

## 2013 - Michel Boudart Award for the Advancement of Catalysis



Prof. Jens Nørskov

We are pleased to announce that **Prof. Jens K. Nørskov** of the Department of Chemical Engineering and the SLAC National Accelerator Laboratory at Stanford University is the recipient of the 2013 Michel Boudart Award for the Advancement of catalysis. The Award is sponsored by the Haldor Topsøe Company and is administered jointly by the NACS and the EFCATS. More information on this award and the award process can be found at: [http://www.nacatsoc.org/awards\\_desc.asp](http://www.nacatsoc.org/awards_desc.asp)

The Michel Boudart Award for the Advancement of catalysis is given in recognition of individual contributions to the elucidation of the mechanism and active sites involved in catalytic phenomena and to the development of new methods or concepts that advance the understanding and/or practice of heterogeneous catalysis. The Award selection process emphasizes accomplishments and contributions published within the five preceding years.

The award recognizes Professor Jens K. Nørskov for his pioneering work on understanding trends in catalyst activity and developing catalyst design principles based on reactivity descriptors. He and his coworkers have contributed extensively to the development of computational methods and models of surface reactivity. Professor Nørskov has introduced what is today a standard model of transition metal reactivity and has used it to explain trends in adsorption energies and in the activation energies of elementary processes on transition metal catalysts in terms of variations in the d-band center and other parameters characterizing the properties of surface electrons. Nørskov has quantified Brønsted-Evans-Polanyi (BEP) relations and showed how they lead to predictive models that relate catalytic reactivity to adsorption energies of key relevant species. The methods developed for use in heterogeneous catalysis have been successfully transferred into the area of electrocatalysis. Most recently, his research group has introduced the first database of surface chemical properties and developed publicly available software to access and mine thermodynamic and catalytic data on active surfaces, thus opening novel opportunities for discovering trends and for designing new catalysts and catalytic processes.

Professor Nørskov will present plenary lectures at the 23<sup>rd</sup> NAM in Louisville and also at the 2013 Europacat Meeting in Lyon.