

**Project:
MaNaCa**

(Grant Agreement number 857502)

“Magnetic Nanohybrids for Cancer Therapy ”

Funding Scheme: Coordination and Support Action

Call: H2020-WIDESPREAD-2018-2020 / H2020-WIDESPREAD-2018-03

Date of the latest version of ANNEX I: 22/6/2021

D4.4 Final report on Events (Workshops, Summer Schools, Conferences)

Project Coordinator (PC):	Dr. Aram MANUKYAN Email: manukyan.ipr@gmail.com
PC Organization Name:	IPR-NAS
Lead Partner for Deliverable:	IPR-NAS
Deliverable Due Date:	31/03/2023
Deliverable Issue Date:	28/03/2023

Document History	
<i>(Revisions – Amendments)</i>	
Version and date	Changes
1.0 – 28/03/2023	First version

Dissemination Level		
PU	Public	X
PP	Restricted to other program participants (including the EC Services)	
RE	Restricted to a group specified by the consortium (including the EC Services)	
CO	Confidential, only for members of the consortium (including the EC)	

The MaNaCa project intends to develop the scientific and technological capacity as well as raising the research profile of the Institute for Physical Research of the National Academy of Sciences (IPR-NAS) in Armenia. From a scientific standpoint, MaNaCa will focus on the structural and magnetic characterization of magnetic nanohybrids and their application for cancer therapy. The project's aim will be accomplished by networking IPR-NAS with two internationally-leading research organisations: the Aristotle University of Thessaloniki (AUTH) in Greece and the University of Duisburg – Essen (UDE) in Germany. Throughout the project, the research partners will be supported for management and dissemination by Intelligentsia Consultants Sàrl (INT), a consultancy company based in Luxembourg which has already collaborated on several occasions with the Widening partner. During the project, which will have a total duration of three years, the partners will carry out a research and innovation strategy with these objectives:

1. Stimulating scientific excellence and innovation capacity of IPR-NAS with regard to magnetic nanohybrids for cancer therapy.
2. Improve the career prospects of early stage researchers of IPR-NAS and the Twinning partners
3. Raise the research profile of IPR-NAS and the Twinning Partners

In order to accomplish this task, the consortium partners will implement several actions through the project's work packages: (WP1) exchange of senior researchers; (WP2) exchange of early-stage researchers; and (WP3) dissemination and outreach. Project management (WP4) will be coordinated by IPR-NAS with the support of INT. In addition to staff exchanges, project's activities will include technical training, joint publications, joint participation to conferences, organization of summer schools, workshops and an international conference.

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1. Executive Summary

This report collects the scientific events held during the last reporting period of MaNaCa project (M25-M42) from October 2021 till March 2023. For each event, a brief description is given together with screenshots of its activities together with links for the scientific programme, abstract book and video links.

1. Training Workshops

1.1 5th Training workshop 7-9 April 2022, Thessaloniki-Greece (Physical)

This workshop focused on structural and magnetic characterization of magnetic nanohybrids and their application for cancer therapy. This workshop, held in English, addressed to Greek and foreign graduate and PhD students, as well as to post-doc and young researchers working on the field of magnetic nanomaterials focusing on their biomedical applicability. Program consisted of tutorial lecture sessions and interactive lab courses. Students presented their results with poster presentations (both onsite: A0 printouts & web: 5 min flash presentations) and discuss their results also throughout workshop and within dedicated poster presentation sessions.

Workshop Links

[Webpage](#), [Program with video-slide links](#), [Book of Abstracts](#) [Participant List](#)
[Workshop Photo](#) [Photo-Memories](#) [Video-Souvenir](#)

1.2 6th and 7th Training workshops on Horizon Europe proposal writing during 20-21 September 2022, Yerevan (Physical)

Intelligentsia Consultants' Giles Brandon gave two Horizon Europe proposal writing training workshops in Yerevan, Armenia.

Held during 20-21 September, the training workshops gathered participants from IPR-NAS as well as the Institute of Chemical Physics, Russian-Armenian University, Yerevan State University and the Scientific and Innovation Partnership Center.

The first training workshop was focused on several coordination and support actions (CSA) funded under the Horizon Europe Widening programme (Twinning, ERA-Chair and Hop-On Facility) while the second training workshop was focused on research and innovation actions (RIA) and innovation actions (IA) funded under Horizon Europe Pillar 2 (Clusters 4 and 5).

During the practical trainings, Mr Brandon drew upon his many years of experience of successful proposal writing to provide examples of proposal structure, text and figures to support researchers with their proposal writing.



Training slides - Horizon Europe Widening programme

[Proposal writing training for the Horizon Europe Widening programme](#)

[Tips on how to structure and write a Twinning proposal](#)

[Tips on how to structure and write an ERA-Chair proposal](#)

[WP description example](#)

Training slides - Horizon Europe Pillar 2

[Review of forthcoming calls in Horizon Europe Clusters 4 and 5](#)

[How to get started & how to structure the overall proposal](#)

[How to write Section 1 "Excellence"](#)

[How to write Section 2 "Impact"](#)

[How to write Section 3 "Implementation"](#)

[WP description example](#)

2. International Conference “APRICOT”

A combined 1st APRICOT (Armenia's Perspectives in Current Oncology Theranostics) International Conference with the subtitle “Magnetic nanomaterials in biomedicine: synthesis and functionalization” and 3rd Summer School were held in Yerevan, Armenia, 1-4 March 2023. The combined Conference and summer school focused on synthesis, structural and magnetic characterization of magnetic nanohybrids and their various biomedical applications such as bio-separations, hyperthermia treatment, drug delivery and toxin removal, medical diagnostics, and sensing devices. Being the first in Armenia, APRICOT brought together the scientific community of physicists, chemists and biologists to discuss the latest developments in the production and characterization of magnetic nanomaterials and their biomedical applications.

The combined 1st APRICOT and 3rd Summer School programme consisted of 36 oral talks including four plenary and 18 invited, and 19 poster presentations in the fields divided in six sessions: a) Magnetic nanocomposites for cancer therapy, b) Magnetic nanoparticles for bio-applications, c) Synthesis, characterization, and properties of magnetic nanomaterials, d) Interaction of magnetic nanoparticles with electromagnetic waves, e) Advanced Methods for characterization of nanomaterials, f) poster session.

103 people from 11 countries attended the "1st APRICOT Conference / 3rd Summer School" event. Among them were 19 Professors, 36 Doctors and 32 early-stage researchers (Fig.1).

At the end, souvenirs with the MaNaCa logo were given to all the speakers (oral and poster).

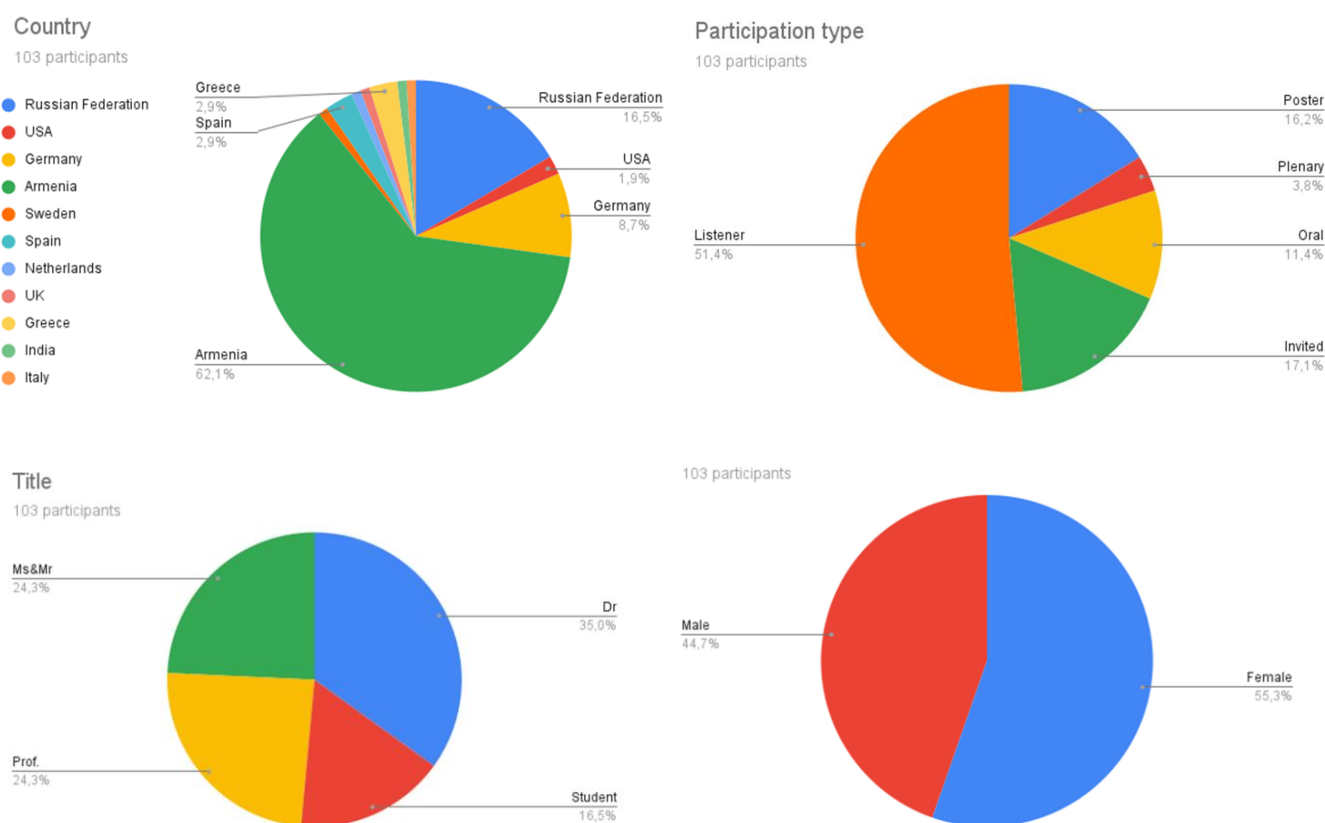


Figure 1: Breakdown of the participants in the "1st APRICOT Conference / 3rd Summer School" event.

It should be noted that the APRICOT conference was the centre of attention of a number of Armenian media including Armenian Public TV: [link-01](#), [link-02](#), [link-03](#), [link-04](#), [link-05](#), [link-06](#)

MaNaCa, D4.4: Final report on Events (Workshops, Summer Schools, Conferences)





"1st APRICOT Conference / 3rd Summer School" Links
[Webpage](#), [Program](#), [Book of Abstracts](#), [Participant List](#)
[Short Video](#), [Video-Memories](#), [Video-Souvenir](#)

3. Summer Schools

3.1 3rd Summer School during 3 March 2023, Yerevan (Physical)

The 3rd summer school was combined with the 1st APRICOT Conference and took place during 1-3 March 2023. The school aimed to provide an introduction to the methods of synthesis and functionalization of magnetic nanohybrids, and information about modern aspects of their investigation for biomedical applications. The summer school included four plenary talks and training presentations on methods for characterization of magnetic nanomaterials, which the students and young researchers had the chance to follow:

Friday, 03.03.2023

9:00-10:00

Prof. Makis Angelakeris, Greece - Tuning Nanomagnetism for Biomedical Applications

10:20-10:50

Prof. Michael Farle, Germany - Ferromagnetic Resonance: a Versatile Tool to Determine Magnetic Properties

11:20-12:20

Prof. Aleksandr Kamzin, Russia - Nanocomposites and Functionalized Nanostructures for Biomedicine: Mössbauer Studies

Dr. Anna Elsukova, Sweden - Shedding the Light on the Properties of the Nanomaterials with Scanning and Transmission Electron Microscopy

13:10-14:10

Prof. Ulf Wiedwald, Germany - Magnetic Hyperthermia and Magnetometry: What to Learn and How to Correlate Them

Dr. Tapas Sen, UK - Career Prospect in Nanotechnology: Applications in Food, Water, Pharmaceutical and Medical Sectors

4. Conferences attended

Name and location of conference	13 th International Conference on the Scientific and Clinical Applications of Magnetic Carriers, London-UK
Dates of conference	14-17/06/2022
Name(s) of researcher(s) attending conference	A. Makridis
Title of paper presented at the conference	3D Printing of Polymer-Bonded Magnets
Title of poster presented at the conference	Iron-cementite nanoparticles in carbon matrix: Synthesis, features and biomedical perspectives

Name and location of conference	12 th International Conference on Magnetic and Superconducting Materials, Duisburg-Germany
Dates of conference	28/08-02/09/2022
Name(s) of researcher(s) attending conference	M. Angelakeris
Title of paper presented at the conference	Magnetically driven therapies: Toxicity, Risks and Side-effects
Title of poster presented at the conference	-

Name and location of conference	12 th International Conference on Magnetic and Superconducting Materials, Duisburg-Germany
Dates of conference	28/08-02/09/2022
Name(s) of researcher(s) attending conference	E. Myrovali
Title of paper presented at the conference	Hybrid Stents based on magnetic hydrogels for biomedical applications
Title of poster presented at the conference	Multiferroic properties of coprecipitation synthesized BiFeO ₃ nanoparticles in various nominal Bi/Fe molar ratios

Name and location of conference	12 th International Conference on Magnetic and Superconducting Materials, Duisburg-Germany
Dates of conference	28/08-02/09/2022
Name(s) of researcher(s) attending conference	A. Makridis
Title of paper presented at the conference	Versatile magnetic filament fabrication: A novel pathway for 3D printed biomagnetic scaffolds
Title of poster presented at the conference	Correlation of magnetism with magnetic particle hyperthermia efficiency in iron/cementite nanohybrids

Name and location of conference	1 st International Conference "APRICOT" Magnetic nanomaterials in biomedicine: synthesis and functionalization, Yerevan-Armenia
Dates of conference	01-04/03/2023
Name(s) of researcher(s) attending conference	M. Angelakeris
Title of paper presented at the conference	Tuning Nanomagnetism for Biomedical Applications
Title of poster presented at the conference	-

MaNaCa, D4.4: Final report on Events (Workshops, Summer Schools, Conferences)

Name and location of conference	1 st International Conference “APRICOT” Magnetic nanomaterials in biomedicine: synthesis and functionalization, Yerevan-Armenia
Dates of conference	01-04/03/2023
Name(s) of researcher(s) attending conference	A. Makridis
Title of paper presented at the conference	3D Magnetic Printing: From Filament Fabrication to Hyperthermia Scaffolds
Title of poster presented at the conference	Synthesis and characterization of a novel multifunctional magnetic bioceramic nanocomposite

Name and location of conference	1 st International Conference “APRICOT” Magnetic nanomaterials in biomedicine: synthesis and functionalization, Yerevan-Armenia
Dates of conference	01-04/03/2023
Name(s) of researcher(s) attending conference	M. Spasova
Title of paper presented at the conference	Anisotropic Magnetic Nanoparticles magnetic nanoparticles for bio-application
Title of poster presented at the conference	-

Name and location of conference	Workshop Nanomedicine 2022, Rome-Italy
Dates of conference	07-10/06/2023
Name(s) of researcher(s) attending conference	Inci Nur Sahir
Title of paper presented at the conference	-
Title of poster presented at the conference	-

Name and location of conference	DPG-Tagung, Regensburg-Germany
Dates of conference	04-09/09/2022
Name(s) of researcher(s) attending conference	M. Spasova
Title of paper presented at the conference	-
Title of poster presented at the conference	Structure and magnetism of hematite nanodiscs

Name and location of conference	12 th International Conference on Magnetic and Superconducting Materials, Duisburg-Germany
Dates of conference	28/08-02/09/2022
Name(s) of researcher(s) attending conference	T. Smoliarova
Title of paper presented at the conference	-
Title of poster presented at the conference	Au-Fe ₃ O ₄ Nanohybrids: Synthesis and Characterization

Name and location of conference	DPG-Tagung (virtual)
Dates of conference	27/09-01/10/2021
Name(s) of researcher(s) attending conference	E. Papadopoulous
Title of paper presented at the conference	-
Title of poster presented at the conference	Structure and magnetism of Fe/Fe ₃ C/Carbon nanocomposites: Influence of the pyrolysis conditions

MaNaCa, D4.4: Final report on Events (Workshops, Summer Schools, Conferences)

Name and location of conference	12th International Conference on Magnetic and Superconducting Materials, Duisburg-Germany
Dates of conference	28/08-02/09/2022
Name(s) of researcher(s) attending conference	Narek Sisakyan
Title of paper presented at the conference	Magnetic heating properties of Fe-Fe ₃ C nanoparticles prepared by method of ferrocene pyrolysis
Title of poster presented at the conference	-

Name and location of conference	12th International Conference on Magnetic and Superconducting Materials, Duisburg-Germany
Dates of conference	28/08-02/09/2022
Name(s) of researcher(s) attending conference	Gayane Chilingaryan
Title of paper presented at the conference	-
Title of poster presented at the conference	Synthesis and magnetic heating properties of Fe-Fe ₃ C nanoparticles in a carbon matrix

Name and location of conference	Laser Physics 2022, Ashtarak-Armenia
Dates of conference	14-16/09/2022
Name(s) of researcher(s) attending conference	Harutyun Gyulasaryan
Title of paper presented at the conference	Synthesis, Structure, Magnetic and Magnetic Heating Properties of Carbon Coated Fe-Fe ₃ C Nanoparticles
Title of poster presented at the conference	-

Name and location of conference	1 st International Conference "APRICOT" Magnetic nanomaterials in biomedicine: synthesis and functionalization, Yerevan-Armenia
Dates of conference	01-04/03/2023
Name(s) of researcher(s) attending conference	Harutyun Gyulasaryan
Title of paper presented at the conference	Magnetic and Hyperthermia Properties of Carbon Coated Fe-Fe ₃ C Nanoparticles Synthesized by Ferrocene Compound
Title of poster presented at the conference	-

Name and location of conference	1 st International Conference "APRICOT" Magnetic nanomaterials in biomedicine: synthesis and functionalization, Yerevan-Armenia
Dates of conference	01-04/03/2023
Name(s) of researcher(s) attending conference	Narek Sisakyan
Title of paper presented at the conference	Magnetic Heating Investigation of Iron-Cementite Nanoparticles in Carbon Matrix
Title of poster presented at the conference	-