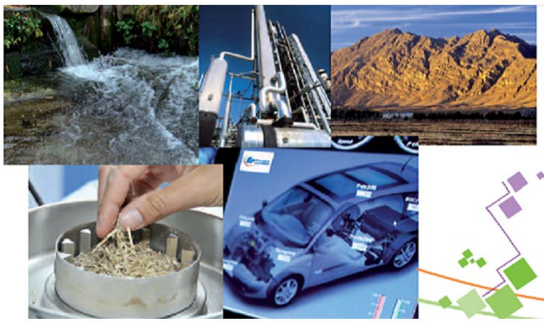

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Written on 01 July 2014

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ion of materials and fluids for energy

A proactive, inventive and productive scientific approach remains the best way to optimize the development of new energy technologies. IFPEN has identified nine scientific challenges that have to be overcome in the ideal development plan for these technologies: they focus our research efforts and guide our academic partnerships.

The first of these challenges is the **characterization** (operando, on relevant scales, online, etc.) **of environments, products and materials for energy**. If we can better visualize, represent and quantify **catalytic or chemical or enzymatic processes**, **combustion, the genesis of fluids** in natural environments or **biomass** at various stages in its **conversion process**, we should be able to conceive acceptable, controlled and optimized energy processes.

Some of IFPEN's contributions to advancing knowledge in these areas are illustrated in this issue, through examples taken from publications that have been broadly cited by the scientific community.

We hope that you enjoy reading all about them.

Jacques Jarrin, Director, Scientific Division

Summary:

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