HORIZON 2020

RESEARCH INFRASTRUCTURES

H2020-INFRAIA-2014-2015

INFRAIA-1-2014-2015 INTEGRATING AND OPENING EXISTING NATIONAL AND REGIONAL RESEARCH INFRASTRUCTURES OF EUROPEAN INTEREST

ENSAR2

EUROPEAN NUCLEAR SCIENCE AND APPLICATION RESEARCH 2

GRANT AGREEMENT NUMBER: 654002

D4.6

INTERMEDIATE REPORT ON THE COLLABORATION WORKSHOPS AND TRAINING ACTIVITIES

Version: 1.0
Author: Silvia Lenzi
Date: 31.01.2019

PROJECT AND DELIVERABLE INFORMATION SHEET

ENSAR2 Project Ref. №	654002
Project Title	European Nuclear Science and Application Research 2
Project Web Site	http://www.ensarfp7.eu/
Deliverable ID	D4.6
Deliverable Nature	Report
Deliverable Level*	PU
Contractual Date of Delivery	February 28, 2019
Actual Date of Delivery	February 28, 2019
EC Project Officer	Mina Koleva

* The dissemination levels are indicated as follows: PU – Public, PP – Restricted to other participants (including the Commission Services), RE – Restricted to a group specified by the consortium (including the Commission Services). CO – Confidential, only for members of the consortium (including the Commission Services).

DOCUMENT CONTROL SHEET

Document	Title: Midterm report on the Collaboration Workshops and training activities	
	ID: D4.6	
	Version 1.0	
	Available at: http://www.ensarfp7.eu/	
	Software Tool: Microsoft Office Word 2007	
	File: D4.5.docx	
Authorship	Written by:	Silvia Lenzi, INFN-Padova
	Contributors:	
	Reviewed by:	Marek Lewitowicz, GANIL
	Approved by:	Muhsin N. Harakeh, KVI-CART & GANIL

DOCUMENT STATUS SHEET

Version	Date	Status	Comments
0.1	02.02.2019	For internal review	
1.0	28.02.2019	Submitted on EC Participant Portal	
		Final version	

Document Keywords

Keywords	ENSAR2, NUSPIN – Intermediate report on the Collaboration Workshops and training activities

Disclaimer

Copyright notices

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

ScC	Scientific Committee
StC	Steering Committee
WGs	Working Groups
AGATA	Advanced Gamma Tracking Array
IPHC	Institut Pluridisciplinaire Hubert Curien

INTRODUCTION

NUSPIN is the network in ENSAR2 for the Nuclear Spectroscopy and Complementary Equipment community involved in frontline research on nuclear structure, reaction dynamics and applications. The main goals are the promotion and coordination of scientific and technological activities, the exchange of knowledge and transfer of expertise between the working groups including training of young researchers, and the optimisation of the use, construction and maintenance of the resources.

NUSPIN WORKSHOPS

The Steering Committee organises annually the NUSPIN Workshop where the most important achievements in gamma-spectroscopy research are presented and discussed. These workshops serve not only to exchange information but also to strengthen the community, to start new ventures, to discuss the perspectives with theoreticians and with colleagues involved in nuclear-structure research outside Europe. They host the annual AGATA Collaboration Open meeting.

The First NUSPIN Workshop took place at the Venice International University, in San Servolo, Venice on June 27^{t}– July 1, 2016. During the same week, the Scientific Committee and Working groups met. The Workshop hosted the AGATA Physics Workshop and AGATA Collaboration Council. About 85 scientists from 17 countries participated in the Workshop. Some young participants giving oral presentations received financial support for travel expenses.
The slides of the presentations are published in the website of the workshop: https://agenda.infn.it/conferenceDisplay.py?confId=10503 (also accessible from the NUSPIN website)

The Second NUSPIN Workshop of the Nuclear Spectroscopy Instrumentation Network of ENSAR2, NUSPIN 2017, took place at GSI Darmstadt on June 26 – 29, 2017, and hosted the AGATA Collaboration Meeting.
The aim of the NUSPIN 2017 Workshop was to present the status of the instrumentation for nuclear structure research at the European facilities and to discuss its perspectives. Sessions were dedicated to the presentation of recent nuclear structure experimental as well as theoretical studies, the latest results obtained with gamma-ray arrays at the experimental research facilities in Europe and the preparation status of the RIB facilities. Furthermore, the challenges of future research were discussed and the technical developments of gamma-ray techniques and particle detectors were highlighted.
Review talks were followed by shorter contributions selected from the submitted abstracts. 94 participants from 15 countries had attended the Workshop: https://indico.gsi.de/event/5649/user/register/success?userId=5782 .
Financial support was available upon request for all invited speakers, with a special priority given to young researchers. The travel and participation of 25 scientists was supported by the German NUSPIN funds.

The Third NUSPIN Workshop of the Nuclear Spectroscopy Instrumentation Network of ENSAR2, NUSPIN 2018, took place at the IFIC Research Institute, in Valencia, Spain, on June 25-29, 2018, and hosted the AGATA Town Meeting.
The aim of the NUSPIN 2018 Workshop was to present the status of nuclear structure research in Europe and to discuss its perspectives. Sessions were dedicated to the presentation of recent theoretical studies, the latest results obtained with the gamma-ray arrays at different facilities in Europe, and the discussion of the challenges of future research and related technical developments in gamma-ray techniques and particle detectors.
The main scientific topics discussed at the workshop were:
•shell structure far from stability,
•isospin degrees of freedom,

•collective excitations,
•nuclear moments,
•spectroscopy with radioactive ion beams,
•nuclear astrophysics,
•gamma-ray detectors technology,
•complementary instrumentation.

Review talks were followed by shorter contributions selected from the submitted abstracts. 75 participants from 30 European and international institutions and laboratories participated in the Workshop: https://indico.ific.uv.es/event/3190/overview .
Financial support was available upon request for all invited speakers, with a special priority given to young researchers.

Training of new users and exchange of experts

IPHC staff training on encapsulated germanium detector
Michel FILLIGER and Marie-Hélène SIGWARD were trained at IKP Cologne from March 13 to 16, 2017 on encapsulated germanium detectors. This included training in:
- preparing germanium capsules and electrical tests of inner parts of test cryostats,
- mounting the capsules in the test cryostats,
- testing the performances of the capsules.

Hands-on Workshop on Operation, Test and Repairs of Ge Detectors
The workshop took place in the University of Cologne, Germany from 4th to 7th September 2018:
http://agenda.infn.it/event/nuspin.hpge2018 .
This workshop was addressed specially to physicists, engineers and technicians involved in maintenance and repairing of any type of Ge detectors.
The aim of the workshop was to transfer the knowledge available in the community summarising problems and solutions for the different types of detectors running today in Europe, i.e. from single tapered crystals to AGATA capsules.
There were 40 participants in the Workshop. It was very much appreciated as it was for the first time that experts and colleagues working on Ge-detector developments and/or technical issues, from different facilities were meeting together. They enjoyed learning and exchanging skills and information and asked the organisers to repeat the initiative in the future. A new networking collaboration to continue exchanging information was started at the workshop.

NUSPIN School on Ge detectors
The School will be addressed to young researchers and PhD students involved in nuclear spectroscopy studies.
It will be organised in Liverpool by the beginning of June, 2019.

CONCLUSIONS

The Workshops have been organised as foreseen in the project. The response of the community has been enormous and very positive. The first workshop was devoted to show the scientific results obtained at the different facilities and institutions together with some technical developments in detection systems. The second workshop put more accents on the detection systems and applications together with the developments at the different facilities as well

as theoretical research in nuclear structure. The third one was more focussed on the future developments and theory-driven experiments. All three workshops were very much appreciated by the community.

The hands-on workshop for technicians, physicists and engineers dealing with Ge detectors in Cologne was very successful as it allowed for the first time for these colleagues to meet, exchange expertise and knowledge and learn new techniques. The number of registrations exceeded by large the expectations and called for a second workshop that may be organised next year. The School for PhD students and young researches will be organised in June 2019.