1. Record Nr. UNINA9910339573603321

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| Titolo | Business America |
| Pubbl/distr/stampa | [Washington, D.C.], : U.S. Dept. of Commerce, : [Supt. of Docs., U.S. G. P.O., distributor], [-1999] |
| Descrizione fisica | 1 online resource |
| Disciplina | 330.9/73/092 |
| Soggetti | Business<br>International business enterprises - United States<br>Affaires<br>Mensuels<br>Multinationales<br>Commerce<br>International business enterprises<br>BUSINESS<br>FOREIGN TRADE<br>UNITED STATES<br>Periodicals.<br>United States Commerce Periodicals<br>Etats-Unis d'Amérique<br>United States |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Periodico |

2. Record Nr. UNINA9910346735103321

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| Autore | Haoyi Cheng |
| Titolo | Electrochemically Active Microorganisms |
| Pubbl/distr/stampa | Frontiers Media SA, 2018 |
| Descrizione fisica | 1 online resource (218 p.) |
| Collana | Frontiers Research Topics |
| Soggetti | Microbiology (non-medical) |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |

Sommario/riassunto

Microbial electrochemical systems (MESs, also known as bioelectrochemical systems (BESs) are promising technologies for energy and products recovery coupled with wastewater treatment, and have attracted increasing attention. Many studies have been conducted to expand the application of MESs for contaminants degradation and bioremediation, and increase the efficiency of electricity production by optimizing architectural structure of MESs, developing new electrode materials, etc. However, one of the big challenges for researchers to overcome, before MESs can be used commercially, is to improve the performance of the biofilm on electrodes so that 'electron transfer' can be enhanced. This would lead to greater production of electricity, energy or other products. Electrochemically active microorganisms (EAMs) are a group of microorganisms which are able to release electrons from inside their cells to an electrode or accept electrons from an electron donor. The way in which EAMs do this is called 'extracellular electron transfer' (EET). So far, two EET mechanisms have been identified: direct electron transfer from microorganisms physically attached to an electrode, and indirect electron transfer from microorganisms that are not physically attached to an electrode. 1) Direct electron transfer between microorganisms and electrode can occur in two ways: a) when there is physical contact between outer membrane structures of the microbial cell and the surface of the electrode, b) when electrons are transferred between the

microorganism and the electrode through tiny projections (called pili or nanowires) that extend from the outer membrane of the microorganism and attach themselves to the electrode. 2) Indirect transfer of electrons from the microorganisms to an electrode occurs via long-range electron shuttle compounds that may be naturally present (in wastewater, for example), or may be produced by the microorganisms themselves. The electrochemically active biofilm, which degrades contaminants and produces electricity in MESs, consists of diverse community of EAMs and other microorganisms. However, up to date only a few EAMs have been identified, and most studies on EET have focused on the two model species of Shewanella oneidensis and Geobacter sulfurreducens.