



The fourth and last annual ARDENT workshop was held in Prague from 22 to 26 June 2015, organised by the Czech Technical University

Advanced Radiation Dosimetry European Network Training initiative (ARDENT)

ARDENT is a Marie Curie Initial Training Network funded by the European Commission 7th Framework Programme, Grant Agreement 289198

ARDENT is a Marie Curie project funded under FP7 that started in February 2012 and will end in January 2016. The project enrolled 15 Early Stage Researchers (ESR) on 3-year or nearly 3-year contracts, and three ESRs on short-term (6 months) contracts. ARDENT focused on the development and testing of instrumentation based on advanced technologies for measuring energy distributions and dosimetric quantities in complex radiation fields as well as in the medical field, e.g. the use of monoenergetic particle beams in cancer therapy. Three main technologies were investigated: gas detectors, solid state detectors and nuclear track detectors. ARDENT addressed the potential uses of a class of instruments based on these technologies with three main objectives: 1) disentangle the various components of the radiation field and determine the dosimetric quantities due to each component, 2) measure the radiation quality of the radiation field (microdosimetry) and 3) obtain information on the energy distribution of the various components of the radiation field (in particular for photon and neutron spectrometry).

Schwarzenbruck and Prague, during which dedicated training courses were organized for the ESRs on dosimetry, microdosimetry and detector technologies. Additional events throughout the 4-year duration of the project gave the ESRs more opportunities to gather together, such as at a dedicated training course on business and administration held at CERN. A team building exercise took place in the evening of 21 May 2014 alongside the Allondon river close to CERN, which was much appreciated.

ARDENT also put a lot of emphasis on communication towards the general public. A robust outreach program was conducted through the entire project. A major outreach event with the participation of about 200 high-school students was organised during the 2nd annual workshop at the Politecnico of Milan in September 2013. Amongst the many others are participation in CERN's 60th anniversary and in the European researcher's career and mobility conference, Dublin.

The project is near to completion and most of the ESRs have finished or close to the end of their contract. About half of them have already found a job and are looking forward to the next step in their career.

Full information on ARDENT is available at www.cern.ch/ardent

About half of the individual research projects were partly or fully devoted to development of detector technologies for medical applications. Experimental work has been conducted at CNAO in Pavia, Italy; at HIT in Heidelberg, Germany; at HIMAC in Chiba, Japan; at the INFN Laboratories of Legnaro and Catania, Italy; at the Czech Proton Therapy Center in Prague; at the Klinikum rechts der Isar in Munich, Germany; and at the West German Proton Therapy Centre of Essen, Germany.

ARDENT held four annual workshops in Vienna, Milano,



Team building exercise alongside the Allondon river in May 2014: ARDENT scientist-in-charge Marco Silari with some of the ESRs



ESR Vijayaragavan Viswanathan (fourth from the right) at the European researcher's career and mobility conference, Dublin, Ireland organized by the Irish presidency & EU, in May 2013

