



Vabilo na Preglov kolokvij / Invitation to the Pregl colloquium

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Četrtek / Thursday 20. 4. 2023, ob / at 13:00

Velika predavalnica Kemijskega inštituta /
Great Lecture Hall

National Institute of Chemistry
Hajdrihova 19, Ljubljana, Slovenia

Special Sites in Special Environment – How to identify active species in catalysis?

Knowing precisely the structure of active sites in a catalyst and their role in the target reaction is essential for rational catalyst design. Surfaces of solid catalysts in heterogeneous catalysis usually expose a variety of different sites and active metal complexes in homogeneous catalysis may only be formed from precursor states under reaction conditions. In any case, active sites driving a catalytic reaction are frequently minority species. To identify and distinguish them from spectator species requires the use of spectroscopic methods able to detect species in very low concentrations under catalytic reaction conditions. Elemental microanalysis was pioneered by Fritz Pregl and awarded with the Nobel prize in 1923. Since then, analytical methods have seen an incredible development. In this talk it will be illustrated by examples from heterogeneous and homogeneous catalysis how spectroscopic techniques such as EPR, IR-ATR, UV-vis and EXAFS/XANES spectroscopy, also in simultaneously coupled mode, can be used to analyze structure-reactivity relationships on working catalysts.



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Vljudno vabljeni / Kindly invited