



## VABILO NA PREGLOV KOLOKVIJ / INVITATION TO THE PREGL COLLOQUIUM

**Dr. Karl J. J. Mayrhofer**

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**Četrtek / Thursday, 12. 07. 2012, ob / at 13:00**

**Velika predavalnica Kemijskega inštituta / Lecture Hall at the  
National Institute of Chemistry; Hajdrihova 19, Ljubljana**

### **Investigation of electrode material stability for electrochemical energy conversion in fuel cells**

K.J.J. Mayrhofer, C. Jeyabharathi, J.C. Meier, I. Katsounaros, A.A. Topalov, A. Schuppert, S.  
Cherevko, S.O. Klemm

Continuous electrochemical flow reactors for efficient conversion of electrical energy into chemicals and vice versa, i.e. fuel cells and electrolyzers, become increasingly important for our energy sustainability and environmental concerns. The search for improved electrocatalyst materials, which constitute the core of electrochemical energy conversion devices, has been typically dominated by the optimization of kinetic activity of catalysts and efficiency of whole cells. However, also the stability of the materials is highly important for a potential commercialization, if not even more important, and should at least always be considered in parallel. In this presentation I will demonstrate how such investigations are done on a fundamental level, and what can be learned from these studies for large scale applications. The focus will be on the methodological developments from our group, as well as typical carbon supported noble metal catalysts as used in low-temperature fuel cell electrochemical reactors.

- [1] K. J. J. Mayrhofer et al., Journal of Power Sources 2008, 185, 734.
- [2] J.C. Meier et al., ACS Catalysis 2012, 2, 832.
- [3] S. O. Klemm et al., Electrochemistry Communications 2011, 13, 1533.

**Vljudno vabljeni! / Kindly invited!**