GENERAL INFORMATION

The symposium will be held within the framework of the meeting series of the Topsøe Catalysis Forum and we are happy to use this symposium to honor Jens R. Rostrup-Nielsen's more than 4 decades in catalysis and Henrik Topsøe's 60th birthday and both of them for their outstanding contributions to heterogeneous catalysis.

The Topsøe Catalysis Forum (TCF) was established as an informal setting for exchange of ideas and discussions of topics in catalysis of relevance to the business areas of Haldor Topsøe A/S. By gathering external researchers and Topsøe researchers for two intense days, it is the intention that we together can look into the future and identify new paths for catalyst and/or process development.

One of the guidelines for the work at Haldor Topsøe A/S has always been to develop new catalysts and processes based on a very detailed understanding of surface science, catalyst manufacturing, reaction kinetics and reactor engineering. The conceptual basis of the present symposium follows the same trend. In the first session, catalytic model systems will be discussed on a molecular level based on experimental results and on calculations of electronic structures. The relationship between catalyst preparation and the structure (and lifetime) of the working catalyst is the focus of the second session. The third session deals with mechanisms, thermodynamics and reaction kinetics for the working catalyst and in the last session, future paths towards new processes and new potential business areas will be discussed.

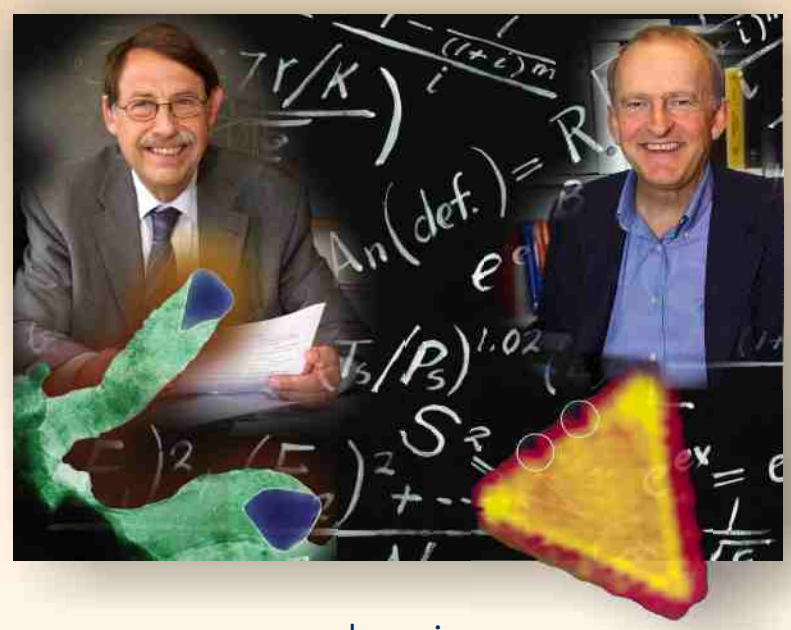
ORGANIZING COMMITTEE

Bjerne S. Clausen, Haldor Topsøe A/S
Hans Christian Dibbern, Haldor Topsøe A/S
Kim Grøn Knudsen, Haldor Topsøe A/S
Poul Erik Højlund Nielsen, Haldor Topsøe A/S
Jens K. Nørskov, CAMP, Technical University of Denmark

Topsøe Catalysis Forum

Symposium

Frontiers in Catalysis: A Molecular View of Industrial Catalysis



honoring

Jens R. Rostrup-Nielsen's 40 years in catalysis

and

Henrik Topsøe's 60th birthday

February 10 - 11, 2005
Havreholm Slot
Hornbæk, Denmark

Thursday, February 10

09:00 Opening remarks

09:05 Welcome address by Haldor Topsøe

Morning session: *Model Systems* Chairman: Jens K. Nørskov

09:15 D. Wayne Goodman: *"Model Studies of Catalysis by Au"*

10:00 Flemming Besenbacher: *"Surface Reactivity and Catalysis at the Atomic Scale studied by STM"*

10:45 Coffee Break

11:15 Berit Hinnemann: *"Transition Metal Sulfides as Surface and Biological Catalysts"*

12:00 Manos Mavrikakis: *"Mechanistic Studies of Low Temperature Water-Gas-Shift Reaction"*

12:45 Lunch

Afternoon session: *The Working Catalyst* Chairman: Hans Christian Dibbern

14:00 Enrique Iglesia: *"Synthesis, Structure, and Catalytic Function of Oxide Nanostructures"*

14:45 Robert Schl gl: *"Styrene Synthesis: A Dual Mode of Operation of a Technical Catalyst System"*

15:30 Coffee Break

16:00 Abhaya K. Datye: *"Catalyst Sintering: Chasing Atoms and Clusters on Oxide Supports"*

16:45 John W. Geus: *"Selective Catalytic Oxidation of Hydrogen Sulfide to Elemental Sulfur"*

17:30 Stig Helveg: *"Atomic-Scale Imaging of Heterogeneous Catalysts in their Working State"*

18:00 Short Break

Special session Chairman: Bjerne S. Clausen

18:15 Henrik Topsøe: *"Some Reflections"*

18:30 Jens Rostrup-Nielsen: *"40 Years in Catalysis"*

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19:00 Dinner

Friday, February 11

Morning session: *Bridging the Gap* Chairman: Kim Knudsen

08:30 Roel Prins: *"Mechanisms of HDS and HDN"*

09:15 Guy B. Marin: *"Bridging the Gap between Vapour and Liquid Phase"*

10:00 Coffee Break

10:30 Michel Vrinat: *"About Hydrodesulfurization and Hydrogenation Catalytic Sites over Sulfide Catalysts"*

11:15 Lanny D. Schmidt: *"Hydrogen and Chemicals from Fossil and Renewable Fuels by Autothermal Reforming"*

12:00 Jens Sehested: *"Bridging the Gap for Nickel Catalysts"*

12:45 Lunch

Afternoon session: *Future Directions* Chairman: Poul Erik Højlund Nielsen

14:00 Jacob A. Moulijn: *"Catalytic Monolithic Reactors in Multiphase Applications"*

14:45 James A. Dumesic: *"Catalytic Production of Hydrogen and Liquid Alkanes from Biomass-Derived Oxygenated Hydrocarbons"*

15:30 Coffee Break

16:00 Mark A. Barteau: *"Olefin Epoxidation on Silver: From Fundamentals to Rational Catalyst Design"*

16:45 Domenico Sanfilippo: *"Dehydrogenation of Paraffins: Synergies between Catalyst Design and Reactor Engineering"*

17:30 End of meeting