Joint research on various types of radiation dosimeters (RADDOS)
- project funded by FP7/Capacities/Research Potential -

Radiation dosimeters have found applications in a broad range of areas, such as space exploration, nuclear facilities, high energy physics laboratories, quality assurance of cancer radiation treatments, medical imaging, and monitoring of health and safety of personnel working close to radiation sources. Radiation dosimetry can often be extremely complicated and there are extensive research and development activities worldwide in this field, with significant scientific and commercial impacts.

RADDOS project is a three year support action programme in the radiation dosimeters area containing coherent set of actions involving the three partners:

- From EU Member state: Tyndall National Institute, University College Cork, Ireland (short name TNI-UCC, "Tyndall"),
- From Western Balkan country: Faculty of Electronic Engineering, University of Nis, Serbia (short name EF-UNNIS, "EF"),
- From convergence region in EU Member state: Institute Josef Stefan, Ljubljana, Slovenia (short name EPP-IJS, "IJS").

The project partners are currently running various research programmes in radiation dosimetry, funded from national and international sources, and, in the case of Tyndall, commercial income as well. The project is aimed at establishing research partnerships between the participants and stimulating networking and joint research with renowned third parties. Particular emphasis is placed on measures to improve the S&T human potential and infrastructure of the Western Balkan partner thereby facilitating their better inclusion in European research community and participation in EU funding programmes in the future. As the partners have complementary expertise and research infrastructures, they are all expected to emerge from the project with enhanced know-how, research output, and links with the third institutions.

The general project objectives are:

- To facilitate two way secondments of young and experienced research staff between the project partners.
- To facilitate short visits of researchers between the project partners for training and to perform specific research experiments.
- To enable short visits of researchers to relevant European third centres for training sessions and joint experiments.
- To recruit two new researchers at EF.
- To upgrade and renew research equipment at EF.
- To enable participation of partners' research staff at most relevant conferences and short training courses in the area of radiation dosimetry.
- To organise a conference "Radiation dosimetry: current developments and trends" in Serbia; the conference will include participation of staff from the three project partners, several world leading experts as invited speakers, and scientific/industrial community from Western Balkan countries.
- To enhance dissemination and promotional activities of EF, such as setting up a web page portal, and production and distribution of a promotional leaflet.

During the first two years of the project, the specific objectives for that period have been achieved:

- Realisation of a two way secondments and short visits between the partners is underway. Researchers from EF have visited Tyndall and IJS for the periods of up to three months and have gained valuable experience in the new research environments. At the same time, technical work performed by EF researchers has contributed to Tyndall and IJS research and technical objectives.
- Two young promising researchers have been hired by EF, significantly increasing human potential of the Applied Physics Laboratory (EF laboratory involved in the project).
- Several major equipment items related to electrical characterisation of semiconductor devices have been purchased. The purchase of the equipment substantially enhances research infrastructure of the Applied Physics Laboratory, making the laboratory a centre of excellence in Serbia for electrical characterisation of semiconductor devices and one of the best equipped laboratories in the Western Balkan Region.
- Web page of the Applied Physics Laboratory (www.elfak.ni.ac.rs/apl) has been established and promotional leaflet designed and distributed to the existing and prospective partners in Serbia, Western Balkan Region, and European Union. This has contributed to increased visibility of EF and also to better knowledge in Western Balkan specialised and general scientific communities about the positive impact of the FP7 programmes.

While the strongest emphasis is placed on the benefits to the Western Balkan country partner (EF), it is essential that the two EU partners also have the clear benefits from their participation in the project. This is indeed the case as complementary profiles of the partners and increased research interactions between them and with third parties will lead to enhanced research output and know-how of all three participants in the project. It is expected that partnerships established during the project will continue after project completion leading to long-term research co-operation and joint participation in the EU programmes in the future.

Newly purchased Keithley measurement equipment makes EF's Applied Physics Laboratory one of the best equipped laboratories for electrical characterisation of semiconductor devices in the Western Balkan region

For further information about the project, please contact project co-ordinator:

Aleksandar Jaksic
Tyndall National Institute,
University College Cork
Ireland

Tel: +353 21 490 4262
Fax: +353 21 490 4058
E-mail: aleksandar.jaksic@tyndall.ie
Project website: www.elfak.ni.ac.rs/apl