INTRODUCTION
Heterogeneous catalysis is involved in numerous industrial processes with important impacts on our society and economy.

The characterization of these catalysts – physical properties, efficacy, selectivity – involves analysis techniques which are often applied in situ, enabling real-time investigation during reactions.

The aim of this two-day conference is to present current research on catalysts, focusing on their preparation and characterization, in particular at large-

31 MARCH 2014

08.30 Registration/Welcom coffee
09.00 OFFICIAL OPENING
Pr. Paul Vigny and Dr. Louis Hennet
09.30 OPENING LECTURE
Dr Igor Leontyev
LE STUDIUM® Research Fellow - CEMHTI
Catalytic activity of carbon-supported Pt nanoelectrocatalysts. Why reducing the size of Pt nanoparticles is not always beneficial?

SESSION ONE
Chairman Pr. Andrea E. Russel
10.00 Pr. Pierre Millet
Characterization of electrocatalysts for PEM fuel cells and water electrolysis applications using time-resolved EXAFS spectroscopy.
10.30 Pr. Boris Tarasov
Metal hydride materials and devices for hydrogen energy storage.
11.00 Coffee break
11.30 Pr. Charles Kappenstein
Cellular ceramic versus pellets as catalyst support for green propulsion applications.
12.00 Dr. Jean-Sébastien Girardon
Examples of original approaches with microfluidic device for the synthesis of gold nanoparticles and for catalyzed oxidation reactions.
12.30 Lunch

SESSION TWO
Chairman Pr. Pierre Millet
14.00 Dr. Peter Albers
Industrial applications of neutrons and synchrotron radiation: influence of particle size, composition and morphology on hydrogen storage capability, activity and selectivity of commercial supported catalysts.
14.30 Dr. Dmitry Chernyshov
Getting more from a diffraction experiment with synchrotron light and modern detectors.
15.00 Dr. Valérie Briois
Quick-EXAFS a powerful technique for time-resolved XAS characterization: applications in Catalysis.
15.30 Pr. Andrea E. Russel
In situ XAS and XRD of electrocatalysts for fuel cells and water electrolyzers.
16.00 Coffee break
16.30 Pr. Yuri Dobrovolsky
New solid electrolytes for low temperature electrochemical devices.
17.00 Dr. Andrea Zitolo
Modelling of Active Site in Fe-based Electrocatalysts for Proton Exchange Membrane Fuel Cell by Using X-ray Absorption Spectroscopy.

18.00 LE STUDIUM LECTURE
Pr. Charles Kappenstein
From the laboratory to space, an exciting adventure: kinetics, catalysis and propulsion.

1 APRIL 2014

08.45 Coffee break

SESSION THREE
Chairman : Dr. Igor Leontyev
09.00 Pr. Xavier Carrier
The Preparation of Alumina-Supported Ni-Mo Hydrotreating Catalysts Through a Surface Science Approach in Aqueous Solution.
09.30 Pr. Natalia Kononenko
Modifications of perfluorinated sulphocationic membranes for fuel cells.
10.00 Pr. Nina Smirnova
Alternating current synthesis of nanomaterials based on metals and metal oxides.
10.30 Asseline Lemoine (Phd student)
Investigating structure and chemical arrangement of Co-based nanoparticles by imaging and scattering methods with chemical selectivity.
10.50 Coffee break

SESSION FOUR
Chairman : Pr. Xavier Carrier
11.30 Dr. Dmitry Doronkin
Mechanistic insights into NH3-SCR over Fe-zeolites using operando X-ray absorption and emission spectroscopy.
12.00 Dr. Mickael Capron
Application of a common catalyst for the one pot synthesis of dimethoxymethane from methanol.
12.30 Lunch
14.00 Dr. Victor Mougel
Controlled functionalization of surfaces towards single-sites catalysts: the contribution of solid-state NMR and XAS.
14.30 Pr. Ivan Brink
Energy harvesting of drifting snow.
15H00 Discussion
Needs for the future.
15H45 Conclusion
16H00 Coffee break
16H30 End
INVI TED SPEAKERS

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<tr>
<th>Speaker Name</th>
<th>Institution</th>
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<tr>
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<td>AQura GmbH • Hanau-Wolfgang • DE</td>
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<td>Dr Igor Leontyev (LE STUDIUM® Researcher)</td>
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CONVENORS

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