



NEWT Fact Sheet

Overview:

- NEWT is the first national center to develop affordable, mobile, modular, high-performance water-treatment systems that are enabled by nanotechnology.
- NEWT will work with more than 30 industry and government partners to speed the transition of technology to the marketplace.
- NEWT's technology will enable thousands of oil and gas production sites to manage and reuse water more economically and with less environmental impact.
- NEWT's water-treatment systems will provide safe drinking water for millions of people who currently lack it.

Organization:

- NEWT's academic partners are Rice University, Arizona State University (ASU), Yale University and the University of Texas at El Paso (UTEP).
- NEWT is based at Rice in Houston and will operate test-bed facilities at Rice, ASU and UTEP.
- NEWT is directed by Pedro Alvarez of Rice and co-directed by Paul Westerhoff of ASU.
- NEWT co-principal investigators include Qilin Li and Naomi Halas, both of Rice; Menachem "Meny" Elimelech of Yale; and Jorge Gardea-Torresdey of UTEP.

Research:

- NEWT's technology will be able to convert water from any source, including pond water, seawater and floodwater, for residential or industrial use.
- NEWT's modular treatment units also will be easy to reconfigure to meet desired water-quality levels for virtually any situation.
- NEWT's system will include components that target suspended solids, microbes, dissolved contaminants and salts.
- NEWT's treatment systems will each use nanomaterials and nanotechnology to make off-grid, small-scale water treatment economical.
- NEWT's cross-cutting research thrusts are nanophotonics, nanocatalysis and membrane processes.

Applications:

- NEWT will build compact, mobile water-treatment systems that can fit on the back of a tractor-trailer.
- NEWT's mobile water-treatment systems will be built from interchangeable modules.
- NEWT researchers will mix and match modules to create customized systems for specific applications.
- Examples of potential applications include treating well water for a rural community, desalinating water for coastal disaster relief and preparing well water for oil and gas production.

