Hands-on activities leading visually-impaired students to consider STEM careers

Guoquiang Li, Louisiana State University

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What is the outcome or accomplishment? (1-2 short sentences describing it and why it is transformative; 50 word max. suggested)*

Louisiana researchers have partnered with the Louisiana School for the Visually Impaired (LSVI) to enhance these underrepresented students' vision toward attending college and pursuing a STEM career. Careers for people who are blind or visually impaired are limitless, especially with accommodations and today's computer technology.

What is the impact? (1-2 simple sentences describing the benefits for science, industry, society, the economy, national security, *etc.*; suggested 50 word maximum)

Encouraging children to participate in STEM activities and to attend college regardless of disability is vital to developing our future advanced manufacturing workforce and researchers.

What explanation/background does the lay reader need to understand the significance of this outcome? (1-2 paragraphs that might include, for example, more on who, when, where; NSF's role; support from multiple directorates/offices; what makes this accomplishment unique; additional intellectual merits; or broader impacts such as education, outreach, or infrastructure improvement that are integral to this outcome; suggested 150 word maximum)

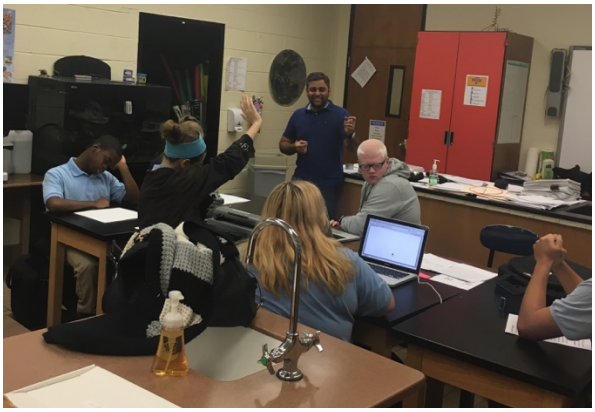
Researchers have started a series of classroom discussions and extracurricular activities that focus on tactile objects representing the presenters research. This program is in partnership with the Louisiana School for the Visually Impaired, Louisiana's largest institute for serving visually impaired K-12 students.

The researchers donated Solidworks 3D software to the school which has permitted teachers to custom design and print objects to enhance the STEM curriculum for the special needs of their students.

According to the National Center for Science and Engineering Statistics by the National Science Foundation, only 6.5% of the science and engineering workforce have disabilities. Students who are blind or have low vision are often discouraged to pursue STEM fields. First-year college students with disabilities and those without disabilities show comparable levels of interest in science and engineering.

Photos:

Dr. Juana Moreno, Associate Professor of Physics at Louisiana State University, explains to visually impaired students how computers store data. Credit: Heather Lavender, Louisiana State University.



Dr. Bhuvnesh Bharti, Assistant Professor in Chemical Engineering at Louisiana State University, describes the advancement of nanoparticle technology to visually impaired students. Credit: Heather Lavender, Louisiana State University.