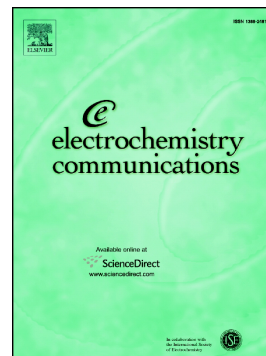


Accepted Manuscript

Implementing PGM-free electrocatalysts in high-temperature polymer electrolyte membrane fuel cells

Rohan Gokhale, Tristan Asset, Guoqing Qian, Alexey Serov, Kateryna Artyushkova, Brian C. Benicewicz, Plamen Atanassov



PII: S1388-2481(18)30161-9
DOI: doi:[10.1016/j.elecom.2018.06.019](https://doi.org/10.1016/j.elecom.2018.06.019)
Reference: ELECOM 6245
To appear in: *Electrochemistry Communications*
Received date: 30 April 2018
Revised date: 30 May 2018
Accepted date: 29 June 2018

Please cite this article as: Rohan Gokhale, Tristan Asset, Guoqing Qian, Alexey Serov, Kateryna Artyushkova, Brian C. Benicewicz, Plamen Atanassov , Implementing PGM-free electrocatalysts in high-temperature polymer electrolyte membrane fuel cells. *Elecom* (2018), doi:[10.1016/j.elecom.2018.06.019](https://doi.org/10.1016/j.elecom.2018.06.019)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Implementing PGM-free Electrocatalysts in High-Temperature Polymer Electrolyte Membrane Fuel Cells

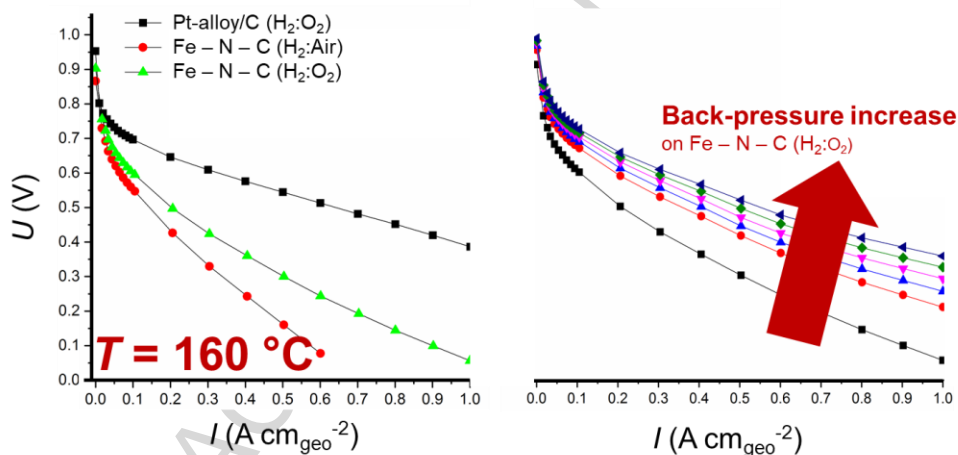
Rohan Gokhale¹, Tristan Asset¹, Guoqing Qian², Alexey Serov¹, Kateryna Artyushkova¹,
Brian C. Benicewicz^{2,*} and Plamen Atanasov^{1,*}.

¹ Department of Chemical and Biological Engineering, Center for Micro-Engineered Materials (CMEM), University of New Mexico, Albuquerque, New Mexico 87131, United States

² Department of Chemistry and Biochemistry, University of South Carolina, Columbia, SC 29208

* Corresponding authors: B. C. B: benice@mailbox.sc.edu, P.A: plamen@unm.edu

Graphical Abstract



Highlights

- Fe-N-C electrocatalyst was synthesized by the sacrificial support method.
- The Fe-N-C electrocatalyst was characterized in single-cell configuration in a high temperature PEMFC
- At $0.2\text{ A cm}_{\text{geo}}^{-2}$, a polarization of 0.43 V was observed without back-pressure and polarization of 0.65 V with a back-pressure of $3.0 \times 10^5\text{ Pa}$ (at 433 K , O_2 at the cathode).

Download English Version:

<https://daneshyari.com/en/article/6600657>

Download Persian Version:

<https://daneshyari.com/article/6600657>

[Daneshyari.com](https://daneshyari.com)