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Research, Education and Training activities at Nuclear Physics Lab, AUTH

The Nuclear Physics Lab, at School of Physics, at Aristotle University of Thessaloniki (NPL-AUTH), has more than 40 years of research activity in the field of Radiation Physics and Nuclear Physics Applications.
The members of the NPL-AUTH are radiation Protection experts and nuclear security event responders ready to response to incidents involving nuclear and other radioactive materials out of regulatory control. Environmental radioactivity, Chernobyl and Fukushima accidents, radioactive aerosols, waste characterization, orphan sources in scrap metal, retrospective doses, sterilization dosimetry in food and drugs are some of the group research activities.
The members of the NPL-AUTH are specialist in gamma-spectrometry and there are three Ge detectors in the Lab calibrated for various geometries and matrixes. Furthermore, infrastructure for radioactive aerosol measurements and radioactive aerosol size characterization is available at the lab, as well as two (2) Harshaw Thermoluminence (TL) readers, while an XRF, an XRD and a scanning electron microscope with Energy Dispersive X-Ray Analyzer (SEM/EDS) is available at the School of Physics, AUTH for a common use.
The NPL-AUTH belongs to the ALMERA Network and participates every year in the IAEA Proficiency Intercalibration tests. The NPL-AUTH participates in various IAEA CRP projects and in one RER project.
Regarding the educational activities, the members of Nuclear Physics Lab, participate in many compulsory and elective courses at School of Physics, dealing with basic Nuclear Physics and Nuclear Physics Applications in undergraduate and postgraduate programs. In addition, through our teaching duties we evolved to an efficient communicator able to distill technical information into easy-to-understand advice and explanations. We make full use of e-learning tools for an effective distance-learning process and we have great experience in preparing training material and lessons for academic teaching, professionals and workshops, all completed with resounding success.
Alongside teaching undergraduate and graduate level students and mentoring PhD candidates, we maintain an intense focus on research by leading and participating in many research projects. We attracted international recognition to our work and forged lasting relationships with the international scientific community. We have published more than 500 publications in peer-reviewed International Journals and International Scientific Conference in the field of Environmental Radioactivity, Nuclear Physics Applications and in Dosimetry. There are more than 8000 citations in our papers.
Regarding scientific Conferences, we hosted during 21-25 September 2015 the Environmental Radioactivity International Conference ENVIRA2015 (www.envira2015.gr), and during 6-10 December 2021 the online ENVIRA 2021 (https://envira2021.gr/), where in both conference the Conference Chair is a NPL-AUTH member. Furthermore, we will co-host the RAP2022 International Conference that will take place between 6-10 June 2022 in Thessaloniki, Greece and we will host a RCM meeting in the frame of J0214 CRP Project, during 15-18 February 2022.
Participating in forensic activities will enable the NPL-AUTH and Greece to develop and sustain national capabilities in nuclear forensics. The NLP-AUTH Lab has the infrastructure, the experience and knowledge to support any research, educational and training activity in this field.

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