



Electric pets: On how *Geobacter sulfurreducens* can become domestic

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Since the discovery of electro-active bacteria as *Geobacter sulfurreducens*, research efforts have been directed to understand the way in which these microbes can produce electricity. Initially we aimed at dissecting the cell-electrode connection at the molecular level, but rapidly moved to the community level trying to define the mechanism that allows electron conduction from every cell to the collector electrode, along tenths of micrometres of biofilm exocellular matrix.

In parallel, the search for applications making use of the possibility to convert chemical into electric energy, lead initially to the implementation of microbial fuel cells for producing usable energy, but focused later on waste water cleaning as the main objective.

Now, the first real scale application is seeing the light. Electrochemical constructed wetlands called iMETlands are under validation at the global scale. Ideally, iMETland units can treat domestic waste water 10 times faster than traditional wetlands, but we need to know how they will perform under different climatological conditions. Once defined, the technology will be ready to reach the market.

Just in case be awake, because the next iMETland unit could be at your community.

Palabras clave: máximo 4 palabras claves