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EMSL In Brief

Environmental Molecular Sciences Laboratory

Scientists Repeatedly Cite Article on Bacterial Nanowires

Written by Environmental Molecular Science Laboratory users and their collaborators, an article describing how many common microorganisms create nanowires to transfer electrons was named a hot paper by ISI's Essential Science Indicators in January 2008. Hot papers are selected because they are cited numerous times within just 2 years of publication.

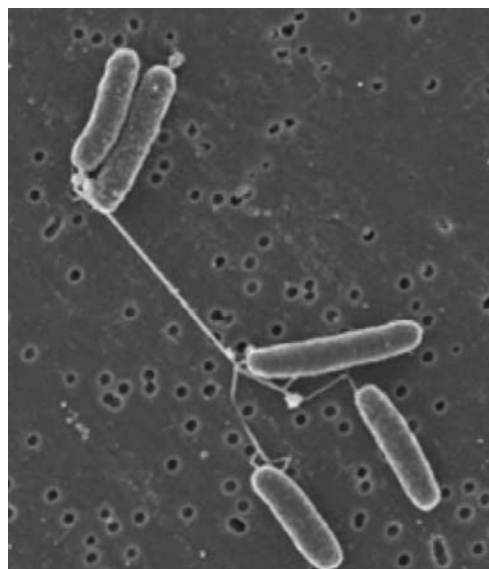
Entitled "Electrically conductive bacterial nanowires produced by *Shewanella oneidensis* strain MR-1 and other microorganisms" [[PNAS, 103\(30\):11358-11363](#)] and published in July 2006, this paper has been cited 48 times. Citations can be found in *Geobiology*, *Journal of Applied Microbiology*, and the *Journal of Applied Physics*.

To detect and characterize the nanowires, researchers used scanning tunneling microscopy and fluorescence microscopy at EMSL.

This paper was authored by researchers at University of Guelph in Canada, Gwangju Institute of Science and Technology and the Water Environment and Remediation Research Center in Korea, Pennsylvania State University, University of Southern California, Pacific Northwest National Laboratory, and the Environmental Molecular Sciences Laboratory.

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A scanning electron microscope at EMSL shows nanowires produced by *Shewanella oneidensis* strain MR-1. The subsequent article was recently named a "hot paper" by ISI's Essential Science Indicators.

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