

“GIFted”

in memoriam of Andrea Bucalossi

Edito: An extra Expert Group and Policy Group meeting – purpose and main achievements

Recent progress and thoughts on two new and important items being developed with the support of GIF members were presented during an extra EG/PG meeting on April 14th: 1) preliminary ideas and propositions for the 2022 GIF Forum; and 2) progress and continuation after brainstorming meetings on non-electrical applications of nuclear heat (NEANH).

Significant progress was made on these two items by mid-April, and both were at a point where it was important to share the results in order to move forward with a common understanding and consensus.

As a result of COVID-19 constraints and the obligation to have virtual meetings, the time dedicated to these individual topics of discussion would have been limited during the EG/PG meetings because a considerable number of subjects need to be addressed. In addition, because of the virtual mode and the time difference between member countries, it would be difficult to extend the PG meeting duration, and thus the motivation behind this extra Expert Group/Policy Group meeting, focusing only on these two subjects.

On the organization of the **Generation IV International Forum**, GIF members agreed on the following main actions: the 2022 GIF Forum would be dedicated to an increased and better connection with industry and small vendors; and the forum would be held in lieu of a more scientific GIF Symposium. A few issues would therefore need to be addressed during the PG meeting in May 2021: should the forum be organized in parallel with a specific scientific conference (FISA2022 and G4-SR2 were suggested, but all relevant conferences in 2022 would need to be investigated). If yes, the final selection

of the preferred conference would need to be decided in May. On the other hand, if it was decided to hold a stand-alone event, among the issues to be determined would be: When? Where? And How long? These important questions should be resolved so as to proceed rapidly with internal OECD/GIF TS Conference Organization Management, with the external support of a dedicated company for conferences and event organization.

Regarding the discussions on the **non-electrical applications of nuclear heat**, the main achievements provided by the two brainstorming meetings held in November 2020 and in February 2021 were presented at the extra EG/PG meeting. A third brainstorming meeting was also held in April 2021, this time with IAEA experts. A proposal was made to create a dedicated task force (NEANH TF) at the latest by October 2021, as well as to realize a dedicated, virtual workshop on a small scale in mid-June to share some common knowledge on potential, future members. Several countries or regions (EU, France, Russia, US, UK) have already welcomed these initiatives and have promised to contribute to the future task force. The May meetings will be a time to confirm the TF initiative, as well as the first list of names.

More explanation on the roadmap for these two actions is provided on page 2 of this newsletter.



Gilles Rodriguez & Philippe Guibertau

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Major events

17-21 May 2021: EG-45, Common day meetings and PG-51

May 2021 Webinar Series 53: Opportunities for Generation-IV Reactors Designers through Advanced Manufacturing Techniques, Dr. Isabella van Rooyen, INL (USA)

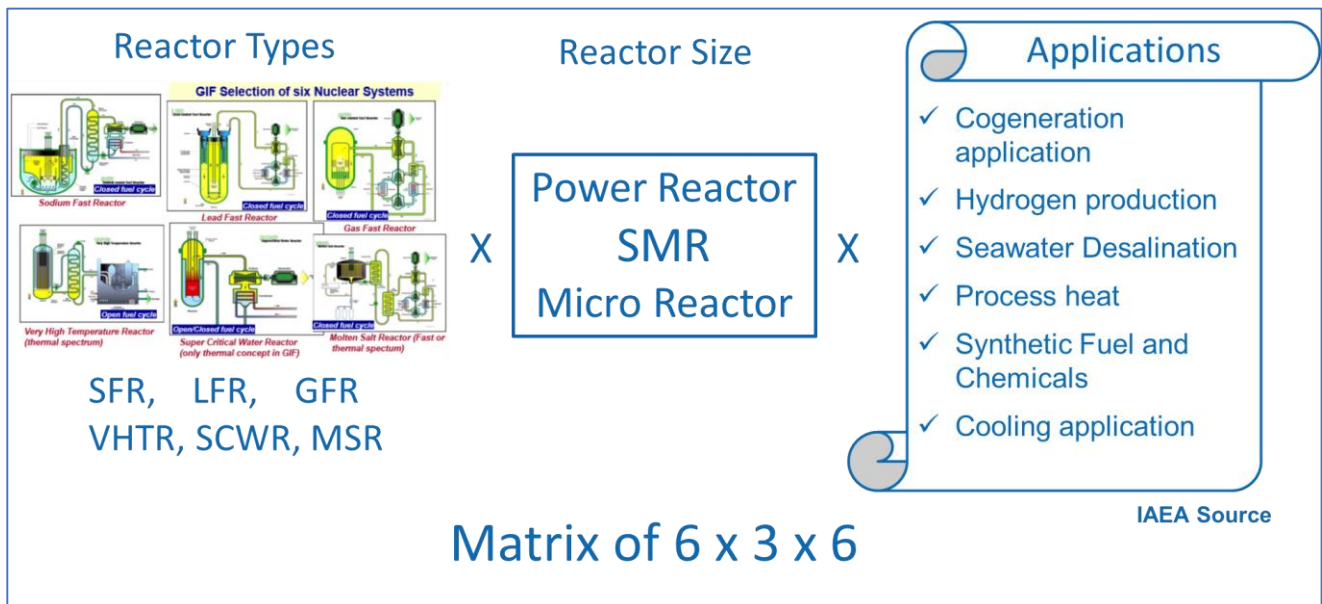
June 2021 Webinar Series 54: In-Service Inspection and Repair Developments for SFRs and Extension to other Gen-IV Systems, Dr. Francois Baqué, CEA (France)

GIF Industry Forum 2022: Main objectives

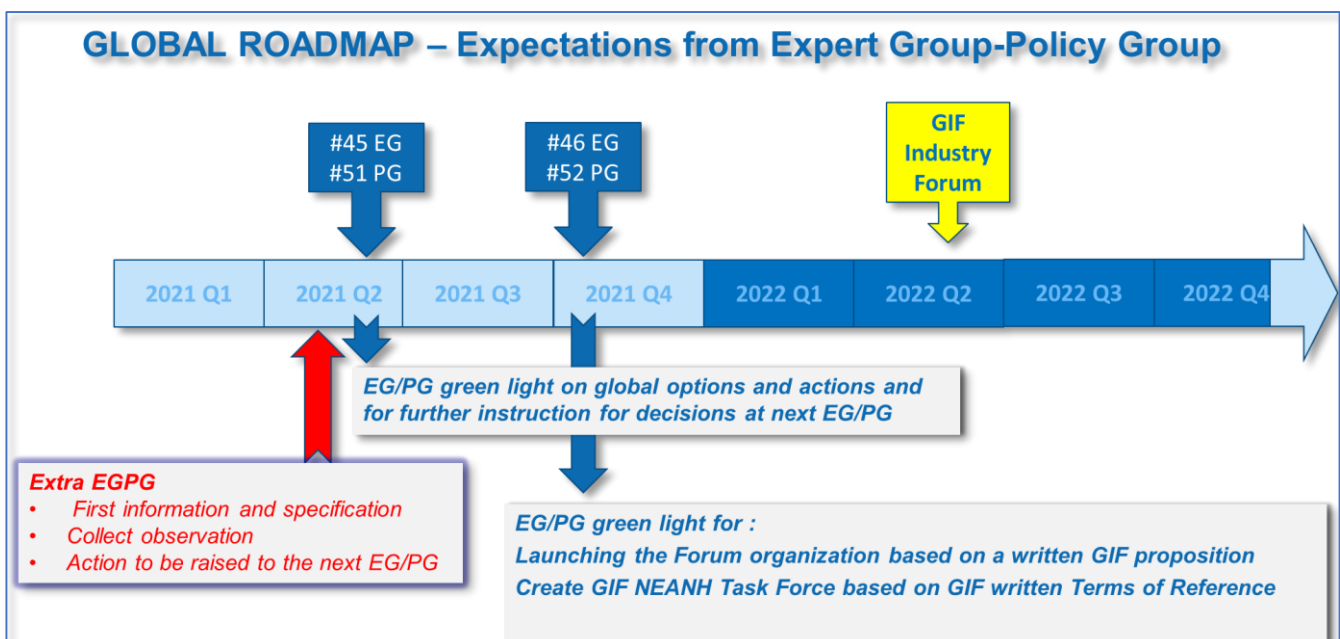
Report the achievements of GIF in developing nuclear energy systems that are aligned with today’s global sustainable development goals. In particular, past GIF symposiums and workshops have outlined a credible GIF path leading towards the demonstration and deployment of innovative nuclear energy systems that will establish nuclear energy as a valuable part of the global, long-term sustainable carbon-free energy mix.

Share with industry (GIF advanced manufacturing technologies, views from the private sector [an Outlook for SMRs], examples of collaboration between governmental organizations and industry, etc.) to improve collaboration opportunities between private and public sectors for Gen-IV systems and to raise technology readiness levels (TRLs) from R&D to demonstrators and finally to power reactors.

NEANH (non-electric applications of nuclear heat) => solving a matrix?



GIF Industry Forum 2022 and NEANH: A short-term roadmap



International benchmark considering a core damage scenario in a lead-cooled fast reactor (LFR)

Marina DEMESHKO, Risk and Safety Working Group (RSWG), Technical Secretariat (OECD/NEA/GIF)



The GIF LFR provisional System Steering Committee (pSSC) has joined an activity of the Nuclear Energy Agency’s Committee on

Nuclear Regulatory Activities (CNRA), more specifically the Working Group on the Safety of Advanced Reactors (WGSAR) “International benchmark considering a core damage scenario in a lead-cooled fast reactor (LFR) type to assess code capabilities and knowledge gaps relevant to regulators questions.” In February 2021, the two groups launched a joint meeting to explore collaboration on benchmark specification development for LFR-type reactors.

Early involvement in dialogue between industry and regulatory bodies could facilitate the acceptance of innovative technologies in LFRs, mutually offering valid technical information with technical cooperation. A recent construction license issued by the Russian nuclear regulator, Rostechnadzor, for the world’s first experimental demonstration power unit featuring a lead-cooled fast neutron reactor, BREST-OD-

300, only highlights the importance of such collaboration between GIF and regulatory authorities.

The main objective of the activity is to conduct an international benchmark on an LFR plant application to assess capabilities from a regulator’s point of view of existing simulation codes in order to analyze a core damage scenario leading ultimately to fission product release into the environment. The benchmark results will be used to prepare a technical report on code capabilities for the purposes of regulatory studies of design margin and cliff edge effects. The report will also feature regulators’ expectations for those codes and highlight possible knowledge gaps. This activity is expected to be beneficial to both the regulators and designers involved in or preparing to be involved in the LFR licensing process.

Generation IV International Forum: 20th Anniversary Celebration









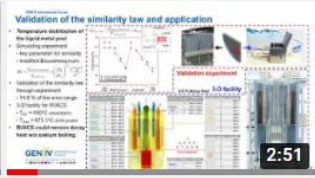

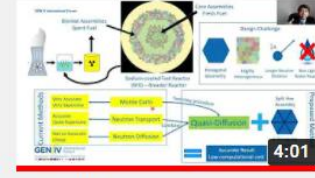
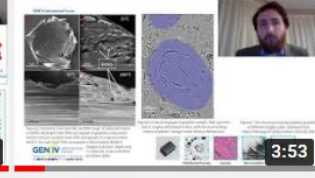



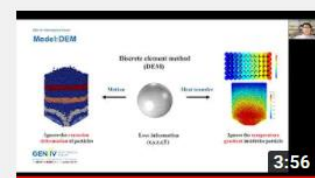


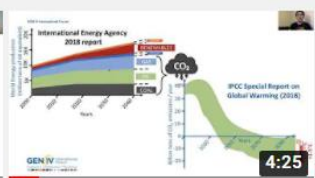

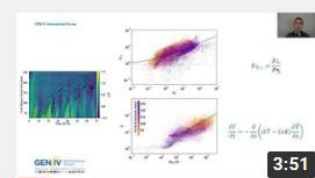
“Progress and Future Prospects toward Deploying Gen-IV reactors as Advanced Nuclear Energy Systems”



A great event with over 250 people attending. We will soon post the live recording on the GIF website, as well as the verbatim account. We will also thoroughly analyze all of the ideas and recommendations our experts have delivered to adjust/adapt/implement our future GIF actions.

“Pitch your Gen-IV Research”: The finalists

For its first initiative, GIF received 51 executive summaries, all of which were reviewed by the jury based on their relevance to GIF, the originality of the work and their significance. Almost without exception, the summaries were of high quality, and jury members were very much impressed by the submissions. The 21 finalists that were selected represent 9 different countries and a variety of topics. All 21 videos were posted on Youtube and Bilibili, and the vote was closed as of 30 April 2021.

 <p>Flore Villart 1,4 k vues • il y a 3 semaines</p>	 <p>Peter Brain 312 vues • il y a 3 semaines</p>	 <p>Janos Bodi 337 vues • il y a 3 semaines</p>	 <p>Eszter Csengeri 889 vues • il y a 3 semaines</p>	 <p>Benjamin Jourdy 1,2 k vues • il y a 3 semaines</p>
 <p>Ji Ho Shin 1,3 k vues • il y a 3 semaines</p>	 <p>Pietro Brazzale 278 vues • il y a 3 semaines</p>	 <p>Todd Sherman 232 vues • il y a 3 semaines</p>	 <p>Min Ho Lee 210 vues • il y a 3 semaines</p>	 <p>Shifali Singh 434 vues • il y a 3 semaines</p>
 <p>Rizki Oktavian 423 vues • il y a 3 semaines</p>	 <p>Marcus Williamson 209 vues • il y a 3 semaines</p>	 <p>Pengyuan Xiu 431 vues • il y a 3 semaines</p>	 <p>Alessio Magni 767 vues • il y a 3 semaines</p>	 <p>Yves Robert 237 vues • il y a 3 semaines</p>
 <p>Xu Liu 176 vues • il y a 3 semaines</p>	 <p>Touraj Ghaznavi 315 vues • il y a 3 semaines</p>	 <p>Alexandre Lecoanet 493 vues • il y a 3 semaines</p>	 <p>Yafei Wang 320 vues • il y a 3 semaines</p>	 <p>Hannah Patenaude 378 vues • il y a 3 semaines</p>
 <p>Brendan Ward 467 vues • il y a 3 semaines</p>	<div style="border: 2px solid blue; padding: 10px; margin: 10px auto; width: 80%;"> <p>Prior to announcing the final results, the GIF Board would like to thank all of the finalists for the quality, originality and clarity of their videos.</p> </div>			

Watch on YouTube



tinyurl.com/wwauk74

Watch on Bilibili



tinyurl.com/hdrrvfek

We are truly impressed by the excellence of the technical studies discovered via these recordings. “Excellence” is one of the three unifying straplines of our organization (with expertise and collaboration), and these contributions respond perfectly to this motto. We will be keeping you informed in the very near future through the GIF website.

Recent GIF membership movements

- Retired Members**
- Policy Support (PG Support) and Expert Group (EG): Mr Said Abousahl (EURATOM), Head of Unit, Euratom Coordination, DG Joint Research Centre (1st May 2021)
 - Senior Industry Advisory Panel (SIAP): Mr John Molyneux (UK), Rolls-Royce plc (31st March 2021)

- New GIF Members**
- Policy Group (PG): Mr Alex Thurgate (UK), European and International Nuclear Innovation strategy policy adviser, BEIS (replacing Mr Rolewicz)

Policy Group Support (PG Support)

- Ms Maria Betti (EURATOM), JRC Director of nuclear safety and security (replacing Mr Abousahl)

Expert Group (EG)

- Mr Vincenzo Rondinella (EURATOM), Head of the JRC nuclear safety Department (replacing Mr Abousahl)

Senior Industry Advisory Panel (SIAP)

- Dr Bronwyn Hyland (Canada), Program Lead for Clean Energy and Hydrogen Suncor Energy Inc.

Molten Salt Reactor Provisional Steering Committee (MSR pSSC)

- Dr Patricia Paviet (USA), Group Leader, Radiological Materials Group, PNNL.

VHTR Computational Methods Validation & Benchmarks (VHTR CMV)

- Mr Paolo Balestra (USA), High Temperature Gas-cooled Reactor Methods Development Lead, INL.

Economic Modeling Working Group (EMWG)

- Dr Alberto Mendoza (Canada), Economist, CNL.
- Mr Antoine de la Chevrotière (Canada), Senior Advisor, Nuclear Science and Technology, NRCAN.

Education & Training Working Group (ETWG)

- Dr Kennichi Matsuba (Japan), Assistant Principal Researcher, JAEA.
- Mrs Grace Harrison - returning - (Canada), Sr. Scientific Advisor, Nuclear Energy Division, NRCAN.

Proliferation Resistance & Physical Protection Working Group (PRPPWG)

- Mr Joung-Hoon Lee (Korea), Principal Researcher, KINAC.

Risk & Safety Working Group (RSWG)

- Dr David Hummel (Canada), Research Scientist, CNL.
- Prof David Novog (Canada), NSERC Industrial Chair, Engineering Physics, McMaster University.
- Dr Basma Borai (Canada), Post Doctoral Fellow, Engineering Physics, McMaster University.

Task Force - Advanced Manufacturing (AMTF)

- Dr Satoshi Okajima (Japan), Assistant Principal Researcher, JAEA.

Andrea Bucalossi



It is with great sadness that we learned of the passing of Andrea Bucalossi.

A nuclear engineer from Pisa University, Andrea had a remarkable career in safety. He had recently been nominated as a member of the small Joint Research Centre (JRC) nuclear team responsible for the development of a new nuclear strategy.

Mr Bucalossi was well-known for his pertinent and extensive contributions to GIF work: he had a very important role in the co-ordination of Euratom contributions to GIF and as the Euratom member of the GIF Expert Group, and Education & Training Working Group. Andrea was appreciated by all, thanks to his impressively positive attitude, and above all, his sense of humor. A wonderful person to have as a friend and colleague, Andrea will be deeply missed. Our most heartfelt condolences are extended to his family, friends and colleagues.

H. Kamide, N. Kawasaki, G. Rodriguez, P. Guibertau