



NEWS RELEASE

University of Massachusetts Amherst

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UMass Faculty Member Receives Federal Funds To Continue Research On Water Cleanup

AMHERST, Mass. – University of Massachusetts Amherst microbiologist Derek Lovley has recently received two awards of \$900,000 each from the U.S. Department of Energy (DOE) to work on removing uranium from water contaminated in the aftermath of mining activities.

“Last summer’s field experiments in Colorado were very successful,” says Lovley, “so DOE is giving us three more years to work on it.”

The grant pertains to Lovley’s discoveries about *Geobacter*, an anaerobic microorganism he discovered which can grow on metals, among them uranium. The challenge, says Lovley, has been figuring out how to grow the *Geobacter* in uranium-contaminated groundwater that is moving toward a river.

The solution has involved dumping acetate into the water. Acetate or acetic acid, he says, is basically the same as vinegar. “It’s good food for *Geobacter*, so it grows in the subsurface and puts electrons onto the uranium,” he says. This changes the uranium from soluble to insoluble, in which form it can be removed from the water.

Since joining the UMass Amherst faculty in 1995, Lovley has been one of the campus’s highest grant-earning scientists. Last year he garnered a \$9 million grant from the U.S. Department of Energy to study the *Geobacter* genome.

Lovley’s other work with mud- and hot-water-dwelling microbes has shown promise not only for cleaning up toxic wastes but also for generating electricity.

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