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LIST OF ACRONYMS AND ABBREVIATIONS

NuPIA	Nuclear Physics InnovAtion Network Activity
ULIV	University of Liverpool
JYU	University of Jyväskylä

EXECUTIVE SUMMARY

This document presents an intermediate report on the courses offered to industrial partners outside of the ENSAR2 community as a part of the NuPIA - Nuclear Physics InnovAtion Network Activity (WP8).

INTRODUCTION

As part of the NuPIA activities, a survey of courses available at all beneficiary and partner institutes was carried out and reported in deliverable D8.6. On the basis of the survey, a number of courses were selected and offered to industrial partners to enhance training in Nuclear Physics techniques and transfer of knowledge to industry.

COURSES OFFERED

On the basis of the survey, two institutes, the University of Liverpool (ULIV) and the University of Jyväskylä (JYU) were identified as providing courses which would be suitable to be offered to industrial partners. The main themes of the courses are in the basic principles of radiation detection and measurement, an understanding of which is essential in many fields of applied physics. Examples are the need to understand the interaction of radiation with matter, in order to develop methods and measurement techniques in radiation therapy, medical imaging, industrial measurement and in materials characterization.

The courses to be offered and approximate dates were:

University of Liverpool:

Course Code	Course title	Estimated Dates for 2018/2019
PHYS802	Principles of Radiation Detection (PRD)	Last week in September
PHYS804	High Resolution Gamma Spectrometry (HRGS)	2nd week in November
PHYS820	Radiation Shielding (N11) - MCNP modelling	2nd week in January
PHYS808	Nuclear Instrumentation (NIS)	First week in December
PHYS807	Neutrons: Detection and Modelling (NDM)	3rd week Feb
PHYS810	Radiation Protection and Dosimetry (RPD)	2nd week May

University of Jyväskylä:

Course Code	Course title	Estimated Dates for 2019
FYSN550(sub1)	Materials characterization with ion beams	Spring term
FYSN550(sub2)	The effects of radiation on electronics component	Spring term
FYSN550(sub3)	The interaction of radiation with matter and radiation detection techniques	Spring term

The courses were advertised via private networks and other links and also at the NuPIA Nuclear Physics Innovation Brokerage Event (<https://nupinno.b2match.io/>) in October 2018.

At the University of Liverpool, the following courses have been held:

PHYS804 High Resolution Gamma Spectrometry (HRGS) 26 Nov – 30 Nov 2018 - 15 participants, 4 from industry

PHYS820 Radiation Shielding (N11) 21 – 25 January 2019 - 30 participants, 12 from industry

PHYS809 Statistics, data collection and analysis (SDA) 4 – 8 February 2019 - 18 participants, 1 from industry

At the University of Jyväskylä, it was originally planned to offer the courses to industry in separate one week modules, but the course content is aimed at local students as part of their usual studies. Due to the local resources, timetables for the students and the fact that much of the practical work is carried out using the equipment in the Accelerator Laboratory, it was not possible to arrange the courses in this way in the early part of 2019. It is now planned to re-organise the content to better match the needs of industrial partners and to make modules of 2-3 days which could be offered. The staff at JYU are currently planning this courses and would try to offer them later in 2019 and re-advertise to potential partners.

CONCLUSION

A number of courses have already been offered at the University of Liverpool and have been attended by participants from industry. More courses will be offered later in the spring at Liverpool and later in 2019 at JYU.