

Nanotechnology work leads to award for NIEHS grantee

By Joe Balintfy

Somenath Mitra, Ph.D., NIEHS-funded researcher and distinguished professor at the New Jersey Institute of Technology (NJIT), received an Excellence in Research Prize and Medal Oct. 2 from the NJIT Board of Overseers.

Mitra's current research with Andrij Holian, Ph.D., director of the University of Montana [Center](http://cehsweb.health.umt.edu/) (<https://cehsweb.health.umt.edu/>) for Environmental Health Sciences, is aimed at understanding potential health implications of carbon nanotubes used in diverse applications.

Linked Video

[Watch Mitra discuss his research on new applications and safe technology for carbon nanotubes in this NJIT video. \(5:52\)](#)

"His work is important for the public and research community, so we can have a better understanding of the possible impact and safety of carbon nanotubes," said Srikanth Nadadur, Ph.D., health scientist administrator and program lead for nanotechnology in the NIEHS Division of Extramural Research and Training. "Carbon nanotubes are increasingly common in medicine, industry, and consumer products, because of their unique chemical and physical properties." Those same properties may pose unique and unknown health risks.

Recognizing a broad scope of achievement

Mitra

(<http://chemistry.njit.edu/people/mitra.php>) has achieved wide recognition for his work in air and water monitoring, and diverse application of nanotubes, ranging from solar cell technology to seawater desalination. His work in real-time trace measurement, including development of a variety of sensors for measuring ambient air and industrial emissions at the parts-per-billion level, plays a central role in environmental monitoring.

Recent work in the area of microwave-induced carbon nanotube purification and functionalization has wide-ranging applications in areas from polymer composites to thin films and nanoelectronics. A related development was using carbon nanotube composites to develop solar cells that can be painted on flexible materials.

"His pioneering work has spanned a very impressive spectrum of applications for carbon nanotechnology, which address critical quality-of-life issues, including energy, water purification, and environmental monitoring," said Donald Sebastian, Ph.D., senior vice president for technology and economic development at NJIT, and president and CEO of the New Jersey Innovation Institute. "He has been instrumental in developing technology for photovoltaic cells — solar cells — so thin and flexible that they might be output on a printer at home to provide household power, when exposed to the sun."

(This story includes content from an NJIT [news release](#), (<http://www.njit.edu/news/2014/2014-313.php>)

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"You have to balance economics, technology, and the environment and that is my goal ... a sustainable earth and, at the same time, excellent technology so we can live better," said Mitra, center, with Philip Rinaldi, chair of the NJIT Board of Overseers, left, and NJIT President Joel Bloom, Ph.D., right. (Photo courtesy of Deric Raymond, NJIT)



Nadadur leads the NIEHS Nano Environmental Health and Safety program, which supports research on nanomaterials. (Photo courtesy of Steve McCaw)

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