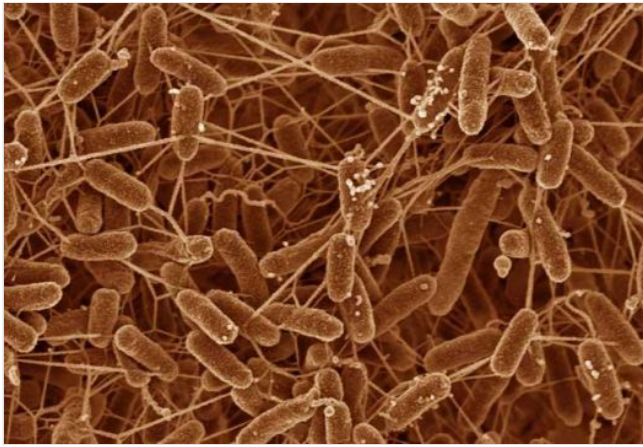


Microbe That Extracts Energy from Mud Gets Ready for Use in Fuel Cells

Energy-producing microbe evolves into dramatically more efficient strain

By [Adrian Covert](#) Posted 08.04.2009 at 10:59 am



Geobacter: Now eight times more efficient *Geobacter.org*

Geobacter, a microbe that generates electricity when placed in mud and wastewater, has been evolved into a far more productive strain, as part of a new University of Massachusetts breakthrough that has researchers thinking of new fuel cell designs.

Science Daily says that *Geobacter* is about 3-5 nanometers in diameter, which is about 20,000 times finer than a human hair. *Geobacter* is known for its ability to transfer electrons, which enables it to "extract" energy from biomass.

Since the evolution of the strain, facilitated by the U. Mass team, the organism is now eight times more efficient on the conservative end, and produces enough energy to start planning product development around *Geobacter*.

The evolution took place when the research team grew the microbe on graphite anodes, fed it acetate, then shocked it with a 400-millivolt current, which forced it into transferring more electrons than normal. Five months later, the species was working eight times more efficiently.

Researchers say that *Geobacter* could be good not only for microbial fuel cells, but also for treating home wastewater while providing local power, as well as powering mobile devices.

[via [Science Daily](#) via [Slashdot](#)]

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4 COMMENTS

[NeonRobot](#)

08/04/09 at 2:54 pm

wow. imagine charging your phone on the go with water. now thats cool. and it makes you wonder how effiecent the bacteria can be.

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[rib2](#)

08/04/09 at 3:32 pm

Imagine charging the phone from toilet water.

If the output from the bacteria increased by a factor of 8 then maybe they can squeeze even more juice, electricity, out of them. Still don't know how many watts/Kilogram these micro-biological critters will

[link to this comment](#)

[rib2](#)

08/04/09 at 3:48 pm
Another thought.

I bet they are some people already planning already to install a toilet in the trunk of a bio-electric car that are made from these battery. All one has to do to fill up with fuel is stop and use the bathroom, what a site to see, or what a site you don't want to see...

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[extremechiton](#)

08/04/09 at 11:43 pm
like they always say.

every flush
has its power source.

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