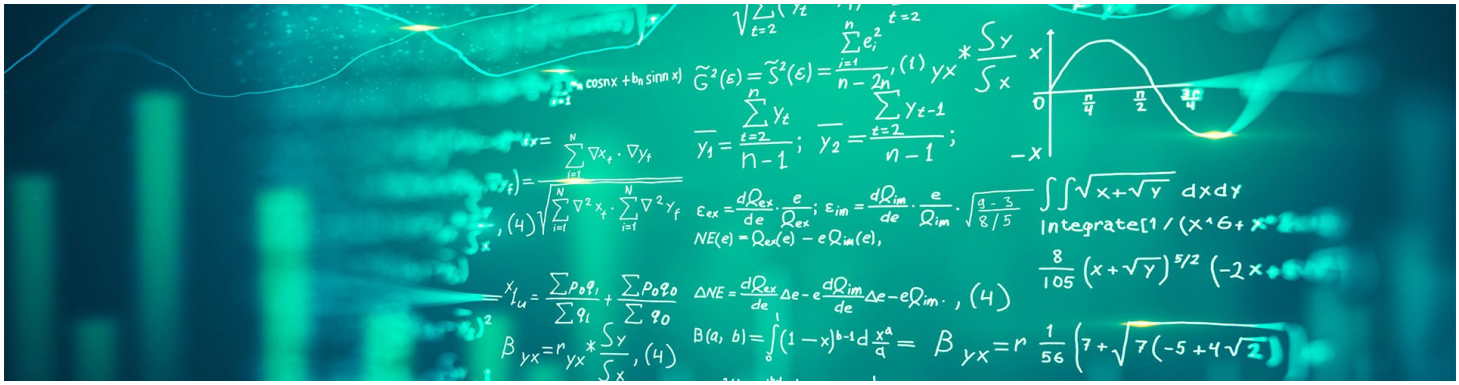

IFPEN's fundamental research is structured around nine scientific challenges, which are organized to reflect the overall path followed by our R&I: ranging **from the understanding of complex physical phenomena** (experimentation, data acquisition) **to the evaluation of a complete system** (economic and environmental impacts), **via the modeling and numerical representation** (simulation) of these phenomena.

As part of a multidisciplinary approach, this organizational structure framing fundamental research makes it possible to pool reasoning processes, identify emerging themes and mobilize scientific communities. It also makes it possible to create bridges between areas of expertise present within IFPEN's research divisions, exploiting similarities in terms of scientific reasoning, pooling reflection processes and fostering the dissemination of knowledge acquired.

Each challenge is tackled by a dedicated group, made up of researchers from the different research divisions, and led by a pair of experts.

> *«IFPEN's scientific challenges approach is both positive and constructive. The structuring of fundamental research around major scientific issues brings greater transparency vis-à-vis the outside», explains Grégoire Allaire, Chairman of IFPEN's Scientific Board.*

Having an organizational structure centered around nine scientific challenges ensures the coherence of all IFPEN's fundamental research activities.

Each year, within the context of each main challenge, a number of **scientific sub-challenges are identified and formalized, each sub-challenge expressing a scientific problem to be overcome for IFPEN, a problem translated into objectives to be met**, for which a long-term research strategy is proposed.

In 2022
47 challenges, 2 of which are new
1 examined for 2023

Go to science@ifpen to find articles dedicated to our scientific challenges
Scientific challenge 8 / Computational code performance: issue 33 of Science@ifpen
Scientific challenge 7 / Control and optimization of complex systems: issue 30 of Science@ifpen
Scientific challenge 3 / The effect of confinempent: issue 37 of Science@ifpen

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Nine scientific challenges

Link to the web page :