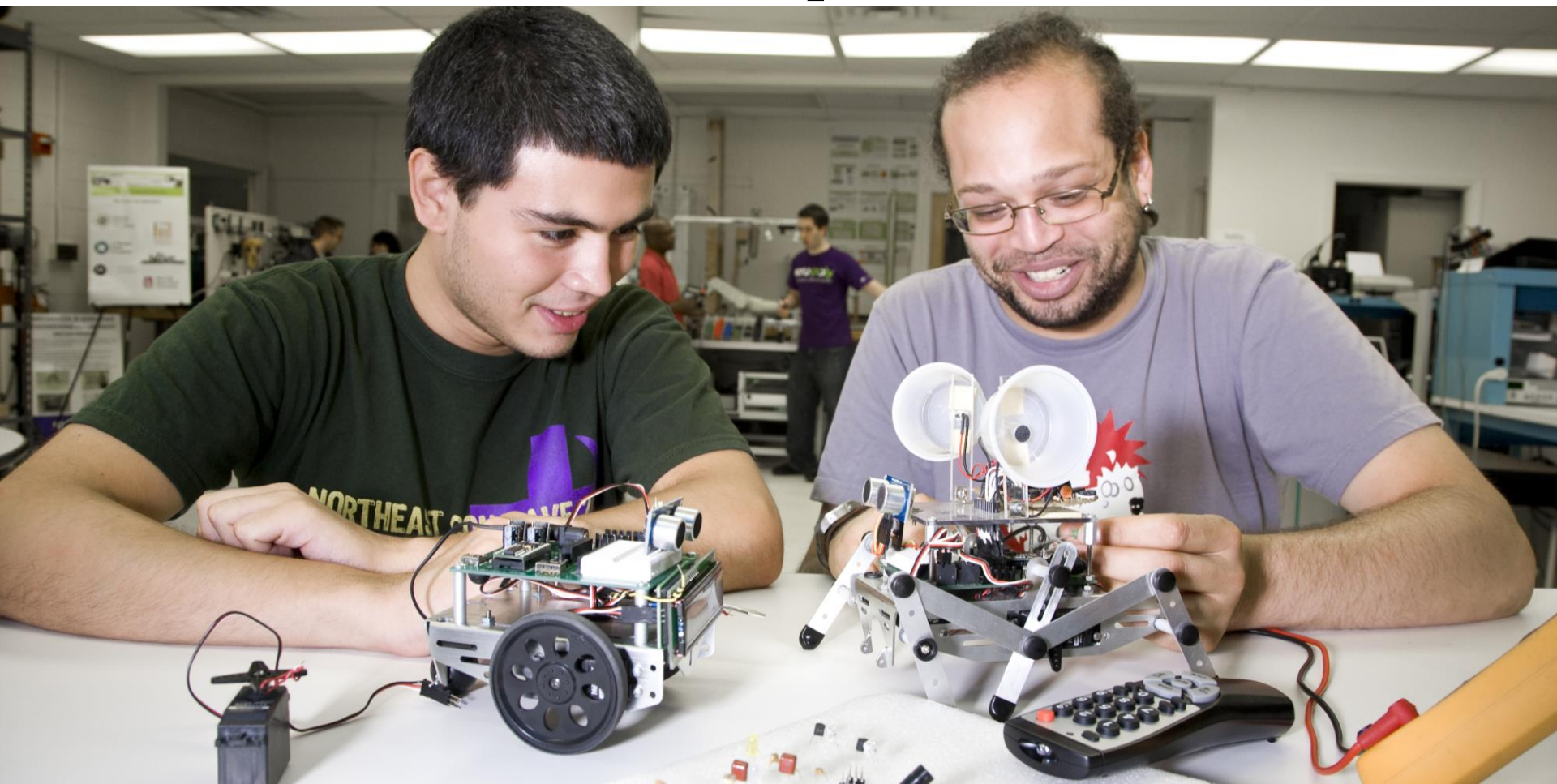


# Lessons from a Research Experience for Teachers Site



<http://engineering.nyu.edu/mechatronics/smart/>

NSF RET Site Award: EEC-1132482

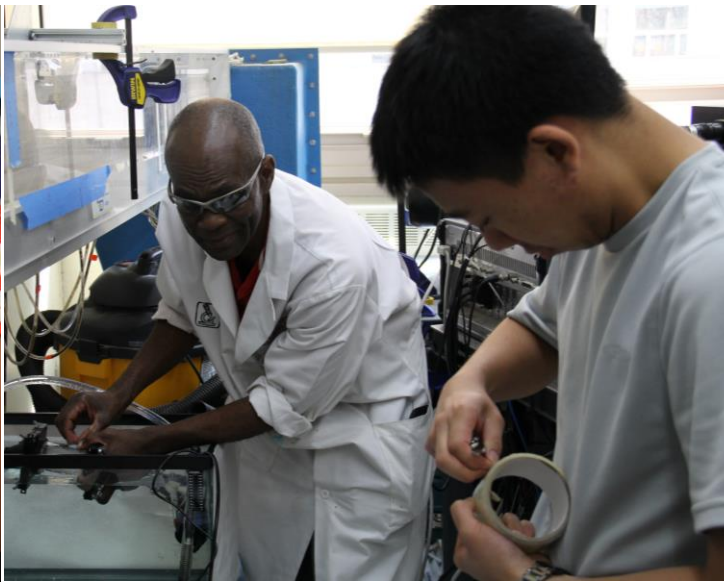



**NYU**

**TANDON SCHOOL  
OF ENGINEERING**

NSF STEM Forum, Washington, DC, November 9, 2015

# Engineering in NGSS Demands Learning by Doing: Integrate STEM Disciplines and Align with Standards



TEACHENGINEERING  
curriculum for k-12 teachers

Check out

BROWSE ▾ EDUCATIONAL STANDARDS ▾ GET INVOLVED ▾ K-12 ENGINEERING ▾

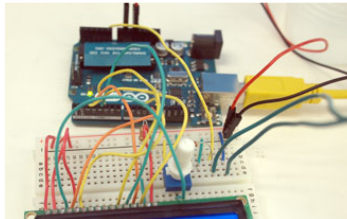
Hands-on Activity: Build and Test a Conductivity Probe

Contributed by: SMARTER RET Program, Polytechnic Institute of New York University

Home > Browse

Summary

Student groups construct simple conductivity probes and then integrate them into two different circuits to test the probe behavior in solutions of varying conductivity (salt water, sugar water, distilled water, tap water). The activity culminates with student-designed experiments that utilize the constructed probes. The focus is



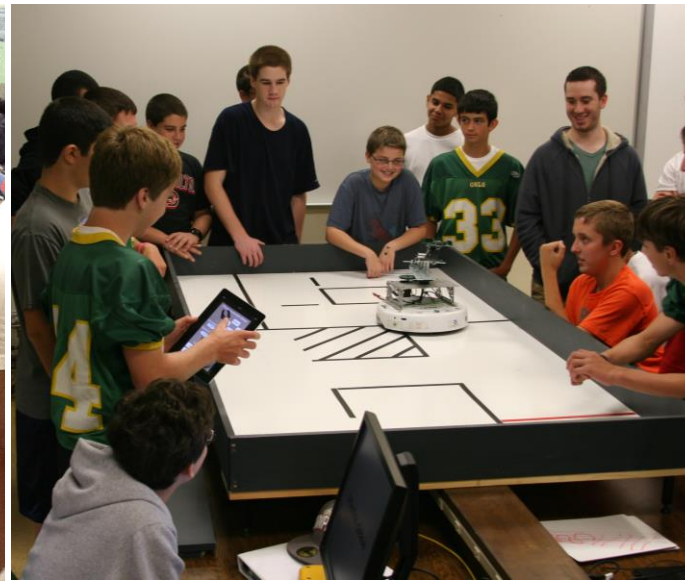


# Research Immersion Cultivates Engineering Habits: Design, Collaborative, Entrepreneurial, Solution-Oriented



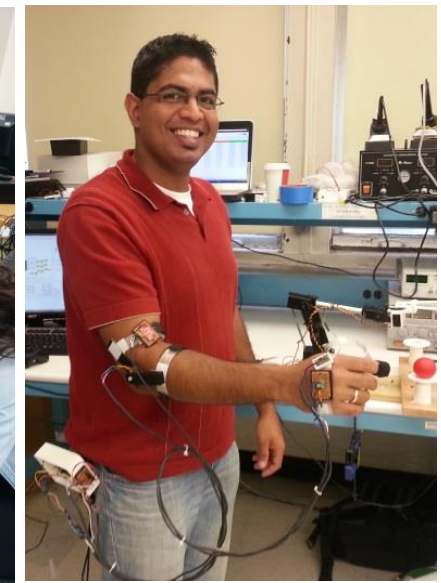
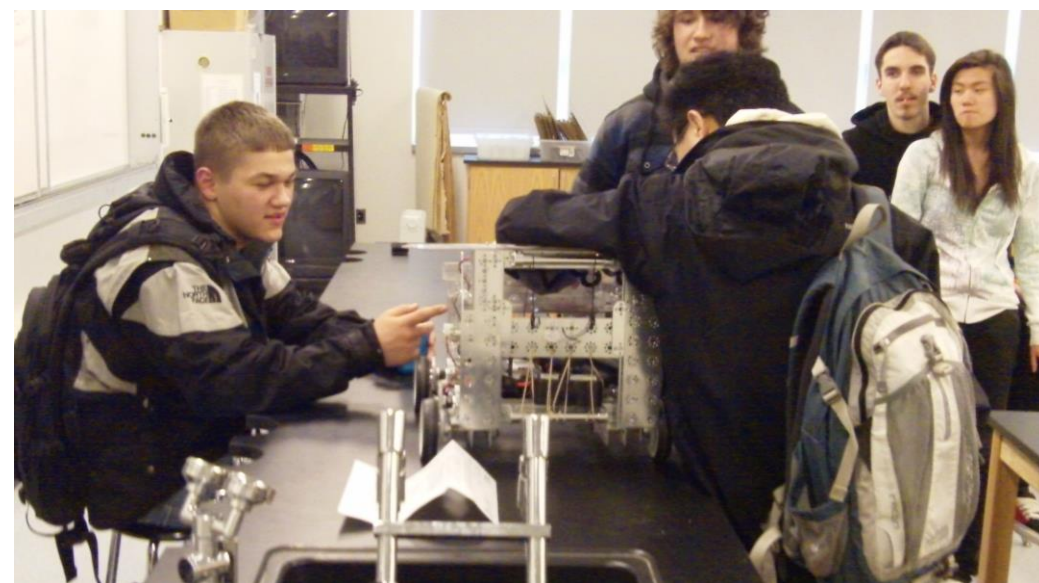
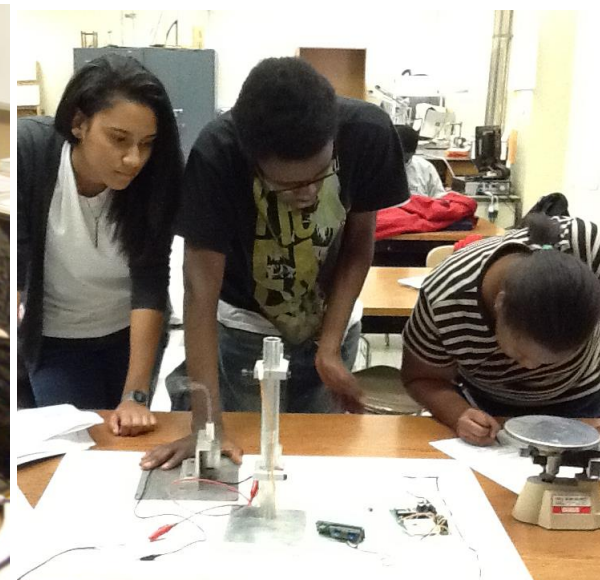
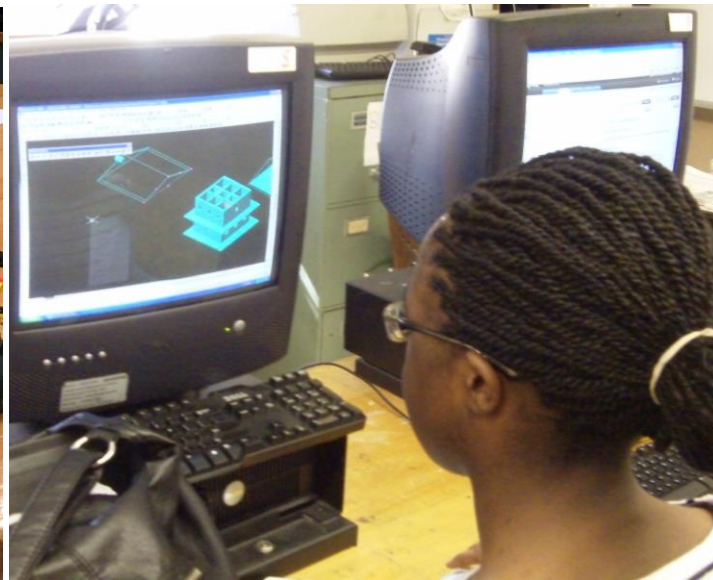


# Follow-up Essential: Classrooms, Colleges, Contests, ...





# Authentic, Exciting, Engaging, and Relevant Tools





# What Next? Sustain, Institutionalize, Engage Industry, and Scale-up (DoE, Philanthropy)



## NYU SCHOOL OF ENGINEERING PREPARES FOR STEM PUSH THROUGH TEACHER TECH TRAINING

POSTED JULY 16TH, 2015

<< PRESS ROOM Facebook Twitter Print

Ben Chapman for NY Daily News July 9th, 2015

Source: <http://www.nydailynews.com/new-york/education/stem...>

Officials at New York University's Polytechnic School of Engineering aim to rocket the city schools into the future with an ambitious new push for science, engineering, technology and math — better known as STEM.

NYU School of Engineering is teaming up with the National Science Foundation and the city Education Department to train 500 city teachers to use robotics, lessons in cyber security and entrepreneurship in their classes.

## The New York Times

N.Y. / REGION

### De Blasio to Announce 10-Year Deadline to Offer Computer Science to All Students

By KATE TAYLOR and CLAIRE GAIN MILLER SEPT. 15, 2015

To ensure that every child can learn the skills required to work in New York City's fast-growing technology sector, Mayor Bill de Blasio will announce on Wednesday that within 10 years all of the city's public schools will be required to offer computer science to all students.

Meeting that goal will present major challenges, mostly in training enough teachers. There is no state teacher certification in computer science, and no pipeline of computer science teachers coming out of college. Fewer than 10 percent of city schools currently offer any form of computer science education, and only 1 percent of students receive it, according to estimates by the city's Department of Education.

Computer science will not become a graduation requirement, and middle and high schools may choose to offer it only as an elective.

But the goal is for all students, even those in elementary school and those in the poorest neighborhoods, to have some exposure to computer science, whether building robots or learning to use basic programming languages like Scratch, which was devised by the Massachusetts Institute of Technology to teach young children the rudiments of coding.



# Acknowledgements



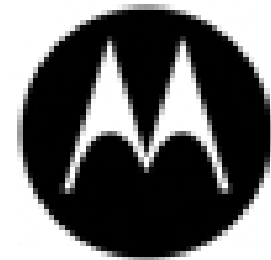
RET, DRK-12, GK-12,  
DUE, CCLI



Brooklyn Community  
Foundation (BCF)



Xerox  
Corporation



Motorola Innovation  
Generation Grant



J.P. Morgan Chase  
Foundation



Black Male Donor  
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NY Space Grant  
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Fred and Joanne Wilson  
Microsoft Foundation  
Pinkerton Foundation  
Siegel Family Endowment  
The Fund for Public Schools  
White Cedar Fund

- Additional K-12 STEM education support: NYS Education Department, NYC DoE, NYC Schools
- Thank you to research assistants, faculty and administration colleagues, development staff, teachers, Center for K-12 STEM Education

# RET Site Video

