ID P065: Revival of interest in nuclear sciences via the ENEN+ project and the perspectives of the Medical Physics community

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ABSTRACT

Purpose: It is currently acknowledged that the enrolment of students to nuclear disciplines is not in a satisfactory level. The European Nuclear Education Network ENEN+ project proposes activities to substantially contribute to the revival of the interest of young generations in careers in nuclear sector. It is based on four nuclear disciplines: Nuclear reactor engineering and safety; Waste management and geological disposal; Radiation protection; and Medical applications. The European Federation of Organisations for Medical Physics (EFOMP) is involved in this project focusing on the Medical Applications discipline. This presentation aims to highlight the tasks related to the involvement of EFOMP in the project and expected to open the door for beneficial possibilities to the medical physics community.

Methods: The project activities are organized in 7 work packages (WP), with EFOMP participating in three of them: Attracting bachelor students to nuclear fields and retain them in the nuclear professions (WP2); Attract and develop new talents through nuclearization (WP3) and consolidate-further develop European Fission Training Schemes (EFTS); and Mobility (WP5). Each of these packages has tasks that will be carried out during the period of the project.

Results: The initial steps include the consolidation of the European Master of Science in Nuclear Engineering (EMSNE) scheme and its evolvement to European Master of Science in Nuclear Disciplines (EMSND). The terms of reference document defining all aspects of how the EMSND will be conducted has been drafted. Additionally, the ENEN+ project will financially support through mobility grants students and professionals willing to carry out any education and training activity in nuclear fields. The manual describing the details concerning the mobility grants has been prepared.

Conclusions: The results described are only the initial steps of the project. Future actions include launch of call for applications for mobility grants; development of the European Credit System for Vocational Education and Training (ECVET) based curricula for the identified profiles; consolidation of the vocational EFTS through voluntary accreditation and the coordination of the development of EFTS in niche applications.

INTRODUCTION

It is currently acknowledged that young students are loosing their interest in nuclear sciences fact that will lead to loss of nuclear knowledge. The European Nuclear Education Network ENEN+ is a project aiming to the revival of the interest of young generations in careers in the nuclear sector. The nuclear disciplines considered are: Nuclear reactor engineering and safety; Waste management and geological disposal; Radiation protection; and Medical applications. The European Federation of Organisations for Medical Physics (EFOMP) is one of the partners of this project and is involved in the Medical Applications field.

PURPOSE

The purpose of this presentation is to highlight the tasks of this project related to the involvement of EFOMP and to report on benefits derived for the medical physics community.

METHODS

The project is implemented by a consortium consisting of 22 partners – Institutions, Associations, Organizations, Universities and Companies having activities in the Nuclear field. The project activities are organized in 7 work packages (WP), with each package having tasks to be carried out during the period of this project. EFOMP is a partner in this consortium and is participating in three WP:

- **WP2: Attracting bachelor students to nuclear fields and retain them in the nuclear professions**
- **WP3: Attract and develop new talents through nuclearization**
- **WP5: Consolidate-further develop European Fission Training Schemes (EFTS) and Mobility (WP5).**

The ENEN+ project will financially support through mobility grants students and professionals willing to carry out any education and training activity in nuclear fields. Medical Physicists who are interested in transnational mobility actions can apply to the Medical Applications field. More specifically, the groups of learners eligible to receive mobility grants are presented:

- **BSc. students interested in pursuing a master education and/or a career in Medical Physics**
- **MSc. students in Medical Physics interested in extracurricular experience and/or academic exchange**
- **PhD. students and Post-docs in Medical physics interested in academic and research exchange, access to research infrastructures and cooperation with EURATOM research projects.**
- **Professionals, interested in changing their careers to Medical Physics and/or building up their life-long learning in Medical Physics.**

The mobility grants provided to the successful applicants are intended exclusively to cover mobility costs and access fees.

RESULTS

The initial steps include the consolidation of the European Master of Science in Nuclear Engineering (EMSNE) scheme and its evolvement to European Master of Science in Nuclear Disciplines (EMSND). The terms of reference document defining all aspects of how the EMSND will be conducted has been drafted.

Additionally, niche areas in lifelong learning activities in nuclear area have been determined, including the Medical Domain. Training courses related to new requirements for the Medical Physics Expert (MPE) as described by the European Commission Guidelines on MPE report No 174 and the European Union Basic Safety Standards Directive 2013/59/EURATOM (EU BSS) have been proposed.

Concerning the Mobility Grants, the manual describing the details and the conditions that must be fulfilled for a successful application has been prepared (http://plus.enen.eu/wp-content/uploads/2018/03/ENEN-PLUS-Mobility-Manual-v2-Feb-28-2018.pdf).

Two calls for mobility grants have been implemented so far. Currently four Medical Physics applications have been received during the first call and five Medical Physics applications to second call respectively. Data regarding the applications are presented in Charts

Although not being a member of WP1 – «Attract new nuclear talents in secondary schools (SS)» - EFOMP has made active steps to disseminate to SS pupils information including Nuclear competition and Summer school camps developed within this work package. It is expected that the participation of SS students to the competition and the summer camp will persuade young generations to follow a career in Nuclear Medical Applications, including Medical Physics.

CONCLUSIONS

The developed terms of reference document on EMSND is an important tool towards better unification and mutual recognition of EMSND within the EU.

The mobility grants provided within the project are very helpful to younger students and other professionals willing to participate in education and training activities in Medical Physics including all medical applications of ionizing radiation.

ENEN+ is an important project to those persons who would wish to start, change or continue their carrier toward successful development and higher professional achievements in medical and non medical fields of variety of nuclear applications, including Medical Physics.

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