

DUKE  
/forward

# The Pratt School of Engineering

GOAL  
\$161.5 MILLION

Over the past decade, the Pratt School of Engineering has seen unparalleled growth on every level, from research funding to enrollment. Now, as Duke embarks on a comprehensive fundraising campaign, we seek investments that will allow us to continue on a trajectory of excellence and help us realize our most important goals. We'll educate engineers with the vision and technical expertise to tackle our world's biggest challenges. And we'll give our faculty, researchers, and students the tools to harness Duke's distinctive strengths and do what engineers do best: solve problems.

PARTNERING  
FOR THE  
FUTURE

## HANDS-ON FROM DAY ONE

Students at Pratt can help develop sustainable solutions for daily living in the Duke Smart Home, nurture a start-up in the DUhatch business incubator, or experiment with virtual reality in the Duke Immersive Virtual Environment (DiVE).

## FINDING GRAND SOLUTIONS

Can a robot model the human visual-processing system? Can algae produce a cost-effective alternative fuel? Does lining an implantable medical device like a stent with endothelial cells help prevent rejection or infection? Those are some of the questions that undergraduates in Pratt's Grand Challenge Scholars program are actively trying to answer through coursework, service-learning opportunities, global and entrepreneurial experiences, and in-depth project work. Designed around the National Academy of Engineering's 14 Grand Challenges for the 21st Century, the program links a Pratt education, beginning as early as freshman year, to themes such as engineering better medicines.

## BEYOND THE LECTURE HALL

Pratt students seek out chances to pursue an intensive research project, industry internship, study-abroad experience, or extracurricular opportunity that lets them put their skills to work. In fact, Duke had so many students interested in participating in projects through the global service group Engineers Without Borders that the national organization couldn't support them all. Duke had to form a new group—Duke Engineers for International Development—to handle the overflow.



Students Andrew Weitz and Hersh Lakdawala spent a summer in Tanzania with Engineering World Health, using the knowledge from their Pratt courses to fix broken medical equipment at the Marangu Lutheran Hospital. Before they left, they taught locals working in the hospital how to make future repairs themselves.

# Boundaries Not Included

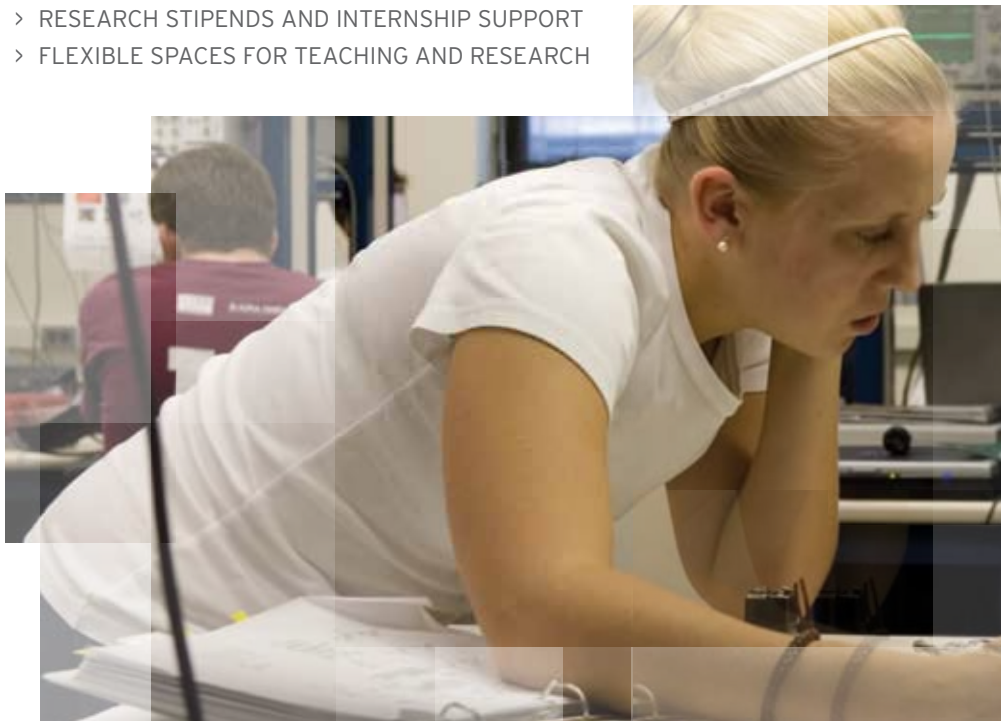
## ENRICHING THE DUKE EXPERIENCE

From their first day of class at the Pratt School of Engineering, our students have the opportunity to roll up their sleeves and work on real problems. We provide an education that allows our students to develop not only technical knowledge, but practical experience and an affinity for working collaboratively to address societal needs.

This campaign will allow Pratt to sustain and enhance distinctive programs that give engineering students at every level the tools and opportunities they need to make meaningful contributions to industry and the world. We'll seek to expand and enhance our educational space, as well as to invest in programs that encourage innovation. We'll grow hands-on opportunities like the Pratt Undergraduate Research Fellows, which give students the chance to conduct faculty-mentored research. Programs like these will set us apart from other engineering schools and help Pratt attract students who will become leaders.

## HOW WILL YOUR SUPPORT EXPAND HORIZONS FOR DUKE ENGINEERS?

- > GRAND CHALLENGES SCHOLARS PROGRAM
- > ENGINEERING STUDENT ORGANIZATIONS
- > INNOVATION AND ENTREPRENEURSHIP PROGRAMS
- > RESEARCH STIPENDS AND INTERNSHIP SUPPORT
- > FLEXIBLE SPACES FOR TEACHING AND RESEARCH



# Blazing New Paths

## ACTIVATING DUKE'S POWER FOR THE WORLD

The Pratt School of Engineering is a linchpin in Duke's ability to make a difference through research and innovation. Engineering students and faculty will play a key role in helping unlock the potential of Duke's interdisciplinary initiatives in global health, energy, and the environment. They will also be vital to other strategic research efforts, including work in brain sciences, nanotechnology, and the development of new, lifesaving drugs and medical devices.

We've demonstrated over the past decade that Pratt's growth in size has also dramatically expanded our research output. As part of the campaign, we seek to continue our progress forward with new investments in the people, research, and programs that advance the university's efforts to solve complex societal challenges.

## HOW WILL YOUR GIFTS HELP US BLAZE NEW PATHS IN ENGINEERING?

- > PRATT'S EXPANDING ENERGY PROGRAMS
- > SEED FUNDS FOR INNOVATIVE RESEARCH
- > TEACHING AND RESEARCH RELATING TO GLOBAL HEALTH AND OTHER SOCIETAL ISSUES

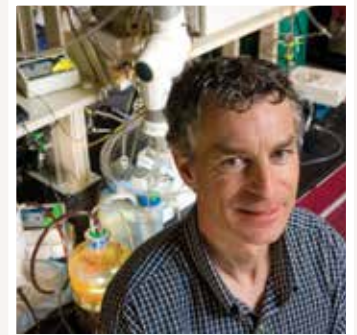


## DISCOVERY THAT MAKES A DIFFERENCE

Today, Pratt researchers are shaping ideas and developing technologies with potential to improve everything from medical diagnoses to the health of the planet.

## TURNING A PROBLEM INTO A SOLUTION

In the developing world, the lack of effective sewage systems plays a major role in water contamination and the spread of disease. Civil engineering professor Marc Deshusses has come up with a solution with the potential to improve the health of families worldwide and provide a sustainable source of energy. He's developing a novel, self-contained sewage digestion system that captures human and animal waste and converts it into energy—a system that will eventually be installed and tested by students working on a DukeEngage project.



## FOUND IN TRANSLATION

Biomedical Engineering Professor Nimmi Ramanujam was named a Top 100 inventor by MIT's *Technology Review* magazine. Among her inventions? A new optical tool to diagnose breast cancer that could reduce the number of follow-up procedures for affected women. The technology is being commercialized through a start-up called Zenalux. It's one of 19 Duke projects that have been supported in part by the Duke Coulter Translational Partnership in biomedical engineering, which brings bioengineers and clinicians together to develop new technologies to improve patient care.



# Fueling Uncontainable Ideas

## SUSTAINING DUKE'S MOMENTUM

An extraordinary student body and talented faculty are at the core of what drives our success at Pratt. Through this campaign, we'll seek the support necessary to attract and retain the best faculty and enroll the brightest students, as well as the flexible operating funds that keep us innovative and nimble.

### HOW WILL YOU KEEP DUKE ENGINEERING ON A TRAJECTORY FOR CONTINUED SUCCESS?

#### FACULTY SUPPORT

No investment has a greater impact on our success than the hiring of excellent faculty. Not only do high-caliber faculty shape our programs and elevate our research profile, they also help to attract top undergraduate and graduate students.

#### THE ENGINEERING ANNUAL FUND

Our growing, dynamic school must maintain its ability to adapt to change and to move forward aggressively on the important projects critical to our future. Unrestricted operating support provided through the Engineering Annual Fund gives our leadership the tools to do just that, fueling all that makes Pratt great.

#### FELLOWSHIPS AND FINANCIAL AID

Our ability to enroll smart, ambitious students ties directly to our capacity to offer adequate financial support to undergraduate and graduate students. We must have the resources to sustain our commitment to need-blind admissions at the undergraduate level and the means to offer graduate fellowships that are competitive with our peers.



#### HOW MANY ENGINEERING SCHOOLS IN THE COUNTRY CAN CLAIM A 200 PERCENT INCREASE IN RESEARCH EXPENDITURES FROM 2000 TO 2010?

The Pratt School of Engineering can. Duke was #1 in percentage growth of research spending among the top ten graduate schools ranked by *U.S. News & World Report*. That increase in productivity was mirrored by growth in our faculty. Between 1999 and 2009, Pratt's tenure and nontenure track faculty grew from 89 to 113.

HOW WILL  
YOU MOVE  
DUKE FORWARD?