Tentative Outline

Special Thematic Issue for the journal *Current Nanoscience*

Title of the Thematic Issue: Nanoscience in Radiation Detection and Shielding

Guest Editor: Dariush Sardari

- **Scope of the Thematic Issue:**

Application of nanomaterials in radiation detection and shielding has become a growing field over past decade. Despite the fact that research has been accomplished on this subject, there remain many unknown theoretical and technical points. As we go to nano-scale physical phenomena, new aspects of radiation interaction with matter appears that needs more research to understand the computational methods and practical techniques. In this thematic issue research articles on detection, dosimetry and shielding of photons and neutrons with the use of nanostructured materials are invited. Specially, UV, X- and gamma radiation is of interest.

Keywords: Radiation Shielding; Nano-concrete; Nano-composite shields; Nano-based detectors; Nano-layer dosimeters; Graphene oxide; Carbon nanotubes; Bismuth/WO2

Sub-topics:

The sub-topics to be covered within the issue include:

- Interaction of radiation with matter in nano-scale.
- Manufacture and test of nano-based radiation shields.
- Computational methods in radiation interaction with nano-structures.
- Characterization of nano-based radiation detectors.

Schedule:

- Thematic issue submission deadline: 31st of March 2022

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