

## EXECUTIVE SUMMARY

### A MESSAGE FROM NJIT PRESIDENT JOEL S. BLOOM

#### A GLIMPSE INTO THE FUTURE

For more than 130 years, NJIT has demonstrated its commitment to excellence in undergraduate education and research. One of only 32 polytechnic public research universities nationally, NJIT offers undergraduate research, innovation and design opportunities that include the Provost's Undergraduate Summer Research Program, Undergraduate Research and Innovation Student Seed Grants, McNair Research Fellowships, and several capstone design programs. In addition, annual competitions focusing on innovation, research and design within and across disciplines prepare our undergraduate students for future leadership roles in the highly competitive global marketplace.

Our cover story in this issue highlights an eye therapy project instigated and overseen by Biomedical Engineering Professor Tara Alvarez and executed by students Rob Gioia and John Vito d'Antonio-Bertagnolli, who created eye-tracking algorithms. They are testing the device this fall at The Children's Hospital of Philadelphia.

"Taking to the Skies to Replenish the Earth" focuses on graduate student Chrystoff Camacho '17, who is devising a drone that drops rocket-shaped fertilizer capsules from the sky to reforest remote areas stripped of vegetation. Chrystoff has won or placed in two tech competitions and has recently assembled an NJIT-Rutgers team of biologists, engineers and business students to finish and market a prototype of the drone.

Through the concerted efforts of NJIT's Department of Public Safety, our students—as well as all members of the university community—have a safe environment in which to live, work and study. "In Good Hands" provides an overview of how the 78-member department, headed by Chief Joseph Marswillo, applies the "COPPS" model of community policing to meet the challenges of ensuring campus security while maintaining a welcoming environment on an urban campus.

As identified in NJIT's strategic plan, *2020 Vision*, it is critically important that we continue to offer our students exceptional learning experiences and encourage them to discover innovative solutions to today's challenges. The undergraduate research taking place on our campus offers an exciting glimpse into the innovations of the future.

I hope you enjoy reading these articles, and I welcome your feedback.



#### NJIT MAGAZINE

FALL 2016

Denise Anderson  
*Associate Vice President  
Communications, Marketing and  
Branding*

Christina Crovetto M.S. '03  
*Editor*

Tanya Klein  
*Editorial Assistant*

Shydale James  
*Contributing Editor*

Dean L. Maskevich, Tracey L. Regan  
*Contributing Writers*

Babette Hoyle  
*Production Manager*

Diane Cuddy  
*Design*

*Editorial Advisory Board*

Kevin D. Belfield, Reggie J. Caudill,  
Charles R. Dees Jr., Atam P. Dhawan,  
Urs P. Gauchat, Moshe Kam,  
Michael K. Smullen

*NJIT Magazine* is published by New Jersey Institute of Technology, Office of Strategic Communications. Its mission is to foster ties with alumni, university friends and corporate partners and to report on relevant issues, particularly those in education, science, research and technology.

Please send letters of comment and requests to reproduce material from the magazine to:

*NJIT Magazine*  
Office of Strategic Communications  
University Heights  
Newark, NJ 07102-1982  
crovetto@njit.edu

Joel S. Bloom  
*President*

Charles R. Dees Jr.  
*Senior Vice President  
University Advancement*

Michael K. Smullen  
*Director of Alumni Relations*

On the web:  
[magazine.njit.edu](http://magazine.njit.edu)

*Cover photo:*

*Robert Gioia '17 is part of a team who is collaborating on a device with the potential to revolutionize vision therapy.*