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CARES Visiting Scientists Seminar Series:

Layered materials for energy related applications

Assoc. Prof. Zdenek Sofer, University of Chemistry and Technology Prague

Wednesday 9th Nov, 5.00—6.00pm

CREATE Theatrette, Level 2, CREATE Tower

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Abstract: The graphene and its inorganic analogues attract great attention in last decade due to its outstanding properties. These materials offer huge opportunities in several energy-related applications like energy storage and conversion, gas sorption and separation of CO₂. The energy-related application of layered materials currently focuses on electrocatalysis such as hydrogen evolution reaction and oxygen reduction reaction which are crucial for hydrogen economics. The graphene-based materials, as well as transition metal dichalcogenides, can be applied as an effective electrocatalytic material. This topic is strongly related hydrogen storage using graphene and its derivatives. The modification of graphene can be applied for CO₂ capture and also for gas separation using graphene based membranes and foils. These applications will be discussed in the presented talk.



Biography: Assoc. Prof Zdenek Sofer (born in 1981 in Plzen, Czech Republic) received his Ph.D. in Inorganic Chemistry, UCT Prague in 2013. He currently leads a research group concerning on 2D nanomaterials (6 Ph.D., 2 MSc.) His laboratory is equipped for synthesis and characterization of graphene and other 2D nanomaterials like transition metal dichalcogenides.

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