

Iftekharuddin," said Hani Elsayed-Ali,  
Ph.D., Batten endowed professor and  
eminent scholar and senior design  
course instructor for ECE. "Its success is

# illuminator

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alumni

Spotlight:

JOHNNY GARCIA

# Modeling & simulation expert kicks off engineering diversity lecture series

**M**odeling and simulation engineering expert and ODU MSVE Ph.D. graduate, Johnny Garcia, kicked off the Engineering Diversity Lecture series for the Batten College of Engineering and Technology. Founder & CEO of SimIS, Inc., a modeling and simulation company in Portsmouth, Virginia, Garcia is a regular supporter of Old Dominion University and works regularly with faculty and students in the Department of Modeling and Simulation, as well as in the Virginia Modeling, Analysis & Simulation Center (VMASC).

Addressing the nearly 50 students, faculty and staff in attendance, Garcia shared his personal challenges growing up as a migrant worker in Texas with little

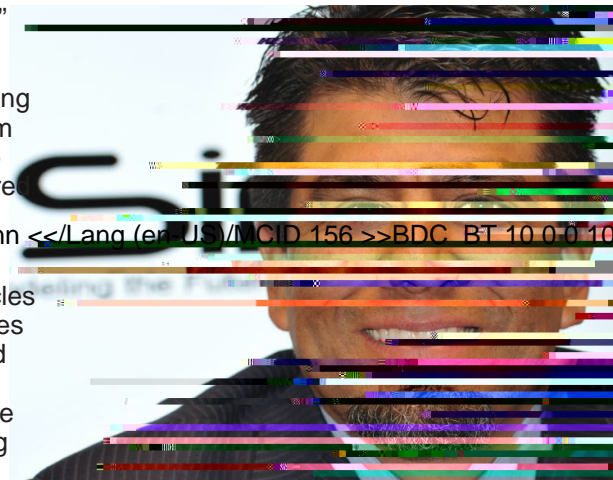
idea of what he wanted to do with his life.

"The odds were stacked up against me," he said. "My first job was working in the cotton fields back in the early 80s with my family in a row of 35 Hispanics. I knew then that I needed to get out of this."

Garcia offered students hope as he shared his path to success from being the first in his family to graduate from high school and go on to college, to joining the Navy, where he discovered his knack and passion for modeling and simulation.

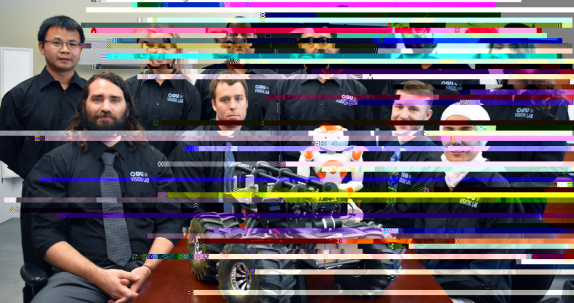
Focusing on overcoming the obstacles and challenges that come with issues of diversity, Garcia also encouraged students to stick to it, regardless of the fact the engineering is one of the hardest degrees to pursue, assuring them that the reward is worth the

struggle. He explained how after a successful career at General Dynamics, he was able to launch his own simulation firm, SimIS, Inc. in 2007.



## Army partnership, cont'

Thomas Batchelder, a graduate student whose project, "Vision Guided Mobile Robot for Automated Near Real-Time Surveillance in Noisy Environment," builds on an ongoing NVESD-supported project where ODU students developed automated facial recognition and tracking using a Multi-function Agile Remote-Controlled Robot, (MARCBot) connected to a remote computer via digital-analog converter. A system was



ODU Vision Lab team with MARCBot and NAO robot. Seated left to right: Thomas Batchelder, Alex Glandon, Patrick Cox, Zeina Aman. Standing left to right: Linmin Pei, Carrie Kuzio, Lasitha Vidyaratne, Khan M. Iftakharuddin, Ph.D., (associate dean for research and graduate program for the BCET and director, Vision Lab), Mahbulul Alam and Megan Witherow.

developed for identifying persons in a scene and tracking those individuals through remote control of the robot.

"The funding given to our design group from the Army has allowed us to upgrade the MARCBot's camera feed, which has made tracking and classification of individuals more efficient," Batchelder said.

Other funded projects include:

**Capacitive Wireless Charger for Electronic Sensors.** For this project, students constructed a 2.5-Watt, 5-Vdc, 50-MHz near-eld capacitive wireless charger based on advanced power electronics technology for the remote charging of low-power electronics devices such as electronic sensors and mobiles.

**Smart watch – situational awareness of war fighters.** This wearable computing device (smart watch) designed by students, monitors the health and other states of the wearer. The technology could be used to monitor soldiers during training or aid in obtaining valuable war fighting information on the battlefield.

**Development of ultra-capacitor for energy sources.** Students developed ultra-capacitors to store energy generated by power sources including perovskite solar cells. These cells can be used for efficient energy storage and rapid power delivery in a small space, unlike larger high-powered batteries.

**ZnO nanostructure gas sensor with 3-D AZO coating by ALD for enhanced sensitivity.** In this project, students constructed Metal Oxide Semiconductor (MOS) gas sensors, a proven material for the detection of volatile and toxic gases. ZnO nanorod/nanotube structures for

sensors are also being fabricated at ODU.

A thermal evaporator for controlled fabrication of nanoparticle sensors. Students working on this project constructed an evaporator to fabricate metal NPs for applications in chemical

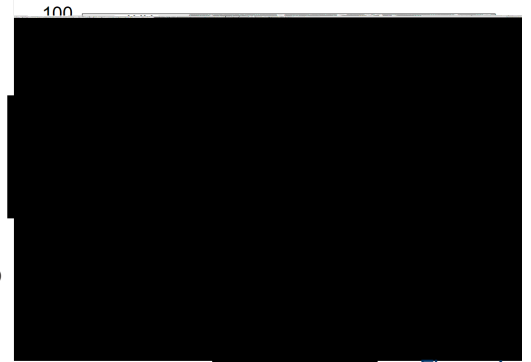


Figure 1.

and biological. Focused on design upgrades of the instrument, students used the instrument they upgraded to fabricate silver nanoparticles by self-assembly on a substrate and observed the nanoparticles by scanning electron microscopy (Fig. 1) and atomic force microscopy.

"These projects introduce students to technology of significant interest to national security, while also preparing them to enter the workforce in government labs and in industry," said Oscar Gonzalez, Ph.D., professor and interim chair, ECE. "It also helps the military recruit well-trained U.S. students to guide their research in areas of interest, such as night vision technology."

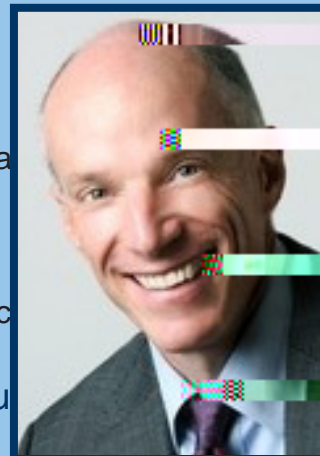
# Inaugural Anne Carney Lecture on Sustainable Clean Water

## November 13, 2018, 7:00 PM

Mills Godwin Building (MGB), Room 101~ Old Dominion University

Featuring: Dr. David Sedlak, Plato Malozemo Professor at the University of California Berkeley Editor-in-chief, Environmental Science & Technology and ES&T Co-Director, Berkeley Water Center at UC Berkeley Member, National Academy of Engineering 2014 Recipient of the Athalie Richardson Irvine Clarke Prize for Excellence in Water Research

For more information, please contact: Gary Schafran (gschafra@odu.edu)



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**T**he Batten College of Engineering