Written on 01 January 2010 15 minutes of reading

News

Fundamental Research

Climate, environment and circular economy | CO2 capture, utilization and storage | Sustainable mobility | IC powertrains | Responsible oil and gas | Fuels | Petrochemicals

Simulation and experimentation are two interconnected activities which are central to the research work carried out at IFP. The development of tools for **simulation and modeling** purposes – the results of which are subsequently compared with experimental data –makes it possible to represent and gain a better understanding of complex mechanisms, to reduce development times and to predict behavior.

This approach has proved successful in many of IFP's research fields (**combustion, catalysis, CO_2 storage,** etc.), as demonstrated by the scientific results presented by our researchers in this issue. What's more, two of them are winners of the Yves Chauvin thesis prize, awarded each year to IFP's best PhD student.

Their research work, together with that of their colleagues, opens up new opportunities for innovation in the key fields of energy, transport and the environment.

Philippe Ungerer, Scientific Director

Summary:

- **Combustion** is laying the table!
- **Modelica**, towards a standard for 0D/1D simulation?
- **Zeolites** on demand?
- Pseudo-Bridging **Silanols** revealed
- Improving **CO_2 storage** using molecular simulation
- Using noble gases **to trace CO_2**

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