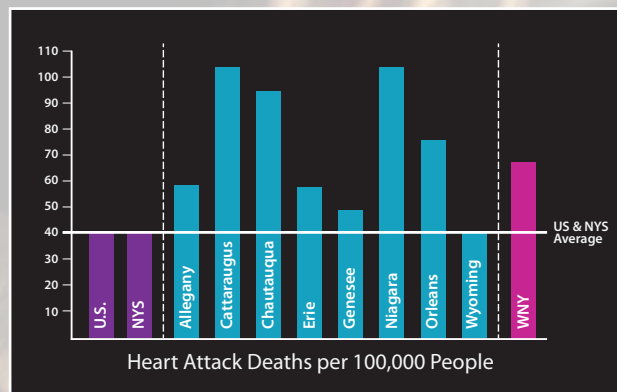


VASCULAR DISEASE IN OUR COMMUNITY

There is an acute public health issue affecting Western New York, where the Jacobs Institute is located. Vascular diseases affect the heart, brain, and peripheral vascular systems. Cardiovascular Disease, such as heart attack, is the number one cause of death in the U.S. Cerebrovascular disease, such as stroke, is the number four cause of death in the U.S. In the U.S., every 40 seconds, one person dies of cardiovascular disease and another suffers a stroke.

All eight counties in Western New York exceed or meet the New York state and national averages in heart attack death rate. For every 16 people who die of stroke in New York City, 50 people die of stroke in Buffalo. Risk factors for heart attack and stroke are obesity, lack of exercise, diabetes, high cholesterol, high blood pressure, and smoking.



All 8 Western New York counties meet or exceed New York State and US national averages in heart attack death rate.



ABOUT THE JACOBS INSTITUTE

MISSION

The JI's mission is to accelerate the development of next-generation technologies in vascular medicine through collisions of physicians, engineers, entrepreneurs, and industry.

VISION

The Jacobs Institute's vision is to improve the treatment of vascular disease in Western New York and the world, while fostering local economic development.

In our i2R, or Idea to Reality Center, we will conceive the next generation in medical technology in vascular medicine. The i2R is focused on developing novel, smart-engineered endovascular device ideas at a faster pace and in a more cost-effective way.

The Jacobs Institute
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The Jacobs Institute is a medical device innovation center based in Buffalo, New York, specializing in medical devices to treat heart attack, stroke, and other vascular diseases.

COME INNOVATE WITH US.

**A NEW PARADIGM.
IT'S WHY WE'RE DIFFERENT.**



**THE JACOBS INSTITUTE
EMPOWERS YOU TO INNOVATE,
LEARN, AND LEAD.**



Strategically located at the heart of both a world-class university research institute and a state-of-the-art hospital, the JI is uniquely positioned to foster collaboration between entrepreneurs, physicians, engineers, and researchers. The JI has the tools to innovate product development and provide training expertise, all under one roof, with real-time physician feedback.

The JI provides unparalleled access for industry engineers and sales representatives to immerse themselves in a clinical environment and bolster their professional experience.

The Jacobs Institute's i2R, or Idea to Reality Center, is the smartest, fastest, most cost-effective way to develop an endovascular device idea. We have the right people, in the right place, at the right time.

We are respected as pioneers in 3D printing for vascular disease. The 3D printer manufacturer, Stratasys, designated the JI as its first U.S. 3D Printing Center of Excellence in Health Care.

"The JI has a brilliant vision to unite various experts in an innovative ecosystem under one roof and raise the what-if and why-not questions. This is bound to lead to extraordinary innovations that will address some of the most significant unmet challenges in medicine."

*- Fred Khosravi
Silicon Valley device entrepreneur*



OUR EXPERTS SUCCESSFULLY HELP OTHERS INNOVATE, LEARN, AND LEAD.

Our on-site physician leaders provide constant feedback to entrepreneurs innovating in the i2R. The physicians educate industry program participants about device selection and treatment decisions. Industry device testing is facilitated by the physicians using our customizable, 3D-printed vascular models. Finally, our leadership expertise in entrepreneurship provides valuable insight and guidance.



**CHIEF EXECUTIVE OFFICER
William J. Maggio**

Bill Maggio is a healthcare, medical diagnostics, and business development executive. He plays a leadership role in a number of health care and biotech ventures. He is a managing partner at Lorraine Capital LLC, a private investment firm based in Buffalo. Bill serves as an advisor on a number of local, national, and international boards. He is also the chairman of the country's largest business idea competition, 43North.



**FOUNDER & CHIEF SCIENTIFIC OFFICER
L. Nelson Hopkins, MD, FACS**

Dr. L. Nelson Hopkins is a State University of New York (SUNY) Distinguished Professor, the highest rank of faculty in the SUNY system. He pioneered endovascular neurosurgery and has trained a new generation of neurosurgeon leaders skilled in catheter-based technology for minimally invasive neurosurgery to treat aneurysm and stroke. Dr. Hopkins is widely published and has served on the boards of prestigious neurosurgical societies, and was principal investigator for several national clinical trials. He is the founder of Kaleida Health's Gates Vascular Institute (GVI), and is responsible for envisioning the ground breaking, collaborative model here.

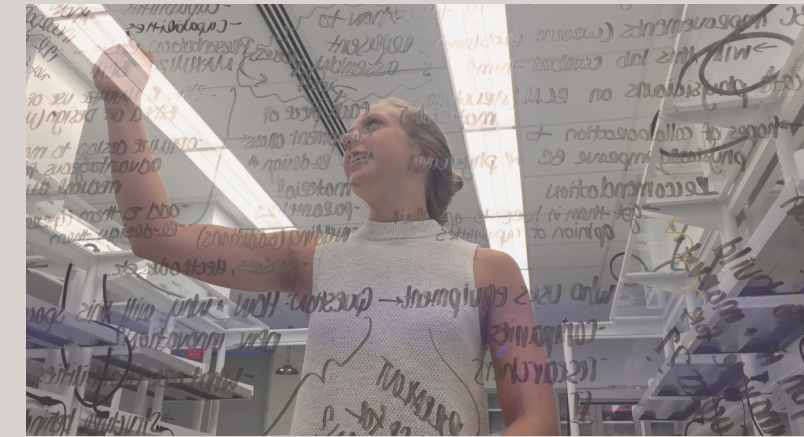


**CHIEF MEDICAL OFFICER
Adnan H. Siddiqui, MD, PhD, FACS, FAHA**

Dr. Adnan Siddiqui is a professor of neurosurgery at the State University of New York at Buffalo (UB). He is versed in neuroscience research and neurosurgery, specializing in endovascular neurosurgery. Dr. Siddiqui is published in peer-reviewed neurosurgical journals, textbooks, and has lectured around the world. He has served in leadership roles on prominent neurosurgical societies. Dr. Siddiqui also leads the neuroendovascular research and stroke service at the GVI.

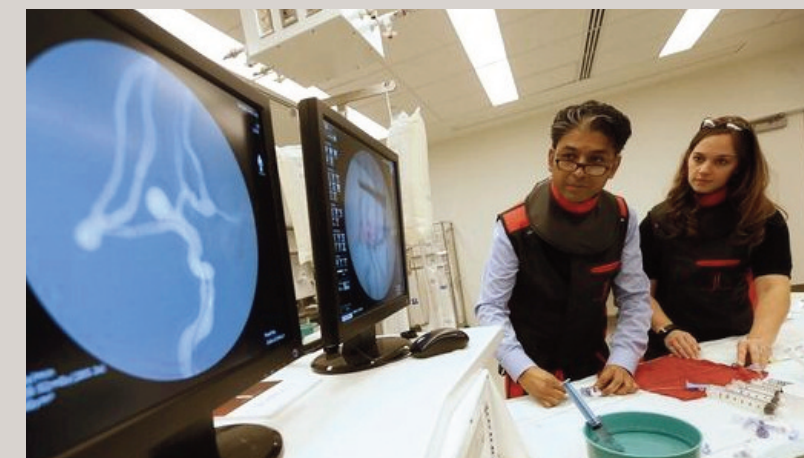
WE EMPOWER MEDICAL DEVICE ENTREPRENEURS TO INNOVATE.

The JI's primary focus is on **Innovation & Product Development** in our i2R, or Idea to Reality Center. The i2R is focused on developing smart-engineered endovascular medical devices at a faster pace and in a more cost-effective way. Our on-site surgical experts and engineers means the i2R can quickly prototype and validate potential devices, thereby streamlining the proof-of-concept process for entrepreneurs.



WE EMPOWER THE MEDICAL DEVICE INDUSTRY TO LEARN.

Training & Experiential Learning in the JI Training Center offers unique experiences for physicians and industry executives, sales representatives, and engineers. Our programs immerse guests in the clinical environment, providing an intimate understanding of disease states, imaging, device selection, and how devices interact with the vasculature. We provide guests with realistic, hands-on simulation experiences on our customizable 3D-printed vascular flow models and the Mentice vascular surgical simulator.



WE EMPOWER WESTERN NEW YORK STUDENTS TO LEAD.

The JI inspires the next generation with **Education & Leadership** programs for middle school students through college and beyond. Our interactive grade school programs teach about vascular diseases, while inspiring careers in health and science. The JI's college-level First-Gen Summer Internship is an experience unlike any other. Students manage projects, build professional networks, and mentor younger interns. The high school-level, Next-Gen Summer Interns gain research and presentation skills while also learning about the dynamic world of endovascular neurosurgery and interventional cardiology.



FROM INNOVATION TO IMPACT, THE JACOBS INSTITUTE CHANGES LIVES.

Owed to the JI's strategic location and relationships, it fosters collaborations that impact the lives of individuals in our community: patients, physicians, researchers, and students. Below is a real-life example of the JI's impact.

A JI biomedical engineering intern created a patient-specific, 3D-printed heart model for Dr. Vijay Iyer, MD, PhD, FACC, FSCAI, director of structural heart for Kaleida Health's Gates Vascular Institute (GVI). The patient was a 63-year old woman who needed her mitral heart valve replaced using a minimally invasive, transcatheter surgery. Dr. Iyer wanted the model of this patient's anatomy to help him visualize, size the appropriate valve with a medical device representative, and practice the surgery. The intern worked with the University at Buffalo (UB) biomedical engineering research team to create the patient's 3D-printed heart model for Dr. Iyer.

The day of the surgery, Dr. Iyer and his team practiced the procedure on the 3D model under fluoroscopy in a UB research angiography suite located five floors above the operating room. The team devised a better-informed surgical plan for the patient based on the practice surgery. The patient's surgery was a success and the new valve meant a chance at a longer, healthier life.

This outcome was possible because the JI united people typically separated by their locations, employers, and professions. The JI intern, the hospital surgeon, the university biomedical engineers, and the medical device company representative would not have otherwise collaborated. Each person was invested in working together to help the patient, knowing that their work would impact the quality of her life.

