



Science@ifpen



Written on 01 April 2015



15 minutes of reading



News

Fundamental Research

Climate, environment and circular economy

CO2 capture, utilization and storage

Renewable energies

Bio-based chemistry

Sustainable mobility

Electrified Mobility

IC powertrains



Understanding Reaction Mechanisms

Combining scientific research with technological innovation is by no means a

simple process, with straightforward pathways existing between the two. The first involves creativity, an almost artistic approach, that can lead the researcher far from his or her initial objective. The second is rooted in reality, in the form of usefulness to society and the presence of a market. And yet it is IFPEN's job to contribute to this continuity. To do so, it is necessary to identify the right targets, as well as the strategies adapted to achieve them. That is the role of the **challenge identification policy**

implemented by IFPEN, supported by the Scientific Board.

Challenge No. 2: "Understanding chemical/catalytic/enzymatic reaction mechanisms on a molecular scale" is of strategic importance. Closely linked to both **characterization and modeling**, this work should help us grasp the complexity of phenomena, in order to develop robust processes and reliable products, upon which IFPEN's success depends.

This issue of Science@ifpen shows the diversity of topics examined from the angle of this challenge.

I hope you enjoy reading this issue.

Bruno Chaudret, Member and former Chairman of IFPEN's Scientific Board, Member of the French Academy of Sciences

Summary:

- **CO₂ capture**: what impact for the environment?
 - **CO₂ mineralization**: a rebounding topic?
 - A clearer understanding of **fuel stability** for a better **fluid modeling**
 - **Sulfide catalysts** hunt down the oxygen in bioresources
 - The **genome of a fungus** decyphered
 - The **Li-ion** awakes tonight
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