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NT4W -Nanotechnology for water generation, contamination detection and purification

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Water is fundamental, to sustaining life. Safe, secure, and functional supply of water is quintessential for safe 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, e.g., hydrocarbon processing, catalysis and chemical processing, food and beverage, mining and hydrometallurgy, pharmaceuticals, power generation and semi-conductors. To meet the soaring demand of clean water, it is critical that we must find new and innovative ways of using and managing water resources. This presentation provides an overview of some of the latest technologies employing nanomaterials based platforms for (a): sensors for monitoring various contaminants in water, (b): remediation strategies for contaminants in water, (c): stand-alone water purification systems, and water generation systems. The presentation addresses some of the pertinent issues relating to the basic need for clean drinking water, water resources management and water safety, security, and sustainability.

Biography

Ashok Vaseashta received a PhD from the Virginia Tech, VA in 1990. Currently, he serves as Director of Research at the CISTeck/ICWI with NUARI. Concurrently, he serves as visiting Professor in Romania and Chaired Professor at the Academy of Sciences of Moldova. He also served as a visiting scientist at the Weizmann Institute of Science, Israel. Since 2007, he had several fellowships at the US Department of State serving in the offices of WMDT and Foreign Consequence Management and as S&T advisor in the office of Verification and Transparency Technologies. He is fellow of the American Physical Society, Institute of Nanotechnology, and New York Academy of Sciences. He was awarded Gold medal by the University of Armenia for his contribution to Nanotechnology. He has earned several other fellowships/awards for his meritorious services. His research interests include counter-terrorism; chemical-bio sensors; water safety and security; environmental pollution monitoring and remediation; and green nanotechnology. He authored over 230 research publications and edited/authored six books. He is an active member of several national and international professional organizations.

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