Novel, Low-cost Method for **Fabricating Multi-metallic Hydrogen Oxidation Electrocatalyst Materials**

The Problem

In polymer electrolyte membrane fuel cells, the electro catalysts, membrane and metal hardware are expensive. So far, the electro catalysts failed to reach a cost-effective level.

The Solution

The invention relates to the preparation of multi-metallic electrocatalysts. These electro catalysts display higher activities than those synthesized by current methods.

The Commercial Benefit

Our multi-metallic electro catalysts:

- display higher activities than those synthesized by current competitors,
- reach a cost-effective level.

Market Potential

Fuel cell electrolyte market size is anticipated to witness significant growth from 2016 to 2023. This growth can be attributed to the increasing demand for fuel cells for transportation. The attributes offered by fuel cells such as fuel efficient, economical prices along distributed power generation cells are likely to drive industry demand.

Target Markets/Industries

- Energy companies,
- Transportation industry
- Chemical Industry
- Fuel Cell producers

Intellectual Property

The patent covers the process for fabrication of the anode catalyst. The research has been supported by the Chief of Scientist of the Innovation Authority through the Magnet TEPS (Transportation Electrochemical Propulsion Solutions).

Team: Primary Inventor

Prof. David Zitoun
Prof. David Zitoun is Associate Professor in the Department of Chemistry and a member of the Bar-Ilan Institute of Nano-technology and Advanced Materials (BINA).
Prof. Zitoun is leading a research group investigating advanced materials for energy applications; Li-ion batteries, fuel cells and other catalysts. His work has been highlighted in 70 publications, 8 patents.
www.zitounlab.com

Future Research

The research laboratory develops electrocatalysts for a wide range of applications, fuel cells, redox flow batteries and water splitting.

The Opportunity

We invite industrial companies to license our patent through a licensing agreement with sponsored research.

Keywords

- Fuel cells
- alkaline fuel cells
- electrocatalysts
- Polymer electrolyte membrane fuel cells
- catalysts