



## The Republican.

### **\$21.8 million grant funds UMass work**

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AMHERST - A University of Massachusetts-Amherst microbiologist has been awarded a \$21.8 million grant to continue his investigation into microbes that can harvest electricity from waste matter and clean up polluted sites.

The five-year grant from the U.S. Department of Energy was awarded to Derek R. Lovley. He will lead a team of researchers from UMass and other institutions to study the microorganism *Geobacter*, specifically which of *Geobacter*'s genes do what and in which environment the microorganism works best.

"I'm happy to have the grant," Lovley said yesterday. "We can do a lot with that."

Lovley discovered *Geobacter* (from the microbial family *Geobacteraceae*) in 1987 at the bottom of the Potomac River in Washington, D.C., and has been studying its potential ever since. The bacteria live naturally in soils and waterways. They live without oxygen and use metals or minerals, such as iron, to gain energy.

They have been used to remove contaminants from underground petroleum spills and to remove uranium from contaminated groundwater.

In 2002, Lovley discovered *Geobacter* can produce microbial nanowires, which are electrically conductive. The hope is *Geobacter* could be engineered to harvest electricity from waste matter or renewable biomass.

The \$21.8 million grant will also allow researchers to develop a computer model that will be able to predict how the *Geobacter* will perform in certain environments.

Lovley's team will collaborate with The Institute for Genomic Research in Rockville, Md., the University of Tennessee, the University of Indiana, the University of California-San Diego, Genomatica in San Diego, Calif., and the Argonne National Laboratory in Argonne, Ill.

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