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The electronic properties of microbial nanowires: An STM investigation JOSH VEAZEY, BECKY STEIDL, GEMMA REGUERA, STUART TESSMER — *Geobacter* species of bacteria present the prospect of an interesting physical system through the expression of pili that act as electrically conductive nanowires. These nanowires serve the biological role of transporting metabolically generated electrons outside the cell body to electron acceptors in the organism's native environment. We have performed scanning tunneling microscopy and spectroscopy on *Geobacter sulferreducens* in an effort to elucidate the mechanism of conductivity. Understanding this system may lead to the enhancement in the effectiveness of *Geobacter* species' roles in microbial fuel cells and the bioremediation of hazardous waste, such as uranium and petroleum.

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