



VABILO NA PREGLOV KOLOKVIJ / INVITATION TO THE PREGL COLLOQUIUM

Prof. Dr. Joachim Sauer

Institute of Chemistry, Humboldt-Universität zu Berlin,
Unter den Linden 6, DE-10099 Berlin, Germany
js@chemie.hu-berlin.de

sreda / Wednesday, 08. 06. 2016, ob / at 11:00

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

Different C-H Bond Activation Mechanisms on Solid Oxide Catalysts

Two different types of catalytic C-H bond activations in partial oxidations are discussed: (i) activation by transition metal oxides which exchange redox equivalents with the feed molecule (Mars-van Krevelen), and (ii) activation on metal oxides where redox equivalents are exchanged directly between a hydrocarbon molecule and a surface oxygen species.

For the former, we are particularly interested in support effects for vanadium oxide catalysts, in particular in the difference between reducible (VO_x/CeO_2)¹ and non-reducible (VO_x/SiO_2) supports.^{2,3}

For the latter, we discuss oxidative coupling of CH_4 on (Li-)doped and undoped MgO surfaces.⁴

References

- 1 T. Kropp, J. Paier and J. Sauer, *J. Am. Chem. Soc.*, 2014, **136**, 14616.
- 2 J. Döbler, M. Pritzsche and J. Sauer, *J. Am. Chem. Soc.*, 2005, **127**, 10861.
- 3 X. Rozanska, R. Fortrie and J. Sauer, *J. Am. Chem. Soc.*, 2014, **136**, 7751.
- 4 K. Kwapien, J. Paier, J. Sauer, M. Geske, U. Zavyalova, R. Horn, P. Schwach, A. Trunschke and R. Schlögl, *Angew. Chem., Int. Ed.*, 2014, **53**, 8774.

Vljudno vabljeni! / Kindly invited!

info:

dr. Albin Pintar; albin.pintar@ki.si

prof. dr. Nataša Novak Tušar; natasa.novak.tusar@ki.si