The TOPSOE CATALYSIS FORUM was created as a framework for an open exchange of views on catalysis in the fields of interest to Haldor Topsoe. The forum is conceived as a platform for discussions of new reactions and new principles of catalysis in an attempt to jointly look beyond the horizon. In order to facilitate an open debate and to enable all participants to make use of the information received during the meetings in their future work, the forum is held on a non-confidential basis. The TOPSOE CATALYSIS FORUM works through individual contacts and annual meetings focusing on a single topic.

The topic of the 12th TOPSOE CATALYSIS FORUM is:

Catalysis in petrochemicals

The world population is increasing by a staggering 200,000 people pr. day. Combined with an overall world-wide increase in wealth, this development leads to increasing demand for basic products such as packaging and clothing. It is up to the petrochemical industry to deliver the feedstock for these products. Development of efficient catalytic processes with high product yields is essential in order to meet the future demand while the environmental impact and energy consumption need to be at acceptable levels. The optimization of existing catalytic processes for synthesis of petrochemicals is not trivial since most of these processes are already highly optimized and very efficient. Development of entirely new processes to compete with the existing technology seems even more challenging, so all in all, it is a daunting task that lies ahead of us.

At the Topsoe Catalysis Forum 2015, we will focus on various aspects of catalysis applied in synthesis of petrochemicals including selective oxidations, selective hydrogenations, and novel materials. Focus is on reviewing existing and state-of-the-art knowledge, as well as discussing future trends and new processes. On top of the scientific and technical presentations and discussions, which is the core focus of the forum, the program also includes contributions of a more market-oriented/commercial nature in order to give a more holistic view of the future expectations for the industry.

The aim of the forum is to establish an open-minded and informal atmosphere, where knowledge, thoughts, and ideas are shared. Thus, we believe the forum provides a basis for gaining new understanding and will contribute to moving the industry forward.

Scientific committee

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The Topsoe Catalysis Forum is organized as a two-day topical meeting. The first day is devoted to overview lectures which set the scene and form the basis for the discussions. On the second day, the discussions and exchange of views will take place in three groups, each organized around a specific subtopic.

Participation is by invitation only. Besides the presenters, representatives from industrial collaboration partners are invited, but the majority of the participants are Haldor Topsoe staff. On the first day of the meeting, up to 70 participants will be present, whereas around 50 will take part in the discussions on the second day. The meeting is held on a non-confidential basis.

Thursday, August 27

09:00 - 09:10  Welcome address
               Jesper Nerlov, Haldor Topsoe

09:10 - 10:00  Plenary morning session - chairman: Martin Skov Skjøth-Rasmussen, Haldor Topsoe

10:00 - 10:50 Hydrocarbon selective oxidation
               Graham Hutchings, University of Cardiff

11:10 - 12:00 Catalytic reforming for aromatic production
               Greg Marshall, GAM Engineering LLC

19:00          Conference dinner

Friday, August 28

08:45 - 09:00  Introduction to group discussions
               Fei Chen, Haldor Topsoe

09:00 - 11:55 Group discussions

Grp. 1: Selective oxidations
      - chairman: Anders Gabrielsson, Haldor Topsoe
      - Structure-activity relationships for ammoxidation of C2 and C3 molecules
        Miguel Balbuena, Institute for Catalysis, CSIC
      - Deactivation of oxychlorination catalysts
        De Chen, NTNU Trondheim
      - Selective oxidation for the production of chemicals
        Ferruccio Trifiro, University of Bologna

Grp. 2: Materials
      - chairman: Uffe Vie Mentzel, Haldor Topsoe
      - Potential for MOF in petrochemical synthesis
        Karl Petter Lillerud, University of Oslo, department of chemistry
      - Kinetic characterization of zeolite catalysts using cracking, alkylation, and other chemical reactions
        Dmitry Lukyanov, University of Bath
      - Two-dimensional zeolites for hydrocarbon conversions
        Jin Cejka, Academy of Sciences of the Czech Republic

Grp. 3: Selective hydrogenation
      - chairman: Rasmus G. Egeberg, Haldor Topsoe
      - Structure and performance of selective hydrogenation catalysts
        Martin Lok, Catalox Consultancy
      - Fundamental understanding of acetylene selective hydrogenation
        Nuria López, ICIQ Tarragona
      - Selective hydrogenation of pygas over nickel and palladium catalysts
        David Jackson, Glasgow Centre for Catalysis Research

12:00 - 13:00 Refining and petrochemicals: Challenges and solutions
               Rafael Larraz, CEPSA

13:00 - 13:10 Closing remarks

Lunch between 13:10 - 14:40