maryland Eye Associates
McDonogh Crossroads
20 Crossroads Dr., Suite 113
Owings Mills, MD 21117

HOWARD COUNTY

University of Maryland Eye Associates
UM Faculty Physicians, Inc.
5900 Waterloo Rd., Suite 230
Columbia, MD 21045

Specialty Practice Locations

ANNE ARUNDEL COUNTY

200 Hospital Dr., Suite 600
Specialties: Glaucoma

7671 Quarterfield Rd., Suite 304
Specialties: Glaucoma & Retina

BALTIMORE CITY

Baltimore VA Medical Center
10 North Greene St., Baltimore, MD 21201
Specialties: All

5601 Loch Raven Blvd., Suite 402
Baltimore, MD 21239
Specialties: Retina

University of Maryland Rehabilitation
& Orthopaedic Institute
2200 Kernan Drive

Baltimore, MD 21207
Specialties: (Neuro-ophthalmology coming summer 2017)

BALTIMORE COUNTY

8601 Lasalle Road
Towson, MD 21204
Specialties: Glaucoma (Oculoplastics coming summer 2017)

HOWARD COUNTY

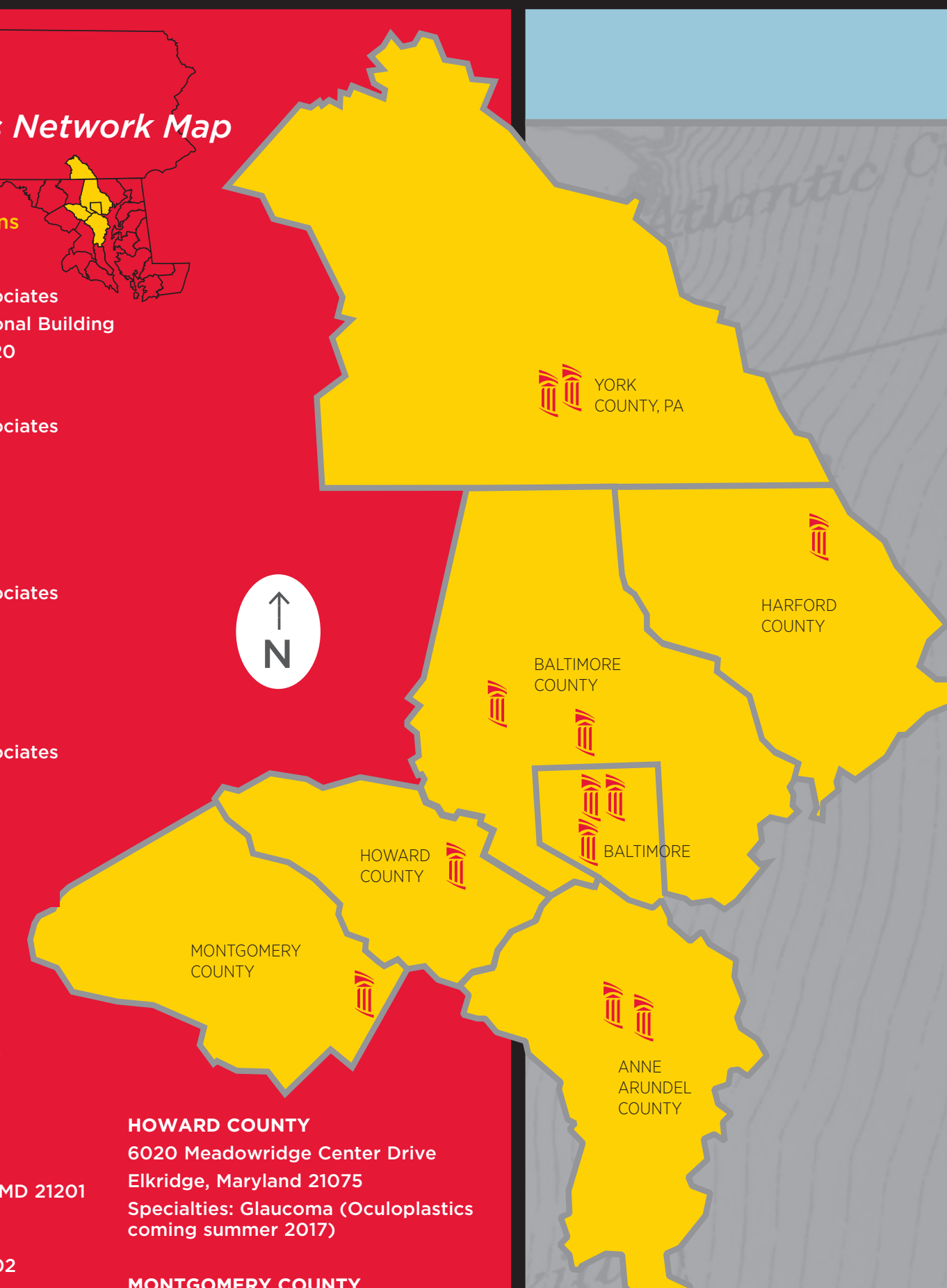
6020 Meadowridge Center Drive
Elkridge, Maryland 21075
Specialties: Glaucoma (Oculoplastics coming summer 2017)

MONTGOMERY COUNTY

8630 Fenton St., Suite 130
Silver Spring, MD 20910
Specialties: Glaucoma

YORK COUNTY, PA

1600 6th Ave., Suite 119B
York, PA 17403
Specialties: Oculoplastics



UMEA Subspecialty Services:

- Cataract
- Cornea
- Comprehensive Ophthalmology
- Electrophysiology
- Glaucoma
- Neuro-Ophthalmology
- Oculoplastics
- Optometry
- Pediatric Ophthalmology and Strabismus
- Refractive Surgery
- Retina
- Specialty Contact Lenses
- Uveitis



TRANSPLANT

Defeating Diabetes Through Transplantation:

Innovative Approaches in SOM Pancreatic Transplants Could Lead to Cure

Fifty years later, it remains a renowned center for cutting-edge innovation. Founded in 1968 within SOM's Department of Surgery, the Division of Transplantation remains one of the largest and most comprehensive transplant programs in the country, performing over 400 transplants a year while conducting breakthrough research to solve the most complex problems in organ disease and replacement. With its enviable track record of accomplishments, the Division continues to set the bar for discovery in addressing the most difficult challenges in transplantation. "Given our historic strengths as a division, we are always drawn to tackling the most demanding problems, both in the OR and in the lab," says ROLF BARTH, MD, Associate Professor of Surgery, Interim Chief of the Division of Transplantation Surgery and Director of Liver Transplantation. "That's how we work."

Nowhere is this resolve more evident than in the Division's novel approaches to confronting one of the world's most intractable diseases, diabetes. With the discovery of insulin and its properties nearly a century ago, the door opened to therapeutic options for treating diabetes and diminishing its threat as a fatal disease. However, managing diabetes with insulin is not a cure, only a stop-gap measure to keep the disease at bay. The threat of other complications, including liver failure, remain ever present.

As director of the Division's pancreas and islet cell transplantation program, Joseph Scalea, MD, oversees an aggressive, multifaceted initiative to cure patients of insulin-dependent diabetes. In the last year, his program's rate of pancreas transplantation has grown by more than 100 percent. "We are now one of the busiest centers in the country, and we expect to maintain that pace," he notes.



"Our success in improving the number of whole organ pancreas transplants is due largely to a multidisciplinary effort involving surgeons, endocrinologists, and nephrologists."

As a sizeable percentage of patients with diabetes eventually will suffer kidney failure as well, the combined kidney-pancreas transplant procedure represents the majority of the pancreas transplants performed. "We offer patients a more comprehensive approach that involves kidney disease and diabetes management along with a kidney and pancreas transplant," says Dr. Scalea. "An added benefit is that the waiting time for donor organs needed for this combined transplant is quite low — in many cases as short as six weeks."

But another more intriguing approach to curing diabetes lies inside the pancreas itself, in unique tiny clusters of cells called islets. Over a million islet cells in a single pancreas monitor blood glucose (sugar) levels and release insulin when necessary. If an individual's pancreatic islets malfunction or fail, diabetes may develop.



Healthy islets themselves promote the normal metabolism of sugar. Without them, patients may well develop diabetes. Accordingly, medical researchers have spent the past several decades investigating methods to safely remove the islets from a donor pancreas and to transplant them with a minimal surgery (and in some cases, immunosuppressive medicines), a huge benefit for those patients too frail or sick to undergo a major procedure. If an islet cell transplantation is unsuccessful, the patient can always return to insulin therapy.

In the pancreas and islet cell transplantation program, Dr. Scalea and his Division colleagues are actively exploring three exciting approaches to make this new form of transplantation a reality.

With autologous islet cell transplantation, a patient's own islet cells are carefully extracted from their pancreas after it has been surgically removed. As opposed to a diagnosis of diabetes, this need for removal of the pancreas is frequently caused by chronic pancreatitis, an inflammatory condition of the pancreas that causes intense pain. The removed islets are then infused into the patient's liver, where they can begin producing insulin again. "For patients whose pancreas is removed due to pancreatitis, we have observed considerable success with restitution of glucose metabolism, and avoidance of diabetes," says Dr. Scalea.

Allogeneic (standard) islet cell transplantation involves removing, purifying, and infusing donor islet cells into a diabetic recipient in order to treat diabetes. In this case, the islets are also infused into the liver. Along with immunosuppressive issues, a major challenge to this approach is extracting enough islets from a donor pancreas (upwards to one million) so that the recipient is rendered diabetes free. Currently, many donated pancreases and their islets fail to meet transplantation standards, while transplantable islets are often damaged during processing. Despite these issues, the field has seen significant improvement in islet cell purification and transplantation in the last 10 years. Here at the University of Maryland, Dr. Scalea has teamed up with Aaron Rapoport, MD, Director of the Blood and Marrow Transplant Program, to optimize the process of islet cell purification.

The most novel direction, xenotransplantation, seeks to circumvent this islet cell shortage though the development of bio-designed islet cells that can be transplanted from genetically modified animal models into humans. Up to this point, all of the forms of xenotransplantation that have been explored have encountered major complications — specifically, rejection and infection. However, given the broad spectrum of research activity now taking place in the Transplantation Division, Dr. Scalea is hopeful that a shorter-term answer will be found. "Many researchers have suggested that islet cell transplants will be the first successful xenotransplantation procedure done in humans with any regularity," he says. "In our own division, we have a number of leading researchers who are making significant progress in this area, including Jonathan Bromberg, MD, PhD, and his innovative research involving immunosuppressive therapies; and Rolf Barth, MD, and his work with immunologic tolerance. Both of these studies are looking at important pieces of the larger puzzle." Dr. Scalea himself directs a translational immunology laboratory that is investigating transplantation tolerance. "We are looking for ways to eliminate the need for all pharmacological immunosuppression after transplantation, so that transplant recipients wouldn't need to take any anti-rejection medications at all," he says. "We've already enjoyed some early successes."

Dr. Scalea anticipates that the current basic science studies now underway will lead to "a tangible set of translational experiments" in the next two years. In the meantime, he and his colleagues will continue to attack the problem of islet cell transplantation and acceptance in all three areas. "Despite all of the complexity surrounding these different approaches, we are really focusing on a single goal — curing diabetes," he says.

UM SOM: Leading in Transplantation

SOM's Division of Transplantation within the Department of Surgery is internationally recognized as:

- One of the top ten transplant centers in the U.S.
- The nation's third largest liver and pancreas transplant programs
- One of the top ten kidney transplant programs in the U.S.
- First in the world to complete a comprehensive full face transplant
- First in U.S. to perform 1,000 laparoscopic kidney removals, a less-invasive alternative for kidney donors
- First in Maryland to perform a single-lung transplant, a combined heart and liver transplant, and a total artificial heart-to-heart transplant
- One of the nation's leading centers for basic and translational xenotransplantation research
- One of the few transplant centers in the country performing living donor liver transplants on adults

DIABETES facts

About the size of a human hand and tucked into the upper abdomen under the liver and spleen, the pancreas has two jobs — to produce enzymes that aid in digestion, and to release hormones, especially insulin, that regulate the body's blood sugar levels.

In the situation where a patient becomes resistant to insulin, blood sugars can increase. This condition, called Type II diabetes, affects

28.5 million and typically develops later in life.

If the pancreas shuts down its insulin production entirely, Type I diabetes (T1D) will develop. Accordingly, the affected individuals will require daily injections with insulin pens or an infusion pump while constantly monitoring their blood glucose levels. These patients typically develop diabetes earlier in life; however, recent data suggests that older patients can develop Type I diabetes as well. Approximately 1.5 million American currently struggle with this disease.

By 2050, T1D is expected to grow to **5 million.**



GRADUATION

CELEBRATING ACADEMIC ACHIEVEMENTS Class of 2017

The night before their graduation ceremony, top achievers from the Class of 2017 gathered for the 11th annual Student Awards Ceremony and Dinner, held at the Marriott Inner Harbor. The awards dinner provided an opportunity to recognize the accomplished graduating students who received scholarships, awards, and other academic prizes. This event also recognized the donors whose generous contributions support these awards.

The University of Maryland School of Medicine is fortunate to attract exceptional medical students, and those receiving honors and awards tonight are truly the best of the best," said **E. Albert Reece, MD, PhD, MBA**, Vice President for Medical Affairs, University of Maryland, and the John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine. "I would like to offer my heartfelt congratulations to our extraordinary students who seized the opportunity to be part of this great SOM, and who have worked not only diligently, but also in the pursuit of excellence towards their medical degrees. Your dedication to excellence and your commitment to stand out from your peers have brought us together to celebrate this evening with you."

The awards ceremony honored students across a variety of medical disciplines who have demonstrated high academic achievement, humanism, and professionalism during their time at the School of Medicine. Awards were presented from nearly every School of Medicine department, with many of the awards named in honor of influential department founders, former chairs or faculty members, or in recognition of donors who made generous personal gifts to establish an award or prize. "Our donors have made countless contributions to the lives and future careers of our students," said Dean Reece. "Your philanthropy has had a measurable and a tangible impact, and makes it possible for us to educate tomorrow's physicians, scientists, and allied health professionals. We deeply appreciate your incredible support."

Student speaker **Anna Dusenbery** was the recipient of the Balder Scholarship Award for Academic Achievement, which recognizes the student with the highest academic scores across all four years of medical school. She thanked all who supported her during her medical school journey — her parents, the faculty, and especially her classmates. "I am honored to have gone through this process with you from day 1. We have come a long way together," she told them. Anna is headed off for a residency in Pathology at the University of Virginia. "As I go through my residency, I know I will continue to rely on the incredible education that I have received here."

In addition to students receiving recognition at the ceremony, two faculty members were inducted as fellows into the Carolyn J. Pass, MD '66 and Richard M. Susel, MD '66 Academy of Educational Excellence, which

awards faculty members who demonstrate excellence in both patient care and classroom instruction. This year's honorees were **Erin Giudice, MD**, Associate Professor, Department of Pediatrics, and Director of the Pediatric Residency program, and **Joseph Martinez, MD**, Associate Professor, Department of Emergency Medicine, as well as Assistant Dean for Student Affairs, Assistant Dean for Clinical Medical Education and Residency Programs Liaison. Faculty members inducted into the Academy are recognized on a plaque located inside the Pass and Susel Medical Education Facility in Howard Hall, and receive special pins to signify their membership into the Academy.

Drs. Pass and Susel established an additional award in 2015, The Medical Education Tool Chest, which rewards faculty members who introduce novel curriculum changes and provides funding for projects designed to augment medical student education. This year's recipient was **Neda Frayha, MD**, Clinical Assistant Professor, Department of Medicine, and Assistant Dean, Office of Student Affairs.

Also, for the fourth year running, the Pass and Susel Academy inducted a medical student. This year, **Ekjyot Gill, MS-IV**, was honored as the Student Teaching Fellow.



Graduation at the Hippodrome WAS QUITE THE SHOW



our graduating students, the dream of becoming a physician and/or a scientist would not have been realized without you. Your prayers, your encouragement, your support, your love and compassion have contributed to this momentous occasion for these students today."

Michael Cryor, President of the Cryor Group and Chair of the School of Medicine Board of Visitors, added "To you, our deserving graduates and your exceedingly proud family and friends, I extend heartfelt congratulations on behalf of the Board of Visitors. You, graduates, are a very large part of what gives our work meaning and purpose. Your discipline, your patience, your perseverance — these strengths of yours have brought you to this point today, as you are poised to embark on an exciting new journey. It will be a journey of healing, of discovering, of teaching, and of still learning, which you will combine to make a difference in the world as the next generation of physician-scientists."

Gina Kolata, MS, a senior writer at *The New York Times* who reports on science and medicine, was chosen as their keynote speaker. In her speech, she shared stories from patients and doctors whom she has interviewed, as a way of enlightening the new doctors about how patients want their doctors to be and how doctors need to step back every now and again and look at things from a patient's point of view. Ms. Kolata, who has twice been nominated for the Pulitzer Prize for her science writing, was also presented with the Dean's Distinguished Gold Medal, which is awarded to individuals who have made high-impact contributions to medicine, science or society, whether in clinical

care, education, biomedical research or community service and who have significantly improved the health and well-being of humankind.

The medical students have spent 1,367 days on this journey to becoming a doctor, as **David Hanna** noted in his speech accepting the Faculty Gold Medal for Outstanding Qualifications for the Practice of Medicine. This medal honors graduates with outstanding scholarly accomplishments and those qualities of humanity and dedication most desirable in a physician. "We all made it together," he said to cheers from the crowd. "And when I say we, I don't mean just us students. This day is just as much about all of you as it is about us."

While excitement was high today, Dean Reece reminded the students that the profession they are entering is not always an easy one. "The oath and commitment you make today to the ethical care of others is life-long. Your unfolding career is a marathon, not a sprint," he said. Faculty speaker **Philip Dittmar, MD, FACP, FHM**, Assistant Professor, Department of Medicine cautioned the graduates about letting the challenges get the best of them during this long run. "There will be amazing days during internship, but there will also be terrible days," he admitted. "Please know that your shift will end, the sun will rise, your relief will soon arrive, as the clock does not stop. Know that you are not alone. All of you will experience these bad days, as have those who have gone before you. You are not alone. You have back-up and you have friends. Reach out to your peers — they will lift you up, and you must do the same. Help each other through the hard times. Send a quick text or make a quick call. These momentary lifts will help you through, as the clock does not stop."

The pressure of that clock means sometimes things go wrong. "Although great opportunities do await you, it is not guaranteed that you will always achieve success," said Dean Reece. "Love for your profession will allow you to ride the waves of doubt, the waves of obstruction, and the waves of difficult challenges that will surely present themselves. This is one profession where the difference between love of your work and apathy can, in reality, be the difference between life and death for those whom you serve. So embrace it with passion and thus continue to grow in your service to others."

INTERNATIONALLY RENOWNED BREAST CANCER RESEARCHER

ANGELA HARTLEY BRODIE, PhD

Professor Emeritus in the Department of Pharmacology at SOM, and an internationally recognized scientist whose groundbreaking cancer research is considered among the greatest advances in treating breast cancer, passed away on June 7 of complications from Parkinson's disease at her home in Fulton, MD. She was 82.

Dr. Brodie's research revolutionized the treatment of hormone-dependent breast cancer worldwide. She pioneered the development of aromatase inhibitors, which have become front-line drugs in treating estrogen-driven breast cancer, the most common form of breast cancer in postmenopausal women. Her work developing aromatase inhibitors was a paradigm-shifting effort that began in the 1970s and was designed to reduce the level of the estrogen in the body and thereby block the growth of cancer cells. Aromatase is an enzyme that plays a key role in the biosynthesis of estrogen, which fuels the growth of cancer cells.

"Dr. Angela Brodie's impact on the treatment of breast cancer has been unparalleled. It is because of her work that a disease that was once almost a certain death sentence can now, for many, be successfully treated and managed," said **E. Albert Reece, MD, PhD, MBA**, Vice President for Medical Affairs at the University of Maryland and the John Z. and Akiko K. Bowers Distinguished Professor and Dean of the University of Maryland School of Medicine. "She never gave up on her vision of finding a new treatment with fewer side effects, and many women around the world have benefitted from her perseverance."

Dr. Brodie's research spanned decades and built upon her initial discoveries to create more powerful and specific aromatase inhibitors. "Dr. Brodie's pioneering research is equal to the greatest advances in treating breast cancer in the last 150 years," said **Kevin J. Cullen, MD**, the Marlene and Stewart Greenebaum Distinguished Professor of Oncology at the University of Maryland School of Medicine and director of the University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center.

"Despite the incredible impact of her science, Angela was perhaps the most generous and unassuming scientist I have ever known. She was extraordinarily humble about her achieve-

ments and never sought attention for what she accomplished. She mentored dozens of students and junior faculty over the years and so the impact of her work will live on for years to come," Dr. Cullen said.

Dr. Brodie began investigating compounds to inhibit aromatase while at the Worcester Foundation for Experimental Biology in Shrewsbury, Mass., initially working in a laboratory with her husband, Harry Brodie, PhD, a chemist who synthesized the first selective inhibitors in the early 1970s, including a potent compound called 4-hydroxyandrostenedione (4-OHA). She continued her research with 4-OHA after coming to SOM in 1979, spearheading its development through clinical trials into a treatment for breast cancer. Released as Formestane for worldwide use in 1994, it was the first new agent in a decade specifically designed to treat breast cancer.

Early on, few other scientists gave her research much credence. Dr. Brodie's first paper reporting the laboratory success of aromatase inhibitors at reducing estrogen levels was rejected because "they thought the finding was too obvious," Dr. Brodie recalled. She tried to interest pharmaceutical companies, but many thought her work was unnecessary and that chemotherapy was the answer. It was only through her persistence that her experimental compound ever made it to clinical trial. She ended up making small batches of the aromatase inhibitor in her laboratory at SOM and shipping it to the Royal Marsden Hospital in London where it was given to 11 women with advanced breast cancer as part of a clinical trial.

Among her many awards are the prestigious Charles F. Kettering Prize from the General Motors Cancer Research Awards in 2005. Dr. Brodie was the first woman to receive the Kettering Prize, given for the most outstanding recent contribution to the diagnosis or treatment of cancer.

Dr. Brodie's distinguished career at the University of Maryland School of Medicine spanned 37 years until her retirement in 2016. She was a professor of pharmacology at SOM and a researcher in the Hormone Responsive Cancers Program at the University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center.

"Dr. Brodie's work with aromatase inhibitors has saved the lives of thousands of women worldwide."

- Dr. Kevin Cullen

The School of Medicine is establishing an endowed professorship in honor of Dr. Brodie's scientific achievements: **The Drs. Angela and Harry Brodie Distinguished Professorship in Translational Cancer Research.**

SOMspirit



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Wed 9am - 4pm
Thu 9am - 4pm
Fri 9am - 4pm
Sat&Sun CLOSED

Gifts, Apparel, Accessories and much more.

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Baltimore, MD 21201**

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