

# NEWS & VIEWS

The Newsletter of  
NYU Langone Health  
**WINTER 2018**

**MILESTONES**

## NYU Langone Health Begins New Chapter in Cardiac Care

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A decade ago, when Sofya Tokarev, 62, received treatment for an advanced form of cancer, she never imagined

PHOTO: TONY LUONG



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given Sofya Tokarev a new heart, and a new lease on life.

The operation, the first of three heart transplants NYU Langone performed in January, came less than one month after New York State's Department of Health granted approval for heart transplantation, and the 50th anniversary of the first human heart transplant. (In January, NYU Langone also received approval to perform lung transplants, appointing Zachary Kon, MD, formerly director of heart and lung transplantation at the University of Maryland Medical Center, as surgical director of its new Lung Transplant Program.)

"Transferring a patient to another institution for a transplant disrupts the continuity of care," says Aubrey Galloway, MD, the Seymour Cohn Professor of Cardiothoracic Surgery and chair of the

Department of Cardiothoracic Surgery. "We no longer need to do that."

NYU Langone's heart transplant program—a collaboration between its Transplant Institute, Department of Cardiothoracic Surgery, and Leon H. Charney Division of Cardiology—is the first such program approved in New York City in more than 15 years. To spearhead it, NYU Langone recruited Dr. Moazami from the Cleveland Clinic, where he led its heart transplant program, earning international recognition as a clinician and researcher (*see page 11*). "What makes this program special is that it's very comprehensive and multidisciplinary, yet very patient centered," explains Dr. Moazami, who has performed more than 300 heart transplants. "This is a life-changing proposition for patients, and the environment

we've created for them is a very caring one."

The demand for heart transplants has never been higher. More people are surviving heart attacks, placing them at higher risk for heart failure. An estimated 6.5 million Americans live with heart failure. Such patients at NYU Langone who are candidates for a heart transplant or a ventricular assist device (an implanted mechanical circulatory support pump) are evaluated by a team of cardiologists and other specialists led by Dr. Reyentovich. "As an institution with a premier Transplant Institute and several hospitals in the New York area, we can now provide the full spectrum of state-of-the-art care for a large population of patients with advanced heart disease," says Robert Montgomery, MD, DPhil, director of the Transplant Institute.

For NYU Langone, a successful transplantation program must not only deliver the highest quality of care, but also squarely address the critical shortage of donor organs, a crisis that is particularly acute in New York State. Only 28% of the state's residents are registered organ donors—the lowest rate in the country. While 161 heart transplants were performed in 2016 at the five existing transplant centers throughout the state, some 1,000 people died waiting for a donor heart to become available.

To earn state approval, NYU Langone developed a comprehensive strategy for increasing donation and transplantation rates. Among

its priorities is research to rehabilitate the hundreds of potential donor hearts rejected annually in the US due to diseases such as hepatitis C. "You can always find a reason to reject a marginal heart," says Dr. Moazami. "But the key is to accept as many hearts as possible because this is a truly lifesaving procedure. You win the confidence of patients by demonstrating that you're the best. We have everything in place to ensure that we are."

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NEW THERAPIES

# A Death Sentence Reversed

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**SEVERAL YEARS AGO**, when Arjun Balar, MD, would deliver a diagnosis of advanced bladder cancer to a typical patient—a man over the age of 70—the conversation was a grim one for doctor and patient alike. Dr. Balar, a medical oncologist at NYU Langone Health's Laura and Isaac Perlmutter Cancer Center, had to explain that if the cancer had traveled beyond the lining of the bladder, that organ and others nearby would need to be removed; that for cancer that had spread beyond the bladder, most older patients found the standard chemotherapy regimen intolerable; and that the less potent alternative would extend life by only 10 months or so. "The patient would be devastated," recalls Dr. Balar.

But earlier this year, despair gave way to hope. Two ongoing international clinical trials led by Dr. Balar, director of the Genitourinary Medical Oncology Program at the Perlmutter Cancer Center, and funded by pharmaceutical manufacturers, have paved the way for the approval of two novel treatments for patients with advanced bladder cancer who are ineligible for the standard chemotherapy. The medications—the

first ever approved for this typically frail population—give older patients a nearly 25% chance of survival.

Atezolizumab (Tecentriq), approved in April 2017, and pembrolizumab (Keytruda), green-lighted one month later, belong to a class of cancer drugs known as immune checkpoint inhibitors, which are designed to release a break on immune cells, allowing them to attack tumor cells. Trial results showed that the immunotherapy treatments shrank tumors by at least 30% in one-quarter of the nearly 500 study participants combined in both studies. Of those, 5% got the best news imaginable: their tumors had totally disappeared. "While this percentage may seem small," Dr. Balar notes, "remember that on average, these patients would otherwise have died within 10 months."

Each year, about 79,000 Americans are diagnosed with bladder cancer. The disease claims some 17,000 lives annually, and less than 15% of those with a late-stage tumor survive more than five years. Bladder cancer strikes four times as many men as women, making it the fourth most common cancer among men. About 80% of those diagnosed are current or former smokers. The malignancy is usually confined to the inner lining of the bladder, requiring most patients to undergo surgery to remove the tumor. If the cancer has invaded deeper, from the inner lining into the muscle, however, the bladder must be removed, along with the prostate

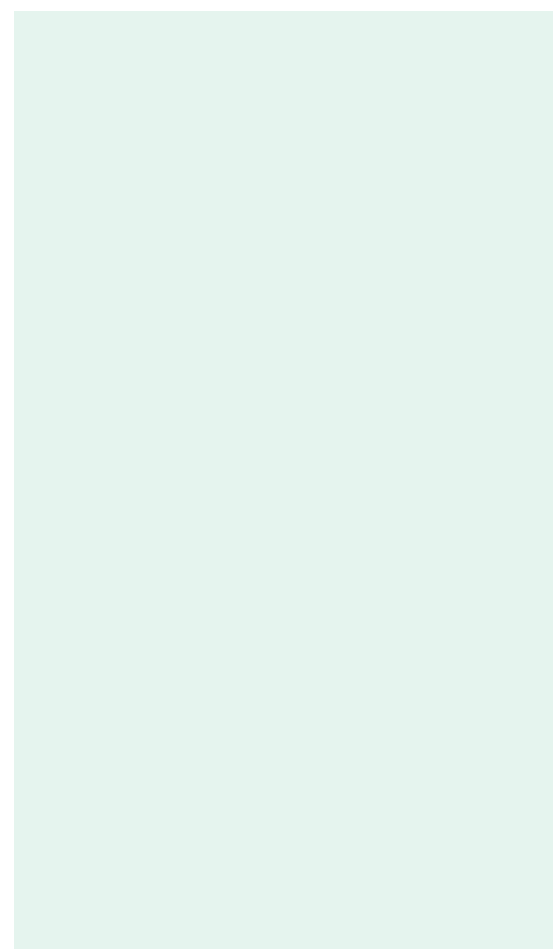


PHOTO: BILLOWPHOTOS.COM/ADDBE STOCKA ABOVE PHOTO: KARSTEN MORAN





Within the safety of the monitoring unit, doctors may try to provoke a seizure by lowering the dosage of the patient's medication or withdrawing it. "Some people have been treated for seizures for many years, but when we monitor them, we find that 25% don't have epilepsy at all," reports Dr. Vazquez.

When a diagnosis of epilepsy is confirmed, identifying the type of seizure is critical. Partial seizures begin with an abnormal electrical discharge restricted to one small region of the brain, while generalized seizures begin with a widespread, excessive electrical discharge involving both hemispheres. "The medicines used to treat partial seizures actually aggravate generalized ones," Dr. Vazquez explains, "so you really have to know which type you're dealing with."

In severe cases, when medications fail and a surgical intervention may be required, patients can be transferred to NYU Langone's Comprehensive Epilepsy Center at Tisch Hospital in Manhattan (see "Chasing Storms at NYU Langone Health's Comprehensive Epilepsy Center"), where

#### PIONEERS

## Chasing Storms at NYU Langone Health's Comprehensive Epilepsy Center

**WHEN PATIENTS WITH** epilepsy are told that nothing more can be done to control their seizures, many find their way to NYU Langone Health's Comprehensive Epilepsy Center. One of the largest programs of its kind in the US, the center was founded in 1989 to treat the most challenging cases. "Seizures can impact every aspect of the patient's life," notes Orrin Devinsky, MD, the center's director, "and bring significant stigma and isolation."

The center's philosophy, Dr. Devinsky explains, is to devise a balanced care plan that allows people with epilepsy to lead full, active lives. At weekly conferences, a team of epileptologists, neuropsychologists, neurosurgeons, psychiatrists, and other specialists develops a treatment strategy tailored to

each patient. An evaluation typically begins with an outpatient evaluation, which is often followed by an inpatient stay at the center's 16-bed adolescent/adult or 8-bed pediatric monitoring units in Tisch Hospital. Two additional beds are reserved for newborns. Like its newly established counterpart at NYU Langone Hospital-Brooklyn, the unit is equipped with sophisticated technology that enables clinicians to confirm the diagnosis and map the part of the brain where seizures originate.

When localized seizures resist treatment, the center's neurosurgeons can use surgical techniques they've pioneered to neutralize malfunctioning parts of the brain—without injuring healthy brain tissue or impairing neurological function. About 65% of patients who

undergo surgery are cured of seizures. The center is equally renowned for its research, including drug development for cannabidiol-based therapies (see "A Potent Weapon against a Deadly Form of Epilepsy"), studies on sudden unexplained death in epilepsy, and treatments for neuroinflammation-induced epilepsy.

### A surgical option for localized seizures

65%



#### CLINICAL TRIALS

## A POTENT WEAPON AGAINST A DEADLY FORM OF EPILEPSY

**ONE OF THE** rarest forms of epilepsy, Dravet syndrome, is also one of the most dangerous. Not only do its neural storms lead to developmental and cognitive delays, but 20% of those affected have died by age 20. The frequent, intense seizures triggered by the disease are seldom fully controllable, even with multiple medications. However, a recent study led by Orrin Devinsky, MD, director of NYU Langone Health's Comprehensive Epilepsy Center, demonstrates that a standardized, pharmaceutical-grade derivative of the cannabis plant—a chemical compound called cannabidiol—can be a potent weapon against the disorder.

Cannabidiol, which is not addictive and has no psychoactive properties, had shown promise in earlier studies, but this one, published last May in the *New England Journal of Medicine*, was the first to subject the drug to a double-blind, placebo-controlled trial—the most rigorous standard of evidence. Dr. Devinsky's team gave cannabidiol or a placebo, along with standard medications, to 120 children and young adults with Dravet syndrome over 14 weeks. In the cannabidiol group, the median frequency of convulsive seizures per month decreased from 12.4 to 5.9, compared with a decrease from 14.9 to 14.1 with placebo. Moreover, 43% of those who took cannabidiol experienced at least a 50% reduction in the frequency of convulsive seizures, compared to 27% in the placebo group—and 5% (versus none on placebo) became seizure free. Most participants experienced mild to moderate side effects, ranging from fatigue and diarrhea to elevated liver enzymes, but only eight had reactions severe enough to discontinue treatment. Future studies will explore whether the effectiveness of standardized cannabidiol can be maintained at lower doses, and whether its safety and tolerability can be improved.





RESEARCH

# Finding the Best Path to Palliative Care

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**WHEN IT COMES** to providing older patients with palliative care—managing their symptoms, pain, and stress to improve quality of life—perhaps the last place that comes to mind is a fast-paced emergency department (ED). But with palliative care designated the newest subspecialty in emergency medicine, EDs are playing an increasingly larger role in this effort. Studies point to numerous benefits for initiating palliative care in the ED, including better control of symptoms, improved outcomes, shorter hospital length of stay, less need for intensive care, reduced family depression, higher patient and family satisfaction, and overall cost savings.

“The ED is an opportune place for establishing a comprehensive, long-term care plan with older patients and their families,” explains Corita Grudzen, MD, vice chair for research in NYU Langone Health’s Ronald O. Perelman Department of Emergency Medicine. That’s because some 75% of Americans 65 or older visit an ED in the last six months of life. At NYU Langone’s Ronald O. Perelman Center for Emergency Services, 25% of ED patients—about 18,000 annually—are 65 or older.

In December, Dr. Grudzen, a nationally recognized expert on palliative care in the ED, became the primary investigator of a multisite national study to research how palliative care can be delivered most efficiently, and how it can best satisfy the goals and preferences of patients and their families. The \$12 million study, funded by the Patient Centered Outcomes Research Institute, represents the largest grant in the history of NYU Langone’s Department of Emergency Medicine. It will gather data from nine diverse EDs over the next five years, including those at NYU Langone, NYU Langone



Hospital–Brooklyn, and Bellevue Hospital Center. At NYU Langone, the project will draw upon the expertise of the Division of Geriatrics in the Department of Medicine, the Department of Population Health, and NYU College of Nursing. Last year, NYU Langone was accredited by the Joint Commission in recognition of its overall excellence in palliative care.

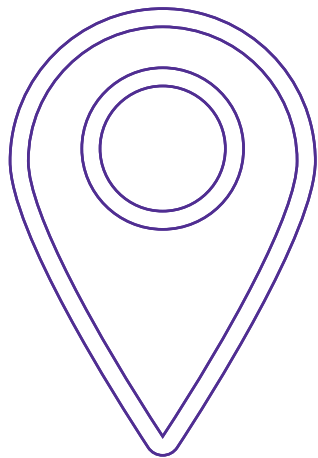
When older patients with serious illnesses are discharged from an ED, they may have access to a palliative care physician in an outpatient setting who facilitates medical treatment and psychosocial support. However, such specialists are in short supply nationwide. Even when a palliative care physician is available, in-person patient visits are costly and difficult for frail patients to maintain. A more practical option has emerged: specially trained nurses who coordinate patient care by phone. This novel approach has never been rigorously studied, but the grant will enable Dr. Grudzen’s research team to systematically compare it to the physician model to determine which one is more effective. “Under Dr.

Grudzen’s leadership, emergency medicine research at NYU Langone continues to tackle some of healthcare’s biggest challenges,” says Robert Femia, MD, chair of the Department of Emergency Medicine. “This study exemplifies our commitment to finding novel approaches that will improve patients’ lives.”

The new study is recruiting more than 1,300 volunteers, along with some of their personal caregivers. Patients are eligible for the study if they are 65 or older and living at home with advanced cancer or end-stage organ failure. Upon discharge from the ED, a participating patient is randomly assigned to a palliative care specialist—either a nurse who monitors the patient by phone or a physician who sees the patient in an outpatient setting. Both kinds of practitioners evaluate the same patient- and caregiver-centered measures, such as the alleviation of symptoms, clinical resources that are utilized, and quality of life. “We’ll find out not only which model of care works better, but why,” says Dr. Grudzen, “so that it can be replicated at other institutions.”

AMBULATORY CARE

## NYU Langone Health Offers Urgent Care on Manhattan’s West Side



NYU Langone Urgent Care at Ambulatory Care West Side, 355 West 52nd Street.

Call 646-754-2599 or visit [nyulangone.org/locations/nyulangone-ambulatory-care-west-side/urgent-care-at-nyu-langone-ambulatory-care-west-side](http://nyulangone.org/locations/nyulangone-ambulatory-care-west-side/urgent-care-at-nyu-langone-ambulatory-care-west-side).

Ambulatory Care West Side is the first of NYU Langone’s large

multispecialty ambulatory care sites to offer urgent care services. This new model of urgent care will better serve existing and prospective patients by building on our established expertise and familiar presence in neighborhoods throughout the New York City area.

Walk-in urgent care services for adults with injuries and illnesses that are not life-

threatening emergencies but require prompt medical attention.

- ▶ Prompt, convenient medical care provided by a board-certified physician trained in urgent care.
- ▶ Referrals to NYU Langone’s vast network of primary care physicians and specialists for follow-up care.
- ▶ Access to an array of patient services available

through Epic, NYU Langone’s electronic medical record system.

X-rays and blood tests

Monday–Friday:  
9:00 a.m.–9:00 p.m.;  
Saturday:  
9:00 a.m.–1:00 p.m.





# Awards & Accolades

## Society for Neuroscience Honors Moses Chao, PhD, Its Former President

**MOSES CHAO, PHD**, a neuroscientist at NYU Langone's Skirball Institute of Biomolecular Medicine, was honored with the Julius Axelrod Prize by the Society for Neuroscience. The \$25,000 award, funded by the Eli

Lilly and Company Foundation, recognizes exceptional achievements in neuropharmacology or a related field and exemplary efforts in mentoring young scientists. Dr. Chao's work has contributed significantly to the body of knowledge on nerve growth factors and receptor signaling, and has yielded important discoveries in how neurotrophins nourish neurons, guide axons to form their proper connections, and promote their survival.

ment to service. As director of the Division of Health and Behavior and director of the Center for Healthful Behavior Change, he has dedicated himself to developing

## Pew Charitable Trusts Funds Collaborative Work by Research Partners

Neuroscientist **ROBERT FROEMKE, PHD**, and immunologist **DAN LITTMAN, MD, PHD**, were one of six teams of basic scientists nationwide awarded a grant through the Pew Charitable Trusts' new Innovation Fund. The grant, bestowed on alumni of Pew's biomedical program, promotes interdisciplinary collaboration to yield cutting-edge discoveries. Dr. Froemke and Dr. Littman, the Helen L. and Martin S. Kimmel

Professor of Molecular Immunology and a Howard Hughes Medical Institute investigator, are both members of NYU Langone Health's Skirball Institute of Biomolecular Medicine. The \$200,000 award will help them explore how the neuronal sensing of gut microbes and intestinal function can alter an animal's behavior. A better understanding of this process may help scientists map how information is relayed from the gut to the nervous system to promote healing.

## Gbenga Ogedegbe, MD, Elected to the National Academy of Medicine

**GBENGA OGEDEGBE, MD**, the Dr. Adolph and Margaret Berger Professor of Population Health and Medicine, has been elected to the National Academy of Medicine, one of the highest honors in the fields of health and medicine. Dr. Ogedegbe joins more than 2,000 physicians worldwide, including 50 Nobel laureates, elected by their peers to recognize their outstanding professional achievement and commit-

# Appointments & Recruitments

**NADER MOAZAMI, MD**, has been appointed surgical director of heart transplantation and mechanical circulatory support. He is spearheading NYU Langone Health's new heart transplant program, recently launched by its Transplant Institute, Department of Cardiothoracic Surgery, and the Leon H. Charney Division of Cardiology. In January, Dr. Moazami performed NYU Langone's first heart transplant, one of more than 300 such lifesaving procedures he has performed in his career. Dr. Moazami previously led the cardiac transplant program at the Cleveland Clinic, where he achieved an international reputation for excellence. NYU Langone's new program offers a variety of surgical options for patients waiting for a heart transplant, including lifesaving mechanical devices that improve a patient's quality of life or serve as a bridge to transplantation.

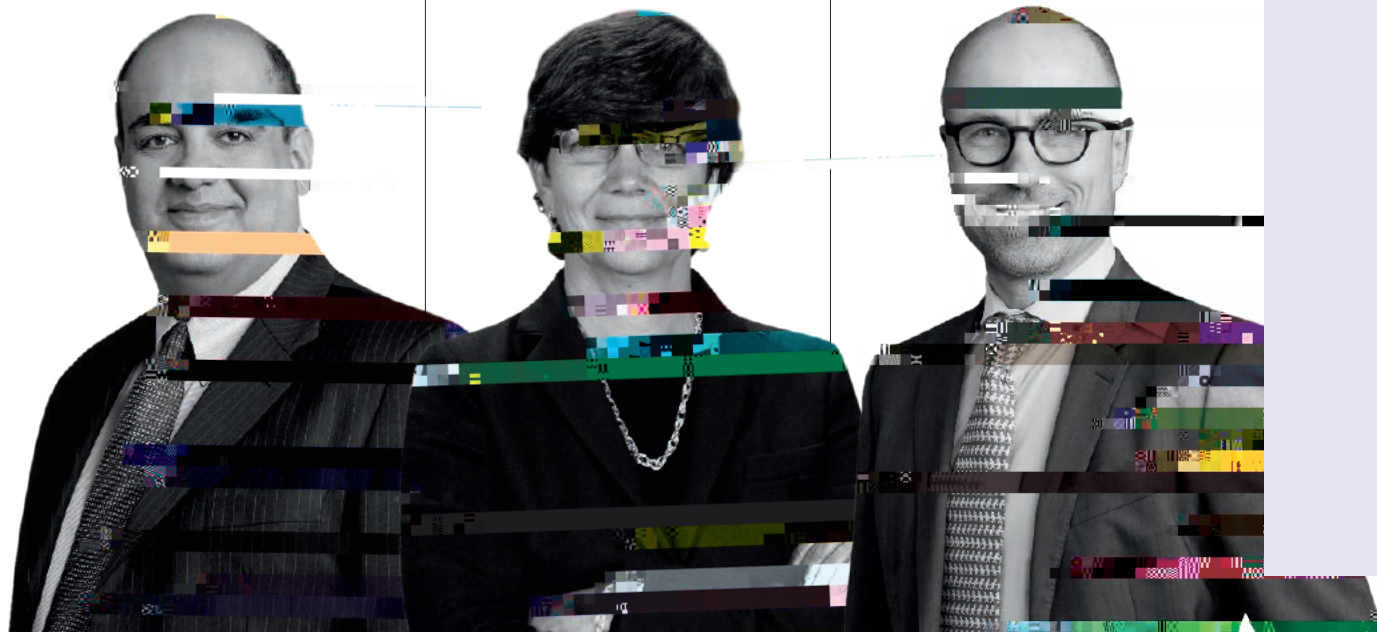
After earning his MD at Columbia University College of Physicians and Surgeons, Dr. Moazami completed his residency at Columbia-Presbyterian Medical Center, where, as chief resident, he participated in the thoracic organ procurement team. He completed a fellowship in cardiothoracic surgery at the Cleveland Clinic. A prolific researcher, Dr. Moazami has published more than 100 articles in leading scientific journals and has been the principal investigator on more than two dozen clinical trials to study mechanical assist devices and other therapies for end-stage heart failure.

**DIANE SIMEONE, MD**, has been named director of the new Pancreatic Cancer Center and associate director for translational research at NYU Langone Health's Laura and Isaac Perlmutter Cancer Center. A surgeon and internationally renowned researcher with a long-standing focus on pancreatic cancer and pancreatic cystic tumors, she has performed more than 1,000 pancreatic operations and has developed clinical trials for innovative therapeutics. Dr. Simeone, the Laura and Isaac Perlmutter Professor of Surgery, leads a large clinical research program that is working to develop a blood test for early detection of pancreatic cancer. She is the principal investigator of Precision Promise, a new national consortium devoted to next-generation clinical trials. Previously, Dr. Simeone served as director of the gastrointestinal oncology program at the University of Michigan Comprehensive Cancer Center.

By 2020, pancreatic cancer is expected to become the second-highest cause of cancer death in the U.S. Dr. Simeone chairs the Scientific and Medical Advisory Board of the Pancreatic Cancer Action Network, a leading advocacy organization. After earning her MD from Duke University, she completed a residency in general surgery at the University of Michigan Medical Center. Dr. Simeone is a member of the Institute of Medicine of the National Academy of Sciences and the National Cancer Institute's Pancreatic Cancer Task Force.

**RAOUL TIBES, MD, PHD**, has been appointed director of the Clinical Leukemia Program at NYU Langone Health's Laura and Isaac Perlmutter Cancer Center. A nationally renowned physician and researcher, he joins NYU Langone from the Mayo Clinic's Arizona facilities in Scottsdale and Phoenix, where he served as a consultant for their leukemia program. Dr. Tibes' research focuses on developing more effective therapies for acute myeloid leukemia (AML), myelodysplastic syndromes (MDS), and myeloproliferative neoplasm (MPNs), employing functional genomics, as well as identifying mechanisms of resistance to current therapies. His laboratory work led to the development of several first-of-their-kind clinical trials for AML, MDS, and MPNs. In addition, he spearheads the development of DNA damage and cell cycle checkpoint inhibitory drugs in AML.

After earning his MD and PhD from Ludwig Maximilian University Medical School in Munich, Dr. Tibes completed his residency at NYU School of Medicine and a fellowship in medical oncology and hematology at MD Anderson Cancer Center in Houston. He has published more than 70 articles in scientific journals and was recently named a Scholar in Clinical Research by the Leukemia and Lymphoma Society.



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**EDUCATION**

# ONE-TOUCH TEACHING FOR MD'S IN TRAINING

**SOME THINGS ARE** game changers. Some games change things. At NYU School of Medicine's Institute for Innovations in Medical Education (IIME), both are happening. IIME is pioneering tools and strategies to transform teaching and learning. The learner iPad (left), provided to each medical student and resident, combines two emerging technologies: apps and augmented, or "mixed," reality. "This interactive model not only shows the user a 3-D model of a beating heart," explains senior multimedia developer Gregory Darsainville, "but allows the user to peel away layers to see how the heart actually functions."

Augmented reality emerged from the entertainment and gaming fields, explains IIME's director, Marc Triola, MD, but it promises to revolutionize medicine and healthcare. "It may be 5 or 10 years away," says Dr. Triola, "but it's going to become an integral and indispensable part of the medical field."

These new technologies make learning not just at NYU School of Medicine a "distinguished school" for cultivating a continuously innovative environment that makes students excited and curious.

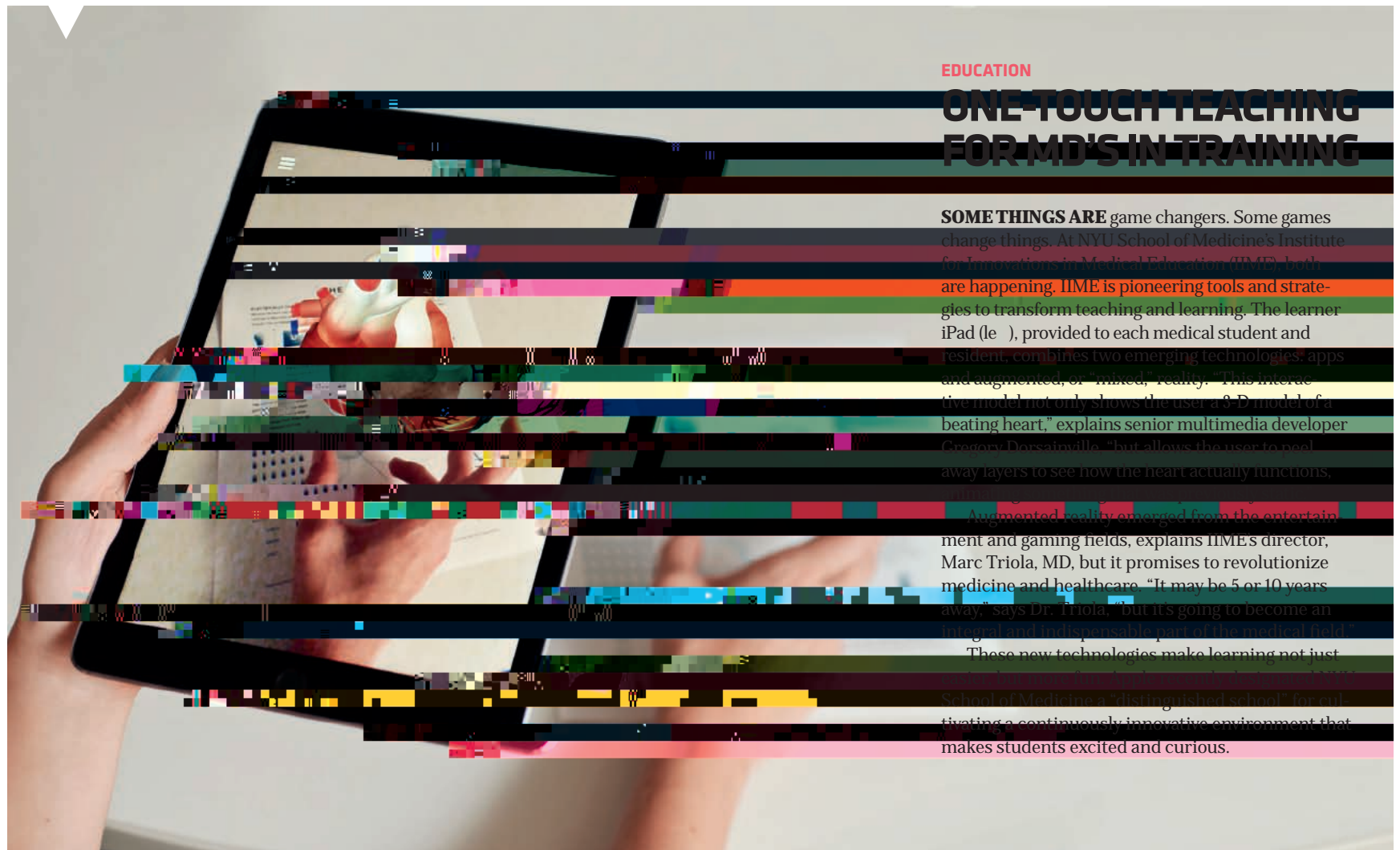


PHOTO: SASHA WALLA