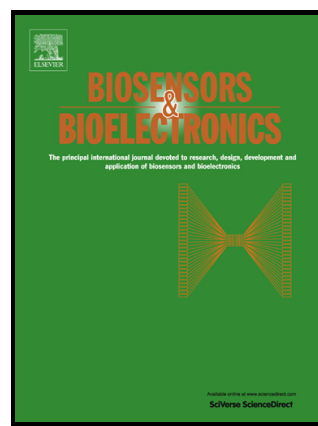


## Author's Accepted Manuscript

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PII: S0956-5663(15)00104-9  
DOI: <http://dx.doi.org/10.1016/j.bios.2015.02.013>  
Reference: BIOS7462

To appear in: *Biosensors and Bioelectronic*

Received date: 2 December 2014  
Revised date: 27 January 2015  
Accepted date: 7 February 2015

Cite this article as: Ermete Antolini, Composite materials for polymer electrolyte membrane microbial fuel cells, *Biosensors and Bioelectronic*, <http://dx.doi.org/10.1016/j.bios.2015.02.013>

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## Composite materials for polymer electrolyte membrane microbial fuel cells

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### Abstract

Recently, the feasibility of using composite metal-carbon, metal-polymer, polymer-carbon, polymer-polymer and carbon-carbon materials in microbial fuel cells (MFCs) has been investigated. These materials have been tested as MFC anode catalyst (microorganism) supports, cathode catalysts and membranes. These hybrid materials, possessing the properties of each component, or even with a synergistic effect, would present improved characteristics with respect to the bare components. In this paper we present an overview of the use of these composite materials in microbial fuel cells. The characteristics of the composite materials as well as their effect on MFC performance were compared with those of the individual component and/or the conventionally used materials.

**Keywords:** Microbial fuel cell; composite; electrode; membrane; nanomaterial.

### Abbreviations

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