


THE PHILANTHROPIST



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By investing in our talented physicians, scientists, students, and trainees at Northwestern University Feinberg School of Medicine, you are supporting the people who ultimately make a difference in the lives of patients and families in Chicago and across the globe. You are providing essential resources to investigators who are exploring new ideas, testing novel therapies, and translating findings to help people suffering from neurodegenerative diseases, cancers, and other challenging health conditions. You are also making it possible for bright and ambitious students to pursue their dreams of becoming physicians and scientists. Your gifts truly push forward our mission to impact the practice of medicine through discovery and education. Thank you for so generously partnering with us to improve human health.



For Hughes Family, All Eyes on Glaucoma Research

For many, glaucoma is an alarming diagnosis associated with a risk of eventual blindness.

Glaucoma is a group of eye diseases that causes vision loss for which there is no cure. It is preventable and treatable through the lowering of eye pressure, but doctors do not yet have a way to recover the vision that has been lost due to the disease.

When Martin “Marty” Hughes was diagnosed with glaucoma by his longtime optometrist in 2006, he said, “I’m out of here.” He called Northwestern, where Angelo P. Tanna, MD, vice chair, professor, and director of the Glaucoma Service in the Department of Ophthalmology at Northwestern University Feinberg School of Medicine, assumed his care.

Dr. Tanna confirmed Mr. Hughes’s glaucoma diagnosis and started him on a treatment regimen to lower the pressure in his eyes. Eye drop medications helped, yet even with multiple medications, Mr. Hughes’s eye pressure did not drop enough to completely stop the deterioration of his vision in his right eye. Dr. Tanna recommended a surgery called trabeculectomy. At the time, Dr. Tanna was the principal investigator of a clinical trial studying a novel method for preventing excessive scar formation that can be a barrier to long-term success of the surgery.

The two had developed a rapport, and Mr. Hughes decided to participate in the clinical trial. The surgery was a success, and his vision stabilized. A few years later, he underwent the same surgery in his left eye. Now, 18 years after his original diagnosis, his eye pressures are well controlled, he does not use any eye drops, and he only needs to check in with Dr. Tanna a few times a year.

“My vision is like 20/25 without glasses. I don’t have to wear contacts anymore thanks to the surgeries,” Mr. Hughes said.

More than 3 million Americans have glaucoma, and as the population ages, that number is expected to rise to 4 million by 2030. Dr. Tanna is researching the efficacy and safety of glaucoma medications, novel methods to prevent the formation of excessive scar tissue after glaucoma surgery, and the assessment of visual function in glaucoma. His findings have been instrumental, affecting the evaluation and treatment of patients with glaucoma everywhere.

In 2023, Mr. Hughes and his wife, Julia, made generous donations in support of Dr. Tanna’s research, after attending a seminar. They were moved by the opportunity to support something that would potentially affect their children and grandchildren, he said. The Hughes had lost their 12-year-old son in a tragic bicycling accident and donated his eyes to The Chicago Lighthouse, an organization that helps the blind and visually impaired.

“We kind of had an affection for that type of thing,” Mr. Hughes said. “So as we sat through Angelo’s presentation, I said to Julia, you know, we should support this. We should support what he’s doing.”

The Hughes are members of the Lifetime Giving Society within The Founders Society, as well as the Northwestern University Leadership Circle. Their giving has made a significant impact on Dr. Tanna’s research in the Department of Ophthalmology.

“This remarkable connection, between the Hughes family’s generosity and a uniquely talented physician-scientist who consistently moves from his observations as a clinician and surgeon to ask and answer questions in both the laboratory and with clinical studies, has ultimately resulted in several critical discoveries,” said Nicholas J. Volpe, MD, chair of the department and the George W. and Edwina S. Tarry Professor.

“The Hughes’ support has made it possible to explore many investigative pathways simultaneously, and this has proven to be very rewarding, with findings that directly impact how we care for patients today..”

— Dr. Angelo Tanna



Julia and Marty Hughes

Innovations in Ophthalmology

The Hughes family joins a rich legacy of philanthropic commitment to the Department of Ophthalmology as it distinguishes itself as a powerhouse for eye care and research.

Scientists within the department are transforming how physicians diagnose and treat glaucoma and many other afflictions of the eye, including age-related macular degeneration, diabetic retinopathy, ocular inflammation, corneal blindness, and optic nerve disorders. The department's collective expertise and position within the broader University and Northwestern Medicine community have generated momentum toward the establishment of an institute dedicated to these endeavors.

Additionally, new technologies such as artificial intelligence (AI) have opened new avenues for exploration within the department. In January, Dr. Tanna and his colleagues published a paper in the *Journal of Glaucoma* on the use of deep learning to predict and detect concurrent visual field progression based on imaging of the macula. Manjot K. Gill, MD, professor of Ophthalmology and Medical Education, is collaborating with Sadiya S. Khan, MD, MSc, the Magerstadt Professor of Cardiovascular Epidemiology, to examine connections between the retina and the heart. Other recent studies show promise in using AI to detect Alzheimer's disease, renal function, and autism.

Many of these advances would not be possible without philanthropy, which enables scientists to collaborate and investigate innovative ideas, access cutting-edge technologies in biomedicine and retinal imaging, and lead and participate in clinical trials. Such is the case for Dr. Tanna's glaucoma research.

"Having the time, the team, and the access to resources to make these important discoveries would not be possible without the Hughes' support," Dr. Volpe said.

For more information about supporting the Department of Ophthalmology, please contact [Jordan Sund](mailto:jordan.sund@northwestern.edu) at jordan.sund@northwestern.edu or 312-503-2706.



Dr. Angelo Tanna

AI IN GLAUCOMA

Dr. Tanna's research uses AI-based strategies to identify patients who are at highest risk for vision loss due to glaucoma and has yielded critical discoveries in the lab to improve surgical treatments.

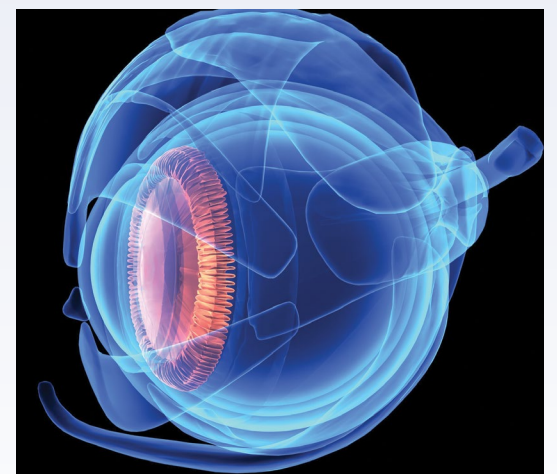
"This disease affects the quality of life for millions of Americans," Dr. Tanna said. "Our goal is to uncover and refine the most effective strategies to treat glaucoma in its early and late stages."

His team is developing new techniques and evaluating existing treatments to better understand their utility. One new treatment involves the use of a hydrogel polymer to prevent scarring after trabeculectomy—a surgery to lower eye pressure by creating a new pathway for fluid to exit the eye in patients with advanced or recalcitrant glaucoma.

He is also studying approaches to improve the outcomes of glaucoma drainage device surgery or tube shunt surgery. His team has studied the optimization of the adjunctive use of existing glaucoma medications after surgery.

Private philanthropic funding has supported two Research Intensive Scholarly Emphasis (RISE) students, Dr. Tanna's research fellows, and biostatisticians who work in the Biostatistics Collaboration Center.

"The Hughes' support has made it possible to explore many investigative pathways simultaneously, and this has proven to be very rewarding, with findings that directly impact how we care for patients today," Dr. Tanna said. "I have come to know Marty and Julie well over the years, and I am so fortunate to have met such compassionate people who are so enthusiastic about improving eye care for all."



EMPATHY IN ACTION:

Tross Family Boosts Progressive Aphasia Research



Beth and Nathan Tross

For Beth and Nathan Tross, philanthropy supporting neurological disorders such as primary progressive aphasia research is personal.

Beth Tross, a former Montessori preschool teacher in Highland Park, Illinois, was diagnosed with primary progressive aphasia, or PPA, in 2019. The news was devastating; PPA is a rare dementia syndrome that affects a person's command of language. People with PPA may experience difficulties with word finding, word usage, word order, word comprehension, or spelling. Mrs. Tross already had a long history with epilepsy, which she was diagnosed with as a teenager.

"It's extraordinarily frustrating," said her husband, Nate. "When she's doing speech therapy, you know, she might know what the animal [on a flashcard] is, but she can't say what it is."



Dr. Borna Bonakdarpour

The Trosses have long supported philanthropic efforts to study epilepsy, especially in children, at their alma mater, the University of Iowa. But in the years since Beth came under the care of Borna Bonakdarpour, MD, at the Mesulam

Center for Cognitive Neurology and Alzheimer's Disease at Northwestern University Feinberg School of Medicine, they have included Dr. Bonakdarpour's aphasia research in their philanthropic portfolio.

"He's terrific," Mr. Tross said of Dr. Bonakdarpour. "He is willing to cast a wide net across other branches of neurology and disciplines to help the patient. He is very empathetic, very understanding, very encouraging, and always very positive. He's the whole package."

The Trosses' giving has earned them membership in The Founders Society at the medical school and the Northwestern University Leadership Circle.

New Applications for Brain Stimulation

Dr. Bonakdarpour, who is an associate professor of Neurology (Behavioral Neurology), is spearheading a pilot project studying the effects of transcranial direct current stimulation, or tDCS, on progressive language impairment. The study combines state-of-the-art speech therapies for word retrieval and grammar disorders with high definition tDCS.

TDCS is a non-invasive brain stimulation technique in which electrode pads are attached to a patient's scalp and a low-level current, usually 2–4 milliamperes, is dispensed in order to activate brain cells in a target region. Historically, the technique has been used to treat patients with neurological disorders including epilepsy, Parkinson's disease, and multiple sclerosis, and has only begun to be explored as a treatment for progressive language disorders in recent years.

The seed funding provided by the Trosses enabled a group of investigators including neuroscientists, speech pathologists, and a biomedical engineer to launch the study in a matter of months,

Dr. Bonakdarpour said. Without their support, it might have taken much longer to get off the ground.

"The synergy between the Tross family and our enthusiastic team of researchers worked wonderfully," he said. "Results from our preliminary data will enable us to prove the feasibility of this approach and to apply for larger grants to be able to help individuals with PPA."

Mr. Tross said he hopes the study will lead to better outcomes for future patients.

"If there is funding that's needed to advance the knowledge or to move the ball, even an inch, to help figure out how to help the patient suffering from aphasia, we're willing to do it in whatever means we can," he said.

The scientists are optimistic about outcomes from the project, as they expect to see improvement in word retrieval and sentence production that is greater in the group who receive the tDCS, Dr. Bonakdarpour said. They also expect to see underlying language network reorganization as measured by functional MRI.

"Beth and Nate's support of this pilot project enables us to study a truly novel method of treating aphasia," Dr. Bonakdarpour said. "These are exciting times for PPA research, and it couldn't be done without generous philanthropy from donors like the Trosses."

For more information about supporting these efforts, please contact [Jordan Sund](mailto:jordan.sund@northwestern.edu) at jordan.sund@northwestern.edu or 312-503-2706.



Chan Zuckerberg Biohub Chicago research lab

A NEW ERA OF INFLAMMATION RESEARCH

Chan Zuckerberg Biohub Chicago Opens Its Labs

The Chan Zuckerberg Biohub Chicago, a new biomedical research lab uniting investigators across top universities to study inflammation and the immune system, officially began operating out of its new space in Fulton Market in January.

The hub will be funded with \$250 million over a decade from the Chan Zuckerberg Initiative (CZI), with an additional \$25 million committed by the State of Illinois. It is part of a national network of sites established by CZI, the philanthropic foundation set up by Facebook (now Meta) founder Mark Zuckerberg and his wife, Priscilla Chan. CZI announced its plans for the Chicago hub in March 2023.

At the helm of CZ Biohub Chicago's efforts is Shana Kelley, PhD. Dr. Kelley is the Neena B. Schwartz Professor of Biochemistry and Molecular Genetics at Feinberg and of Chemistry and Biomedical Engineering at the McCormick School of Engineering.

The hub unites scientists from Illinois's top research institutions — the University of Chicago, the University of Illinois Urbana-Champaign, and Northwestern University. It includes state-of-the-art laboratories, meeting spaces, faculty-in-residence, a biofoundry, and other sophisticated instrumentation. The goal is to enable cross-collaboration and innovation among the region's best investigators to better understand inflammation within the body, leading to new treatments and prevention strategies for inflammatory conditions and diseases.



Dr. Shana Kelley

"The scientific challenge we're exploring — to develop new tools to better measure tissues and gain insights into inflammation — has large engineering challenges to surmount, and is wildly, but not impossibly, ambitious — and can only be solved by interdisciplinary collaboration," Dr. Kelley told *Northwestern Medicine Magazine* in September 2023.



Patient's Gift Supports Precision Medicine and Ataxia Research

Precision or “personalized” medicine can sound a lot like science fiction. In the Ken & Ruth Davee Department of Neurology at Northwestern University Feinberg School of Medicine, scientists can grow neurons from skin cells obtained from a patient and directly test the mechanisms of disease, as well as potential treatments, on these patient-specific neurons.



Steven Denning

Steven Denning, a prominent businessman and philanthropist of Greenwich, Connecticut, was referred to neurologist Dimitri Krainc, MD, PhD, the Aaron Montgomery Ward Professor and chair of the department, for his symptoms in 2021. With help from Dr. Krainc’s state-of-the-art lab capabilities and clinical and research specialists, he was diagnosed with CANVAS, a recently identified condition characterized by cerebellar ataxia and neuropathy. Knowing the diagnosis,

which was informed by genetics, Dr. Krainc and his associates were able to design a plan for the development of potential treatments.

The word “ataxia” means lack of coordination. People with ataxia have problems with balance and coordination when they move, and it emerges as a symptom caused by different diseases. The condition can also affect speech.

As a patient, Mr. Denning was impressed with the precision medicine techniques developed in Dr. Krainc’s lab. In September 2023, he and his wife, Roberta, donated generously to help strengthen and sustain Dr. Krainc’s program. The department also plans to establish the Denning Ataxia Center, capitalizing on the infrastructure already available within the department and the clinic’s designation last year as an Ataxia Center of Excellence.

“My ultimate hope is that [Dr. Krainc] and his team studying CANVAS can come up with a therapeutic to address the balance issues that are prevalent in the diagnosis,” Mr. Denning said.



Dr. Dimitri Krainc

A New Era for Therapeutics

Scientists at Northwestern aim to bring precision medicine into the mainstream — all under one roof.

Dr. Krainc leads the Simpson Querrey Center for Neurogenetics, which comprises a network of colleagues across the medical school, health system, and University. The center promotes integrated

and multidisciplinary approaches to biobanking, genetic testing, studies of disease mechanisms, drug discovery, and clinical trials—the core tenets of its mission. It has distinguished itself from similar initiatives by providing a centralized and coordinated program that brings together clinicians and researchers in an effort to tackle the most pressing challenges in neurology.

“The unique angle of our program is how we strategically recruited experts from different areas of science and medicine to develop all components of precision medicine in a coordinated manner,” Dr. Krainc said.

To provide personalized medicine for a patient with a neurological disease, neurologists first obtain information about the patient’s genetics and clinical features, then conduct a skin biopsy. In the lab, the patient’s skin cells are reprogrammed into stem cells that are then differentiated into neurons. Scientists study such neurons to decipher mechanisms of disease that are unique to the patient and, ultimately, test potential treatments.

Mr. Denning led an active life prior to the onset of his CANVAS symptoms, co-founding and serving as chairman of General Atlantic LLC, a global private equity firm, and as board chairman at Stanford University, in addition to other nonprofit board service. His ataxia symptoms affected his ability to do activities he once enjoyed, such as running, hiking, and skiing. He said he appreciated Dr. Krainc’s bedside manner and realistic but warm approach.

“His approach is one that leaves me with great hope for eventual treatment, which is important in coping with a disease that can take away hope,” Mr. Denning said.

For more information about supporting the Ken & Ruth Davee Department of Neurology, please contact **Andrew Christopherson** at andrew.christopherson@northwestern.edu or **312-503-3080**.

A Daughter's Tribute: Foundation Donation Empowers Basic Science Research in Pathology



In 2018, two paths crossed that would result in a heartfelt partnership supporting vital basic science and pathology at Northwestern University Feinberg School of Medicine.

Linda Tate, steward of the Mary Jane McMillen Crowe Foundation, had found herself surrounded by friends and family members with cancer diagnoses, and she wanted to do what she could to try to stem that tide. She was also cognizant of her mother's lifelong desire to do good — and sought to honor her, Mary Jane McMillen Crowe '33, through philanthropy.



Mary Jane McMillen Crowe



Dr. Daniel Brat

Meanwhile, Daniel J. Brat, MD, PhD, was just beginning his tenure at Northwestern as chair of the Department of Pathology and Magerstadt Professor of Pathology. He had spent 18 years on faculty in the Department of Pathology and Laboratory Medicine at Emory University and was acclimating to his new role.

Mrs. Tate called Dr. Brat just a few months into his tenure, explained her devastation over her friends' cancer diagnoses, and asked how she could help.

"I was so touched by this. You know, departments of pathology rarely receive philanthropic funds from donors," Dr. Brat said. "We are behind-the-scenes physicians and scientists — we don't have much direct interaction with patients. So, just the fact that she was reaching out at all was a significant event."

Mrs. Tate was plugged into Northwestern before she could walk. Her mother, Mrs. McMillen Crowe, graduated from Weinberg College of Arts and Sciences in 1933, spent decades as an active alumna and donor, and served as a Life Trustee of the University until her death in 1997. In 2003, Northwestern completed construction on the Mary Jane McMillen Crowe Hall on the Evanston campus, enshrining her legacy at Weinberg and the University.

Mrs. McMillen Crowe was determined to do her part to give back to her community, Mrs. Tate said. A diary entry of Mrs. McMillen Crowe's from March 1938 quotes Etienne de Grellet, a 19th-century missionary: "I expect to pass this way but once. Therefore, if there is any kindness, or any good I can do for any human being, let me do it now, for I shall not pass this way again."

Mrs. Tate assumed leadership of her mother's foundation in the early 1990s. She said she has been mindful over the years of causes she believes her mother would have wanted to support, and she keeps coming back to Northwestern.

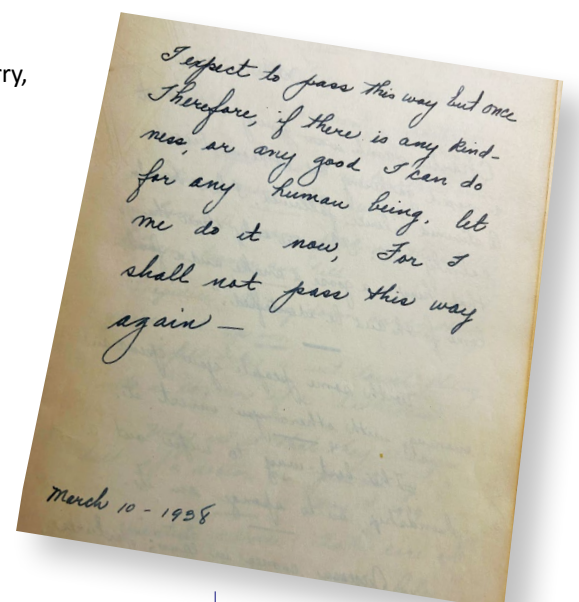
"This school meant so much to her," she said. "I always used to call it her third child."

Over the years since they first connected with Dr. Brat, Mrs. Tate and her husband, Larry, have given generously to support the purchase of top-of-the-line lab equipment that has aided in novel pathology research. Through her giving, Mrs. Tate is a member of the Lifetime Giving Society within The Founders Society, as well as the Northwestern University Leadership Circle.

In January 2024, the Tates finally met Dr. Brat in person. They drove to Chicago from their home in Carmel, Indiana, and once on the medical school campus, toured the Pathology labs housing the equipment they had helped purchase and met the scientists benefiting from their generosity.

"It almost made me cry when we went up to meet [Dr. Brat]," Mrs. Tate said. "He spent the day with us, showing us around all the things that the University has to offer and what our money had helped them buy."

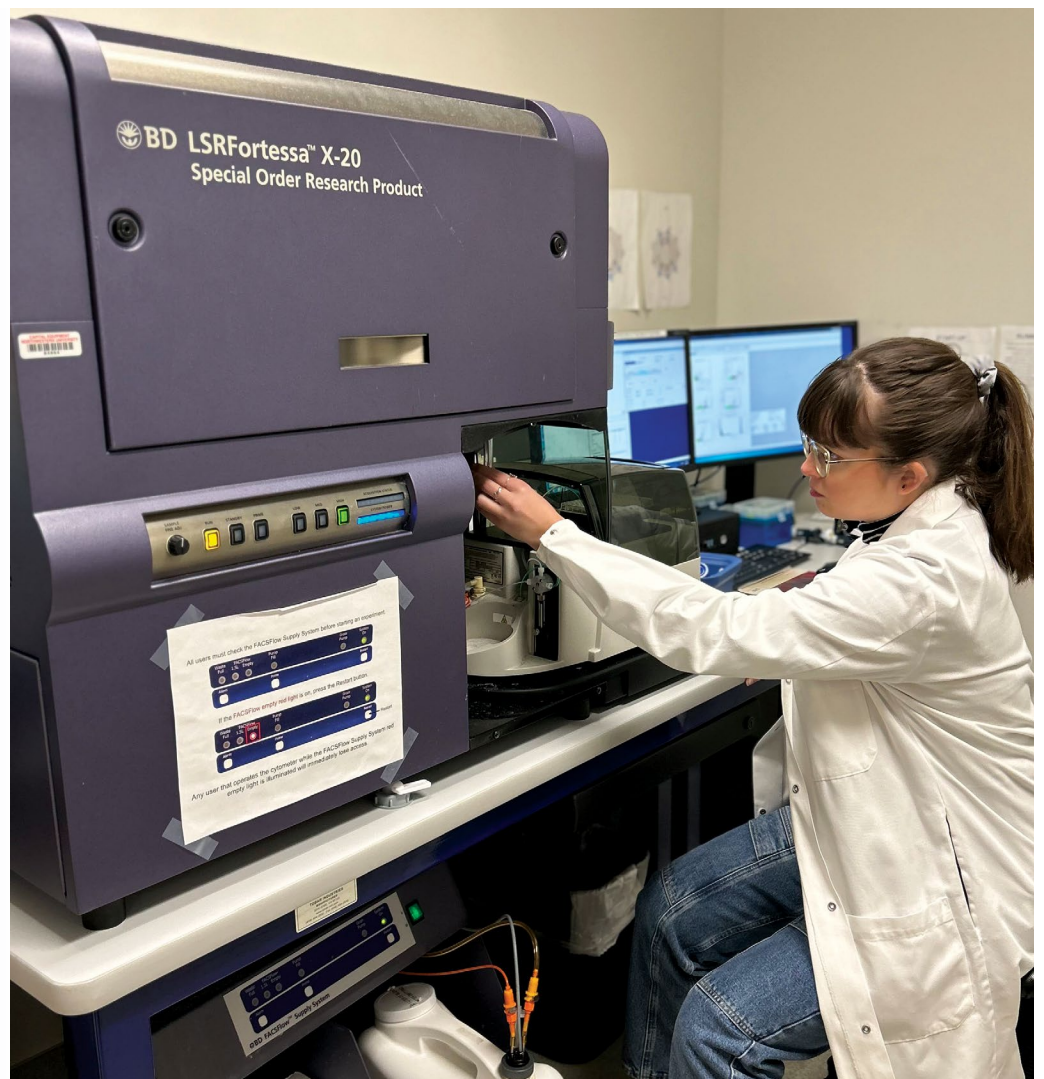
Thanks to the Tates, the department has been able to purchase, among other instruments, a multi-laser, multicolor flow cytometer, a whole slide scanner, and a MERSCOPE.



Diary entry from
Mrs. McMillen Crowe

“These instruments are used from day to night every single day and help us advance our science, publish in great journals, and get grant support.”

— Dr. Daniel Brat



Maureen Haynes, a PhD candidate in the Driskill Graduate Program in Life Sciences, uses the flow cytometer for her immunopathology research.

In 2023, the Tates supported the department’s purchase of the MERSCOPE. This device provides single-cell and spatial transcriptomic analysis—imaging technology through which investigators can study gene expression within a certain cell population, such as immune cells, vascular cells, or tumor cells. This information is extremely helpful to pathologists who aim to understand disease states at the cellular and molecular levels.

The MERSCOPE is still undergoing setup within the department, but the other equipment purchased by the Tates has already seen heavy use.

“These instruments are used from day to night every single day and help us advance our science, publish in great journals, and get grant support,” Dr. Brat said. “We are very grateful for the Tates’ trust in allowing us to choose what instruments we think would benefit us the most and supporting their requisition.”

Larry Tate, MD, a retired forensic pathologist, said the dedication to research within the department was palpable.

“We could see the excitement in their eyes for the fact that they had these instruments to carry on the kind of cutting-edge research that they’re doing, especially in areas of brain tumors,” Dr. Tate said. “Basic research often just doesn’t get the kind of support that it needs.”

For more information about supporting the Department of Pathology, please contact [David G. McCreery](mailto:david.mccreery@northwestern.edu) at david.mccreery@northwestern.edu or 312-503-6099.

UPCOMING EVENTS

36th Annual Hope Through Caring Gala, Les Turner ALS Foundation

April 13, Radisson Blu Aqua Hotel, Chicago
Info: **Andrew Christopherson** at 312-503-3080, andrew.christopherson@northwestern.edu

Alumni Weekend 2024

April 18–20, Northwestern University Feinberg School of Medicine
Info: **Babette Henderson** at 312-503-0855, babette.henderson@northwestern.edu

Commitment to Scholarships Luncheon

April 20, The Peninsula Chicago
Info: **Olympia Asimacopoulos** at 312-503-0754, olympia1@northwestern.edu

The Founders Society Cocktail Reception

April 20, The Arts Club of Chicago
Info: **Sarah Kalsbeek** at 312-503-3459, s-kalsbeek@northwestern.edu

Lou and Jean Malnati Brain Tumor Institute Minds Matter Gala

May 10, Hilton Hotel, Chicago
Info: **Ashley Lough** at 312-503-0759, ashley.lough@northwestern.edu

Day 1 Survivors’ Grand Garden Party & Bocce Tourney for Cancer Care

June 1, Wilmette Harbor Club
Info: **Ashley Lough** at 312-503-0759, ashley.lough@northwestern.edu

Lurie Cancer Center’s 31st Annual Cancer Survivors’ Walk & 5K

June 2, Grant Park, Chicago
Info: **Nicole Langert** at 312-503-1656, nicole.langert@northwestern.edu

Summit for Advancing Equity in Food Allergy

June 30, Simpson-Querrey Biomedical Research Building, Chicago
Info: **MaryPat Mauro** at 312-503-1090, marypat.mauro@northwestern.edu

H Foundation 22nd Annual Goombay Bash

July 27, AON Grand Ballroom, Navy Pier
Info: **Nicole Langert** at 312-503-1656, nicole.langert@northwestern.edu

17th Annual Robert J. Havey, MD Institute for Global Health Benefit Dinner

September 25, The Peninsula Chicago
Info: **Jenn Burke** at 312-503-4635, jennifer.burke@northwestern.edu

Dermatologist's Journey Inspires Generous Scholarship Support



Dr. Ting (back, middle), his wife, Flora (second from right), and their children, Wilson, Hope, and Patrick

Feinberg School of Medicine's
Scholarship Endowment:

\$251.2 million

Medical Students Receiving
Scholarship Assistance:

66%

*Thanks to thousands of donors who
have made outright and estate gifts.**

*Numbers valid as of March 2024



Dr. Will Ting

For Will Ting, '99 MD, '99 MBA, a first-generation immigrant, the cost of tuition and available financial aid were key factors in his school choice.

Now, as a successful dermatologist in charge of his own practice in San Ramon, California, Dr. Ting is an ardent supporter of scholarships and medical education programs at his medical alma mater, Northwestern University Feinberg School of Medicine.

Will Ting was 12 when his parents emigrated from Taiwan to the San Francisco Bay Area in California, where he and his family found themselves up against language and financial barriers. He attended the University of California, Berkeley, on scholarship, and earned his bachelor's degree in electrical engineering and computer science.

"We came to this city with two luggage bags and a dream," he said of his family's immigration to the United States.

He took this ambitious spirit to Northwestern University, where he graduated from the dual MD/MBA program in 1999. He went on to complete his dermatology residency at the University of Iowa, then returned to the Bay Area, where he established his own practice. He credits Northwestern with positioning him for success.

"I owe most of what I have to the University, for giving me an opportunity to receive a top-notch medical education," Dr. Ting said. Now, he pays it forward.

Over the last decade, Dr. Ting and his wife, Flora, have donated substantially to scholarships for Feinberg students. The Tings have given generously to the Jack Snarr Scholarship, in recognition of the former dean for student programs from 1968–2004 and Dr. Ting's beloved former medical school mentor. In 2020, the Tings established the William W. Ting, MD and Flora H. Ting Scholarship, through which they support a medical student.

Dr. Ting said he wanted to be part of the movement to make medical school at Northwestern tuition-free.

"I don't want the expense of education to hold them back from attending Northwestern," he said. And, he added, "I think [free tuition] will allow us to recruit the best students in the country."

The Feinberg School of Medicine hopes to someday provide full tuition support to all of its medical students, which will require quadrupling the current endowment. Today, the Feinberg School of Medicine's scholarship endowment is \$251.2 million, with 66% of medical students receiving scholarship assistance thanks to thousands of donors who have made outright and estate gifts.

The Tings have also made gifts to support the Institute for AI in Medicine (I.AIM) and the Center for Medical Education in Digital Healthcare and Data Science. Both entities aim to establish the medical school as a leader in the development and use of new technologies such as wearable sensors, telemedicine, and interoperable health data.

"We have a number of students who are children of immigrant families and several who are first-generation college students," said Marianne Green, MD, the Raymond H. Curry, MD, Professor of Medical Education and vice dean for Education. "Will and Flora Ting are making a real difference for these and many other students who benefit from their generosity. It is a tremendous gift to take the pressure of financial concerns away from students who can then focus on the real work of becoming exceptional physicians, like Dr. Ting. Their giving is truly inspirational, and we are moved by stories like these that impact our students."

For more information about supporting scholarships, please contact **Larry Kuhn** at larry-kuhn@northwestern.edu or **312-503-1717**.

Fourth-Generation Orthotist Supports Scholars



UCLA orthotics course photo, 1973. Ms. Hittenberger (above) earned her orthotics certification after completing another orthotics course at Northwestern in 1975, becoming one of the first women ever to do so.

As a child, Tina Hittenberger, CO(E), spent many a summer evening with her family enjoying picnics in the C.H. Hittenberger Company prosthetics factory in San Francisco.

Herman Carl Hittenberger represented the third generation of Hittenbergers to work in the prosthetics and orthotics profession. When Tina and her brother, Drew, were born, it seemed fate that they would enter the profession, too.

“From the beginning, and almost every day thereafter, it was woven into the fabric of who we were,” Ms. Hittenberger said.

Sure enough, Tina and Drew went on to enroll in Northwestern’s intensive courses to prepare students for a successful career and to pass the rigorous American Board for Certification (ABC) exam. In 1975, after taking courses at Northwestern, Tina Hittenberger became one of the first women to become certified in orthotics.

When the siblings were looking for ways to honor the family legacy and continue to support the next generation of practitioners, they remembered their experiences at Northwestern. In November 2023, Ms. Hittenberger made an initial \$100,000

lead gift to establish the Hittenberger Legacy Fund Scholarship to support the Northwestern University Prosthetics-Orthotics Center (NUPOC). The first scholarship will be awarded in the 2024–25 school year.

“We are extremely grateful that Tina has chosen to support our center through her generous philanthropy,” said Elliot Roth, MD, the Paul B. Magnuson Professor of Rehabilitation Medicine and chair of the Department of Physical Medicine and Rehabilitation. “The field of orthotics and prosthetics needs bright, determined, and well-trained practitioners to help persons with disabilities, injuries, and other functional needs to thrive.”

Ms. Hittenberger said that, in addition to generating awareness of the growing number of women in the profession, she hopes the scholarship will help encourage others to support a new generation of practitioners.

A Family Calling

The C.H. Hittenberger Company was established in 1902 by Ms. Hittenberger’s grandfather, Carl Herman Hittenberger. His father, her great-grandfather, Herman Carl Hittenberger, was an immigrant who left Germany to begin a new life in the American West making saddles and trusses. He valued practical applications and innovation, so he sent his son back to Germany to acquire skills and learn a new trade: making custom-made devices to improve people’s lives.

Upon Carl Herman’s return to the United States, he perfected his techniques in Philadelphia then moved to California, where he and his new wife, Marie, established a business manufacturing modern prosthetics and orthotics. From their home, Marie sewed corsets, jackets tailored for polio patients, and spinal supports. Carl Herman Hittenberger became a pioneer in the field, inventing the first lightweight prosthesis from thin sheets of laminated wood, working closely with Veterans Affairs to provide contracted services to veterans, designing devices and setting up clinics for polio patients, and co-founding the American Orthotic and Prosthetic Association (AOPA).

Their son, who inherited his grandfather’s name, Herman Carl Hittenberger, contributed significantly to the field of rehabilitation medicine at the University of California, Berkeley and established many prosthetic and orthotic programs in universities in the US. As a respected practitioner, he worked closely with surgeons, hospitals, and the ABC to set standards and trained and certified many of today’s leading prosthetists and orthotists. His sister, Martha, was also an active participant in the company.

After majoring in sculpture in college, Tina Hittenberger pivoted back to prosthetics and orthotics. She was one of only a few women pursuing a career in orthotics in the 1970s.



Ms. Hittenberger and her brother, Drew Hittenberger, both of whom are fourth-generation prosthetists and orthotists.

“It was all men,” she said. “There was a kind of locker room vocabulary, bad jokes, pranks, and a definite ‘attitude,’ but I did learn to hold my own.”

Drew graduated, too, completing his clinical work at Rancho Los Amigos Hospital in Los Angeles. After receiving his CP certification, he was a lead researcher at Prosthetics Research Study in Seattle. He invented the Seattle Foot and received the U.S. Presidential Award for Design in 1985.

In her early years as an orthotist, Ms. Hittenberger worked with many post-polio, lower extremity, spinal injury, and patients with breast cancer. In the late 1970s, she obtained her pilot’s license, which she put to use as a member of Los Médicos Voladores, or The Flying Doctors, providing orthotics to patients in Sonora, Mexico. Later, in the early 2000s, she worked in Da Nang and Hanoi to set up clinics to help rehabilitate victims of land mines in Vietnam. Ms. Hittenberger served as an examiner for the ABC, chair of the Scientific Program for AOPA, presented scientific papers at regional, national, and international conferences, worked on the facility accreditation team, and was an editorial reviewer for the *Journal of Prosthetics and Orthotics*.

Each member of the Hittenberger family found their careers to be personally fulfilling and knew that, together, they had an impact on patients and practitioners around the world, Ms. Hittenberger said.



Ms. Hittenberger adjusts a knee-ankle-foot orthosis, or KAFO.

In July 2023, nearly 50 years after attending classes, Ms. Hittenberger visited NUPOC. She met with Dr. Roth, Steven A. Gard, PhD, director of NUPOC and an associate professor of Physical Medicine and Rehabilitation and McCormick School of Engineering, and other faculty members in the center.

“It was phenomenal,” Ms. Hittenberger said of NUPOC. “It is so state of the art and clearly has a vision for the future. The instructors are clearly masters of their craft, and the students are passionate.”

NUPOC is the largest and oldest accredited prosthetics and orthotics training institution in this hemisphere and consistently publishes research that is responsive to today’s advances in science, technology, and healthcare. No institution in the world has contributed more national leaders, more internationally recognized experts, more ABC-certified practitioners, or more new, clinically relevant knowledge to the field.

Dr. Roth said it was an honor to host such an accomplished graduate from the program.

“During her visit, Tina impressed our faculty and leadership with her personable nature, inquisitiveness, and commitment to the successful future of the orthotics and prosthetics profession,” he said. “Her generosity of spirit was matched by her genuine interest in the well-being of the students and her commitment to excellence in orthotics and prosthetics education.”

For more information about supporting the Northwestern University Prosthetics-Orthotics Center (NUPOC), please contact [Mary Kreller](mailto:mary.kreller@northwestern.edu) at mary.kreller@northwestern.edu or 312-503-0742.

Our Community in Action

On October 13 and 14, more than 400 alumni and guests returned to Northwestern University Feinberg School of Medicine for **Alumni Weekend 2023** to reconnect and reminisce with former classmates about their experiences at the medical school and learn about their alma mater's latest achievements. Please join us for Alumni Weekend 2024, April 18–20.



Alumni pose for a photo during Alumni Weekend 2023



Medical scholars (pictured) celebrated generous alumni and friends at a special Commitment to Scholarships luncheon on October 14 at the Ritz-Carlton, Chicago

On October 19, Northwestern cancer scientists and donors attended the **Lynn Sage Breast Cancer Foundation Fall Benefit 2023: An Evening of Collaboration for Breast Cancer Research** at the Theater on the Lake in Chicago. To date, the Lynn Sage Breast Cancer Foundation has raised more than \$40 million for breast cancer research and education. Its philanthropy helped establish the Lynn Sage Comprehensive Breast Center at Northwestern Memorial Hospital — today the largest program of its kind in the Midwest — and enables physicians and trainees from around the world to collaborate at the Lynn Sage Breast Cancer Symposium hosted by the Robert H. Lurie Comprehensive Cancer Center of Northwestern University.



Pictured left to right: Leon Platanias, MD, PhD, director of Lurie Cancer Center and Jesse, Sara, Andrew, Abigail, Benjamin and Elizabeth Lurie Professor of Oncology; Nicole Langert, director of major gifts at Feinberg; and William Gradishar, MD, chief of the Division of Hematology/Oncology in the Department of Medicine and Betsy Bramsen Professor of Breast Oncology

Sheri Whitko Photography

The **Harold E. Eisenberg Foundation Annual Dinner** convened November 7 at the Hilton Grand Ballroom in Chicago. Since its establishment in 1999, the Eisenberg Foundation has supported the work of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University and committed more than \$3.5 million to fund breakthrough GI oncology research.



The Eisenberg family

Alumni in Houston, Texas, and Boca Raton, Florida, recently attended panel discussions on brain health featuring leading experts from Northwestern University Feinberg School of Medicine. The **Frontiers of the Brain** events were held December 6 and February 4, respectively, as part of the Northwestern Alumni Association's A Night With Northwestern series.



Sachin Patel, MD, PhD, (middle) chair of the Department of Psychiatry and Behavioral Sciences and the Lizzie Gilman Professor of Psychiatry and Behavioral Sciences, in Houston. Alfred L. George, Jr., MD, (not pictured) chair of the Department of Pharmacology and the Alfred Newton Richards Professor of Pharmacology, co-led the event.



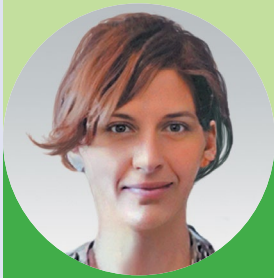
Boca Raton panelists (left to right) D. James Surmeier, PhD, chair of the Department of Neuroscience and the Nathan Smith Davis Professor of Neuroscience; Phyllis C. Zee, MD, PhD, '87 GME, '89 GME, director of the Center for Circadian and Sleep Medicine and the Virginia T. Boshes Professor of Neurology; Tamar D. Gefen '12 MS, '15 PhD, director of the Laboratory for Translational Neuropsychology; and moderator Stuart H. Isaacson '86, '88 MD, FAAN, director of the Parkinson's Disease and Movement Disorders Center of Boca Raton and an alum of Northwestern's Honors Program in Medical Education

INNOVATION SPOTLIGHT

Empowering Feinberg's Unsung Heroes

Each day, our faculty, students, and trainees at Feinberg dedicate time to innovative new ideas and programs that will move the needle in medicine and science. Here, we spotlight some of the exciting work that often happens behind the scenes and beyond daily clinical care.

Thank you to all of the donors who contribute to these efforts, now and in the future. Your philanthropy fuels these projects and programs—enabling their very existence and empowering them to grow for the benefit of patients today and tomorrow.



Dr. Daniela Grimaldi

Connecting Sleep, the Nervous System, and Aging

Daniela Grimaldi, MD, PhD, is a research associate professor in the Ken and Ruth Davee Department of Neurology and member of the Center for Circadian and Sleep Medicine. Dr. Grimaldi's research focuses on understanding the connection between sleep and the autonomic nervous system. Her main goal is to identify how the link between sleep and the autonomic nervous system impacts cardiometabolic and cognitive functions, including in the context of aging. Dr. Grimaldi and her team have learned of a physiological connection between noradrenergic activity—activity involving norepinephrine—during the day and homeostatic regulation of sleep: Sleep oscillations will slow in older adults, which can result in insomnia or insomnia-related cognitive impairment. These findings will help develop innovative therapeutics for older adults with insomnia, a population at risk for developing Alzheimer's disease and related dementias. Dr. Grimaldi's goal is to identify modifiable markers of autonomic-sleep-circadian regulation that can be targeted to improve cognition and cardiometabolic health.

For more information about supporting the efforts above, contact **Jordan Sund** at **312-503-2706** or jordan.sund@northwestern.edu.



Dr. William A. Muller

Limiting Post-Heart Attack Damage

William A. Muller, MD, PhD, the Janardan K. Reddy, MD Professor of Pathology, is on the cusp of dramatically decreasing the amount of heart damage that occurs as a result of a heart attack. Today, more than two million Americans receive "stents," a minimally invasive, lifesaving procedure, after suffering a heart attack. But by rapidly restoring blood flow, stents can sometimes cause a condition called "ischemia reperfusion injury" (IRI), which, paradoxically, increases the amount of heart muscle that dies and leads to future complications. Currently, we lack therapies to prevent IRI. However, Dr. Muller and his team have developed a drug that reduces IRI by 50% in the closed-chest porcine heart attack model. The success of these trials brings hope that this therapy will soon move to human trials. Dr. Muller's next step is to conduct more exacting pre-clinical trials for FDA approval. This work will require philanthropic support to bring it to fruition.

For more information about supporting the efforts above, contact **Kathleen Praznowski** at **312-503-0762** or kathleen.praznowski@northwestern.edu.



Dr. Damini Jawaheer

Improving Rheumatoid Arthritis During Pregnancy

Damini Jawaheer, PhD, research associate professor of Medicine in the Division of Rheumatology, is focused on investigating how pregnancy induces a natural improvement of rheumatoid arthritis (RA) and why a small proportion of women still worsen during pregnancy. For the first time, Dr. Jawaheer and her collaborators have identified genetic markers among women planning to become pregnant that could potentially predict whether they will improve or worsen during pregnancy. Since many women with RA are reluctant to take medications during pregnancy because they do not want to expose their unborn child to these medications, Dr. Jawaheer's research can, in the long term, enable these women to make informed decisions about whether to stop taking medications to plan their pregnancy. The research will also allow health professionals to focus treatment on those women whose RA will worsen during pregnancy. Dr. Jawaheer's ultimate goal is to uncover how pregnancy causes an incurable disease like RA to improve naturally without side effects, so that safer and more effective treatment for RA can be developed for all patients.

For more information about supporting the efforts above, contact **MaryPat Mauro** at **312-503-1090** or marypat.mauro@northwestern.edu.

420 East Superior Street
Arthur J. Rubloff Building, 9th Floor
Chicago, IL 60611

If you would like to receive future issues of this publication electronically, or if you would like more information about any of the stories in this issue, please email Lauren Robinson at lauren.robinson@northwestern.edu.

If you do not wish to receive fundraising materials from Northwestern University Feinberg School of Medicine, please call 312-503-0789.

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THE PHILANTHROPIST

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Cover photo: Students, faculty, trainees, and staff present scientific research posters and abstracts at the annual Lewis Landsberg Research Day in September 2023.

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