

Special Issue

Advancements in Robotic Systems for Nuclear Inspection and Safety

Message from the Guest Editors

Research areas may include, but are not limited to, the following:

- Direct or indirect detection and measurement solutions for alpha, beta, and gamma radiation;
- Novel detectors for thermal, epithermal, and fast neutrons;
- Unmanned aerial, ground, and underwater vehicles in nuclear environments, including airborne radiation mapping using UAVs;
- Sensors for in situ quantification of corrosion or degradation of engineering structures;
- Optical inspection techniques, including multi or hyperspectral imaging, Raman spectroscopy, and LIBS;
- Post-operation assessment and decontamination of robotic systems;
- Software for control and data acquisition, including ROS(2) and SCADA solutions;
- Applications of artificial intelligence, including machine vision, for nuclear inspections;
- Data acquisition for digital twins and augmented and virtual reality (AR/VR);
- Electronic circuit and circuit board designs for nuclear inspection applications;
- Radiation-resistant and radiation-tolerant systems;
- Case studies involving remote and/or beyond visual line of sight inspections and deployments.

Guest Editors

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Dr. David Megson-Smith

Prof. Dr. Francesco Zirilli

Deadline for manuscript submissions

closed (20 September 2025)



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About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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