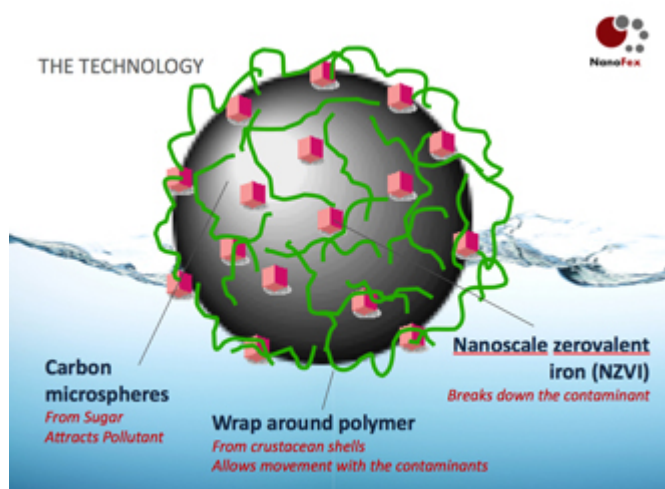


Getting a Grip on Groundwater Pollution

April 15, 2011 10:45 AM Alicia Duplessis Jasmin
aduples@tulane.edu

A team of Tulane engineers is addressing the problem of groundwater pollution through the formation of NanoFex – a company with an innovative method to curb contaminants in groundwater.



Ingenuity from a group of Tulane engineers brought about the company NanoFex, which has an innovative method to break down groundwater contaminants. (Graphic from Vijay John)

The concept proposed by [NanoFex](#) is still in the early testing stages. Vijay John, a Tulane professor of chemical and biomolecular engineering and a scientific consultant to the company, says that assistance from the Tulane [Office of Technology Transfer and Intellectual Property Development](#) and the [New Orleans Bioinnovation Center](#) has been instrumental in taking the idea from the lab to the real world.

“These organizations give internships to students from the law school and business school, and they help us with the market study, legal implications and the

intellectual property aspect,” says [John](#).

With Tulane as its incubator, NanoFex has students involved in all aspects of the company. Two doctoral students in John's group, Jingjing Zhan and, later, Bhanu Sunkara, have done the critical work needed to make the technology successful.

The NanoFex technique uses biodegradable materials such as iron, sugarcane and waste materials like crustacean shells to form a powdery substance that soaks up the contaminating chemicals in the water. John says the technology is particularly suited to the remediation of chlorinated solvents, widely used in dry cleaning, in the chemical industry and in military installations. These compounds sink deep into the ground and leach into groundwater, moving as a plume of contaminant.

“Earlier technologies just inject materials at different places so they aren't able to come into contact with much of the contaminants,” says John. “Our material travels with the plume and is an engineered material that allows it to come into contact with the contaminant and continue breaking it down as it moves.”

The company's innovation recently earned a prize of \$50,000 during the third annual New Orleans [Entrepreneur Week](#).