

19th and 20th February 2015
Saint-Etienne-du-Rouvray, France



LSPC
Laboratoire
de sécurité
des procédés
chimiques



Workshop: Utilisation and valorisation of CO₂ for green chemistry Chemical reactor, Optic methods and Catalyst

SCOPE

One of the goals of E3C3 program is the valorisation of CO₂ to produce chemicals or biofuels. The chemical engineering family should face many challenges: how to activate such an inert molecule, how to measure its concentration in a spray, what kind of chemical reactors to use...?

The global project aims is to create a center for research and training focused on the development of knowledge, optimization strategies and tools for improving energy production systems, for a clean combustion based on consumption of liquid fuels from biomass. The LSPC (INSA Rouen) has an experience in process intensification and safety. Its goal in this program is to develop a pilot for CO₂ capture and to investigate the different ways of CO₂ valorisation.

As a major contribution to the E3C3 project, this workshop meets together, specialists of chemical reactors, chemical reactions, catalysts and optical methods.

This seminar regarding chemical reaction and engineering will be organized from:

19th to 20th of February 2015 at INSA Rouen (**Bâtiment Dumont d'Urville, amphitheatre DU BRJ 02**).

Specialists from Europe, on optical methods, on CO₂ valorisation and chemical reactors will be present.

SCIENTIFIC PROGRAM

Thursday, 19th February 2015

8h00-8h30: Registration and welcome venue

8h30-9h00: Opening ceremony by Prof. Lionel Estel
(LSPC INSA Rouen, France)

9h00-10h00: Prof. Tapio Salmi
(Åbo akademi, Finland)
The use of CO₂ as solvent for the synthesis of hydrogen peroxide

10h00-11h00: Poster Session + **coffee Break**

11h00-12h00: Prof. Jyri-Pekka Mikkola
(Umeå University, Sweden)
CO₂ capture and utilization: From switchable ionic liquids to chemicals

12h00-14h00: Lunch Break

14h00-14h45: Dr. Viacheslav Stetsyuk
(Brighton University, England)

Optical diagnostic techniques for spray systems

15h00-15h45: Prof. Frédéric Thibault-Starzyk
(LCS ENSICAEN, Caen, France)
Operando spectroscopy of CO₂ methanation by hydrogen plasma on doped zeolites

15h45-16h45: Poster Session + **coffee Break**

17h00-18h00: Dr. Sawitree Saengkaew
(CORIA, Rouen, France)
Use of rainbow method

Friday, 20th February 2015

8h30-9h00: Coffee Welcome

9h00-10h00: Prof. Pedro Lozano
(Murcia Universidad, Spain)
The use of CO₂ supercritical fluid in chemistry

10h00-11h00: Prof. Christophe Gourdon
(LCP, Toulouse, France)
Gas liquid mass transfer measurement in modern reactor.

11h00-12h00: Prof. Jean-Claude Charpentier
(LRGP, Nancy, France)
Process intensification reactor

12h00-14h00: Lunch Break

14h00-17h00: Dr. Sébastien Leveueur
(LSPC INSA Rouen, France)
Process intensification for multiphase reaction and reactor

17h00-19h00: Conclusions

