NASA showcases innovative wastewater-to-biofuel production method

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NASA recently showcased the latest research and technology development a method to grow algae, clean wastewater, capture carbon dioxide and ultimately produce feedstock for refining biofuels without competing with agriculture for water, fertilizer or land.

NASA's unique floating algae cultivation system, called Offshore Membrane Enclosure for Growing Algae (OMEGA), managed by NASA's Ames Research Center, Moffett Field, Calif., will be available to transfer to the commercial sector in May 2012. A small-scale OMEGA system was developed in seawater tanks at the California Fish and Game laboratory in Santa Cruz, Calif., and scaled up to a 450-gallon system at the Southeast Wastewater Treatment facility in San Francisco.

The OMEGA system is designed to grow freshwater algae in municipal wastewater using NASA's photobioreactors, which are flexible plastic tubes that float in seawater. In the process of growing, the algae treat wastewater and address environmental problems by consuming nutrients from the wastewater and carbon dioxide. "We've addressed some of the more daunting technological problems for implementing OMEGA," said Trent. "Now the hope is that other organizations and industries will realize the potential of the OMEGA technology for wastewater treatment and ultimately to produce sustainable biofuels."

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