

Special Issue

Behavior of Materials (Alloys, Coatings) in Conditions Specific to Gen IV Nuclear Reactors

Message from the Guest Editors

Today, in the face of the global energy crisis, coupled with climate change, countries are looking for any potential alternatives to replace their dependence on fossil fuels. Thus, a renewed interest in nuclear energy, considered as much cleaner, can be observed. The Fourth Generation International Forum (GIF) is an important actor involved in R&D activities regarding advanced nuclear energy systems. One of the main challenges in the development of these types of reactors is represented by the materials used for internal components and the chemistry of these harsh environments. This Special Issue is focused on providing a platform for online academic exchanges between researchers and readers for finding solutions in the following fields:

- Experimental tests to assess the compatibility of environments specific for Gen IV reactors with candidate materials.
- High-performance coatings resistance in these environments.
- New materials produced via different technologies including additive manufacturing.
- Advanced methods and techniques to assess behaviour of candidate materials (alloys/coatings) under conditions specific to Gen IV reactors.

Guest Editors

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About the Journal

Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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