



CYCLE DE CONFÉRENCES DE CHIMIE

*Avec le concours de : Université Clermont Auvergne
INP Clermont Auvergne*

Vendredi 8 novembre à 14 h

Amphi Rémi (site des Cézeaux)

Lei WANG

Research center for eco-environmental sciences (RCEES), Chinese Academic Science, Beijing

Nano-Fe modified biochar used as MFC anode and their application in dealing with pollutants

Microbial fuel cells (MFCs) are a promising technology for clean energy generation and sustainable environmental remediation, which is capable of utilizing exoelectrogens to convert chemical energy in organic wastewater directly into electrical energy. We prepared 3D nano-Fe modified biochar used as anode material, and it presented high electrocatalytic activity to overcome the slow extracellular electron transfer between the exoelectrogens and the anode material to improve the power output of MFCs. The maximum power density obtained from the 3D nano-Fe@C/SC anode in the MFC was 3013 mW/m² and the removal of Cr(VI) was 91%. The conditions and mechanisms of conducting nanowires expressed by the exoelectrogens were investigated to reveal the key processes and mechanisms of microbial nanowires in extracellular electron transfer by examining different environmental stress factors. Finally, the integrated resource utilization of waste MFC components was carried out to further enhance the practicality and pollutant conversion efficacy of MFC technology.

Coordinateurs : Alain DEQUIDT ☎ 33 473 407 194 courriel : alain.dequidt@uca.fr

Kévin LEMOINE ☎ 33 473 407 513 courriel : kevin.lemoine@uca.fr

Institut de Chimie de Clermont-Ferrand (ICCF-UMR 6296)

Université Clermont Auvergne, 24, avenue Blaise Pascal, TSA 80026 63178 AUBIERE cedex-France