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Scientists see big role for uranium clean-up bug

Alok Jha, science correspondent

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Scientists have sequenced the DNA of a bacterium which can help to remove uranium from contaminated groundwater.

The work shows that the microbe is far more flexible than they had thought, and has raised the hope that it could soon be used in large decontamination operations.

The *Geobacter sulfurreducens* is part of a family of microbes which make metal compounds less soluble in water. They occur naturally in contaminated water, and scientists have been looking for ways to enhance their growth. By sequencing the bacterium's genes, the researchers at the University of Massachusetts say, they have been able to learn more about how the microbes survive and how their growth can be stimulated.

Their work is published today in the journal *Science*.

"This microbe can sense and move towards metallic substances, and in some cases can survive in environments with oxygen," said Dr Barbara Methé, the leader of the sequencing project. Previously it was thought that the microbe could only survive in environments without oxygen, which would limit its usefulness.

When the bacterium is at work a small electrical charge is created, suggesting that the process could run equipment in remote locations.

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Dr Methe says at the current pace of research large-scale clean-up of metals using the microbe could be in operation within five years.

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