



Written on 01 October 2012





News

Fundamental Research

Climate, environment and circular economy CO2 capture, utilization and storage Sustainable mobility

Electrified Mobility | IC powertrains | Responsible oil and gas | Fuels

Basins and reservoirs modeling and simulation

According to a recent bibliometric study, IFP Energies nouvelles (IFPEN) is now one

of the world's top ten organizations in terms of scientific publications and quotations in the fields of **engine and powertrain control**. This result reflects our excellent position on the international stage and the broad influence of our research in these fields.

This special issue of Science@ifpen is dedicated to IFPEN's research in the field of **digital sciences** and technologies. In addition to questions directly linked to motor vehicle issues, readers will also find information concerning the numerical simulation of CO₂ storage, algorithmic geometry in geosciences, image processing for catalyst analysis, as well as real-time simulation in the design of complex physical systems.

These few examples aim to demonstrate the full potential of numerical modeling and simulation in all the fields we operate in, including numerical chemistry, processes, engine combustion

and geosciences.

We hope that you enjoy this issue.

Van Bui Tran, Director, Technology, Computer Science and Applied Mathematics Division

Summary:

- Keeping a close watch on batteries
- $\mathbf{CO_2}$ simulates its own storage
- Simulation and Co.
- When **grids** become gridlocked
- Turbo under control
- Getting inside catalysts



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