Providing Safe and Affordable Water for the Global Community

Benjamin Hsiao

Professor, Chemistry Co-Founding Director, Innovative Global Energy Solutions Center

CURRENT RESEARCH

New nanofibrous membranes can lead to a leap in low cost water purification

According to the most recent estimates, 1 in 9 people worldwide do not have access to safe water. Therefore, what is often considered a basic human right -- safe water to drink, cook, grow crops, and bathe with -- is absent from a large portion of people's daily lives globally, with an overwhelming amount of people affected being those in low-income countries residing in extreme poverty and lacking access to basic medical care. Dr. Benjamin Hsiao, of Stony Brook University, is passionate about using advanced nanotechnology to restore the right to safe water to the estimated one billion people that currently lack accessibility for both drinking and crop survival for food. This population is projected to grow, creating even more urgency for viable solutions. Through the development of technologies that are affordable and sustainable, Dr. Hsiao's rigorous and compassionate approach is responsible for new solutions that will provide purified water for everyone, not just those who are currently able to afford it.

Dr. Hsaio's major research effort, launched about a decade ago, seeks to develop new nanofiber technologies, based on natural cellulose materials, for health, environmental, and energy applications. Such technologies provide necessary solutions but also offer low cost, low energy, and highly efficient filtration systems that can provide sustainable results to people in rural regions, where quality of life and public health can greatly be improved. Dr. Hsiao and his team have already exhibited excellent water filtration properties with nanofibrous materials with results including a 99.9999% removal for E. coli bacteria and 99.99% for MS2 bacteriophage virus removal. In addition to the filtrations proven...

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AFFILIATION

Stony Brook University

EDUCATION

- Ph.D., in Materials Science, 1987 , University of Connecticut
- B.S., in Chemical Engineering, 1980 , National Taiwan University

AWARDS

- Fellow, American Physical Society, 2002
- Fellow, American Chemical Society, 2011
- Fellow, American Association for the Advancement of Science, 2011
- Fellow, National Academy of Inventors, 2013
- Fellow, Materials Research Society, 2015
- and 1 more...

RESEARCH AREAS

Environment, Chemical, Clean Energy, Remediation

FUNDING REQUEST

Your contributions will support the continued research of Dr. Benjamin Hsiao, of Stony Brook University, as he develops new nanofibrous membranes to produce low cost methods for water purification. Donations will support the necessary $300K per year required to support personnel and supplies. In choosing to donate, you will play a role in improving access to safe drinking water globally, positively impacting the quality of life for our planet while helping to reduce the spread of disease and social unrest.