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### **Generation of electricity by metabolic activity of electrogenic bacteria**

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**N**egative effects from the use of fossil fuels are the main reason to develop efficient low cost technologies that are friendly to the environment. Microorganisms, particularly electrogenic bacteria, degrade substrates releasing electrons and protons generating electrical energy. In this study, three models of microbial fuel cells were implemented and the generation of bioelectricity was compared during a period of 60 days. The cells were established with organic matrices, microorganisms, anodic and cathodic compartments and anaerobic conditions. Temperature, pH and voltage monitoring was carried out by sensors recording data every 10 minutes, using the XBEE PRO S2 module; manually data was also taken with multimeter. The data showed that in cells C1 and C3 there are significant differences for the voltage between the data taken manually and those of the record, while in C2 there are no differences. Likewise, pH and temperature affect the generation of electricity, but this is not affected by the amount of microorganisms. Finally, the organic fraction of the cell influences the voltage record, concluding that the composition of the organic fraction of the cell determines the capacity of microorganisms to generate electricity.

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