

Workshop

“Advanced simulation in support to *Generation IV International Forum* (GIF) reactor design studies – Contribution of *High Performance Computing* (HPC) and *Uncertainty Quantification* (UQ)”

Workshop coordinator: **Pascal ANZIEU**, CEA – Nuclear Energy Division, France.

The Generation IV International Forum – GIF - is a cooperative international endeavor organized to carry out the research and development (R&D) needed to establish the feasibility and performance capabilities of the next generation nuclear energy systems (www.gen-4.org/). The **Generation IV International Forum** members are: Argentina, Brazil, Canada, Euratom, the Russian Federation France, Japan, the Republic of Korea, The People’s Republic of China, the Republic of South Africa, Switzerland, the United Kingdom and the United States.

Objective of the workshop is to exchange information between on the one hand GIF systems and components designers and on the other hand experts of advanced techniques of numerical simulation, and evaluate the interest of introducing these techniques in the *Generation IV International Forum’s projects*. A conclusive debate will address this issue.

Following scheduled talks:

- “Best Estimate Plus Uncertainty” safety studies at the conceptual design phase of the ASTRID demonstrator, **M. MARQUÈS**, France
- Experience of adaptation and application of 3D thermal-hydraulic calculation for definition of non-isothermal flows in reactor plant structural components, **A. V. BUDNIKOV**, Russian Federation
- Prospects of next generation safety analysis code and experiences of high performance computing, **B. D. CHUNG**, Korea
- Supercomputing as a base for extending usage of turbulence resolving approaches in nuclear thermal-hydraulic analysis, **D. ZAYTSEV**, Russian Federation
- Use of intensive simulation supporting SFR uncertainty driven core design process : presentation of multi-physics TRIAD package, **E. HOURCADE**, France
- High Performance Computing for CFD problems and uncertainties quantification, **V. STRIZHOV**, Russian Federation
- Experiences of LBLOCA uncertainty quantification and 3-D whole-core transport based nuclear analysis system, DeCART/ CHORUS/ MASTER, **C. J. PARK**, Korea
- **Panel:** Need for supercomputing in design studies of future reactors with **B. D. CHUNG**, Korea, **E. HOURCADE**, France, **K. BRADLEY**, USA
Moderator **P. ANZIEU**, France