

Nanotechnology Congress & Expo

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NT4W– Nanotechnology for contamination detection, remediation and water purification

Water is fundamental to sustaining life. Safe, secure, and functional supply of water is quintessential for safe and sustained living. A growth in human population and associated increased in water consumption poses a significant challenge in maintaining adequate yet acceptable water quality in various sectors. The demand for clean water extends beyond residential and municipal needs. The most common applications include -drinking, cleaning, irrigation and agriculture, aquatic systems, recreation, industrial processing, thermal management, etc. Also, a large volume of high purity water is critical for most industries and laboratories. To meet the soaring demand of clean water, it is critical that we must find smarter ways of using and managing water resources. Recent advances in nanotechnology have demonstrated potential for providing efficient, cost effective, and environmentally acceptable solutions for monitoring and improving water quality. Furthermore, water integrity and security presupposes a definition of water quality - typically defined as physical, chemical, and biological characteristics of water in relationship to a set of standards. This interactive session is intended to promote paradigm shift and novel ideas using “Nanotechnology for Water” (NT4W) for; (a): Sensors for monitoring various contaminants in water, (b): Remediation strategies for contaminants in water, including emerging contaminants such as pharmaceuticals, personal care products and household cleaning products, (c): Stand-alone water filtration systems, and (d): Production of water using stand-alone mechanisms. In addition, discussion on developing a common definition of water quality, formulating water management strategies, and developing safe and secure water supply.

Biography

Ashok Vaseashta received a PhD from the Virginia Polytechnic Institute and State University, Blacksburg, VA in 1990. He currently serves as Vice Provost for Research at Claflin University and Strategic Advisor/Fellow at the Institute for Advanced Sciences Convergence and International Clean Water Institute at Norwich University Applied Research Institutes. Previously, he served as a Professor of Physics and Physical Sciences and Director of Research at the Nanomaterials Processing and Characterization Laboratories, Graduate Program in Physical Sciences at Marshall University. Concurrently, he holds a visiting/distinguished Professorship at the 3 Nano-SAE Research Centre, University of Bucharest, Romania; Academy of Sciences of Moldova, Chisinau, Moldova; and at the Helen and Martin Kimmel Center of Nanoscale Science at the Weizmann Institute of Science, Israel. In 2007-08, he was detailed as a William C. Foster fellow to the Bureau of International Security and Nonproliferation at the US Department of State working with the Office of Weapons of Mass Destruction and Terrorism and Foreign Consequence Management program. He also served (2009-13) as Franklin Fellow and strategic S&T advisor in the office of Verification and Transparency Technologies/Arms Verification and Control in the Bureau of Arms Control Verification and Compliance, Office of Verification and Transparency Technologies at the US Department of State. He is a fellow of the American Physical Society, Institute of Nanotechnology, and New York Academy of Sciences. He was awarded Gold medal by the Armenian National Polytechnic University (formerly State Engineering University of Armenia) for his contribution to Nanotechnology. In addition, he has earned several other fellowships and awards for his meritorious service including 2004/2005 Distinguished Artist and Scholar award. His research interests include; counterterrorism, unconventional warfare, critical-Infrastructure protection, biosecurity, advanced and nano materials for development of chemical-bio sensors/detectors, environmental pollution monitoring/detecting and remediation, and green nanotechnology. He authored over 200 research publications, edited/ authored six books on nanotechnology, presented many keynote and invited lectures worldwide, served as the Director of four NATO Advanced Study Institutes/ Advanced Research workshops supported by Emerging Security Challenges Division of the Science for Peace and Security, and co-chair of an International Symposium on Nanotechnology and Environmental Pollution Prevention (ISNEPP).

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