

**Dr. Stefan Vajda***Senior Chemist*

Nanophotonics &amp; Biofunctional Structures

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Ph.D. in Chemistry, Charles University  
Prague, CzechoslovakiaHabilitation in Experimental Physics  
Freie Universität Berlin,  
Berlin, Germany**Research Summary:**

- Physical and chemical properties of supported metal clusters and cluster-based nanomaterials, optical properties of clusters and nanostructures.
- Nanocatalysis: Study of the size/shape/composition & function relationship at the sub-nanometer and nanometer scale, support effects in catalysis.
- Combined synchrotron X-ray scattering, X-ray absorption and mass-spectroscopy studies of nanocatalysts under realistic reaction conditions.
- Electrocatalysis by clusters.
- Clusters in Li-air batteries.

**Honors and Recognition**

- Recipient of a 2010 DAAD (German Academic Exchange Service) Award to participate in the Special Information Program: "Chemistry Research and Higher Education in Germany: Today's Endeavor towards Green Chemistry"
- Member, Advisory Board of The Dekker Encyclopedia of Nanoscience and Nanotechnology, Marcel Dekker, Inc, New York, since 2009
- Fulbright Fellowship to support a research stay with Prof. G. Fleming at the University of Chicago (1990).
- Invited chapters in "Femtochemistry" (Wiley 2001); "Femtochemistry and Femtobiology" (World Scientific 2003); Advanced Series in Physical Chemistry Vol.13, "Progress in Experimental and Theoretical Studies of Clusters" (World Scientific, 2003); Dekker Encyclopedia of Nanoscience and Nanotechnology (2008, 2013); Catalysis Today, topical issue "Catalysis by Metals" (2010); Physical Chemistry Chemical Physics and ChemCatChem special issues on in situ studies of nanomaterials (2010, 2011, 2012), Wiley "*Heterogeneous Catalysis at the Nanoscale for Energy Applications*" (2012), ACS Catalysis (2015), Nature Nanotechnology (2015).

**Publications:** Around 100, including two in Science and Phys. Rev. Lett., and one in Angew. Chem. Int. Ed., Nano Letters, Nature Materials, Nature Communications and Nature Nanotechnology

**Patents:** 2 issued