

Microbial fuel cell-based biosensors for environmental monitoring: a review.

Sun J.Z., Peter Kingori G., Si R.W., Zhai D.D., Liao Z.H., Sun D.Z., Zheng T., Yong Y.C.

Abstract

The microbial fuel cell (MFC) is an innovative technology that was initially designed to harness energy from organic waste using microorganisms. It is striking how many promising applications beyond energy production have been explored in recent decades. In particular, MFC-based biosensors are considered to be the next generation biosensing technology for environmental monitoring. This review describes recent advances in this emerging technology of MFC-based biosensors, with a special emphasis on monitoring of biochemical oxygen demand and toxicity in the environment. The progress confirms that MFC-based biosensors could be used as self-powered portable biosensing devices with great potential in long-term and remote environmental monitoring