

## Developments at PGAA and NAA

*Thursday, 27 April 2023 12:15 (30 minutes)*

Prompt Gamma Activation Imaging (PGAI) is based on the narrow collimation of the neutron beam to, and of the gamma rays emitted from predefined spots of complex objects. We plan to reduce the long scanning time using a detector cluster consisting of seven HPGe detectors each of which would observe one voxel each along the line activated by the neutron beam also applying multiple collimator channels within the gamma shielding. The method will be beneficial in the investigation of complex and sensible archaeological objects. To broaden the circle of the analyzed elements, our goal is to detect all emitted particles from the activation products, e.g. beta particles which in a few cases are not followed by gamma radiation. This would be important e.g. in determination of the phosphorus dopant in silicon semiconductors. This requires a combination of a scintillator counting in  $4\pi$  solid angle with a HPGe detector.

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**Session Classification:** Analytics, Positrons and Imaging (API)