

## Newsletter No. 1: Oct 2019 - Sept 2020

### MaNaCa in a nutshell

The MaNaCa project aims to develop the scientific and technological capacity as well as raise 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 with the management and dissemination activities by Intelligentsia Consultants Sàrl (INT), a consultancy company based in Luxembourg, which has already collaborated on several occasions with IPR-NAS during the FP7 and H2020 programmes.

From 2019-2022, the partners will carry out a research and innovation strategy with the following objectives:

1. Stimulate 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

These objectives will be centred around a research and innovation strategy focused on two sub-topics:

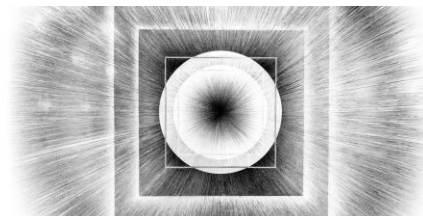
- A. Structural and magnetic characterization of nanohybrids
- B. Magnetic particle hyperthermia

In order to accomplish this, the consortium partners will implement a comprehensive set of actions:

- Exchange of senior researchers;
- Exchange of early stage researchers; and
- Dissemination and outreach.

In addition to staff exchanges, the project activities will also include technical training, joint publications, joint participation to conferences, organization of summer schools, workshops and an international conference.

[www.h2020-manaca.eu](http://www.h2020-manaca.eu)




## News

### October 2019, Project Kick-Off Meeting and Spins 2019

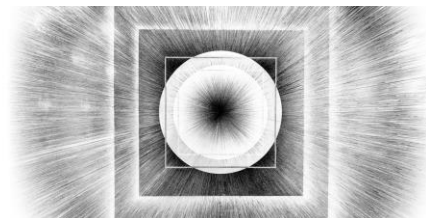
The MaNaCa project "Magnetic Nanohybrids for Cancer Therapy" officially started at the beginning of October 2019. The consortium held their kick-off meeting on the 4 October 2019 at Universitaet Duisburg-Essen. All project partners were in attendance and, during the day's event, gathered to discuss the early implementation stages of the project and to plan upcoming MaNaCa activities. The meeting provided an opportunity for the project's work package leaders to discuss the project's objectives and secondment plans. The event was also combined with the workshop [Spins 2019](#) hosted by UDE, which featured topics related to the research focus of the MaNaCa project and where several partners were speakers. Overall, the meeting proved a very successful start for the MaNaCa project.



### June 2020, MaNaCa consortium meeting

The MaNaCa partners held this consortium meeting via Zoom. It provided an opportunity to discuss the current status of deliverables as well as the reorganisation of summer schools, training workshops and international conference in light of the impact of the Covid-19 on staff exchanges. Notably, the partners agreed to hold a rescheduled and combined Summer School + Training Workshop + Consortium meeting during August 2020 in Thessaloniki. It was to be a hybrid event: in person for those people in Thessaloniki and online for those people participating remotely.





## News (continued)

### July 2020, Online training course

Originally, the MaNaCa project's 1st Training Workshop was foreseen to take place in person in Thessaloniki in early April 2020. However, due to the Covid-19 pandemic and the lockdown situation across Europe in Spring 2020, it was postponed until late August 2020 and, in its place, an online-only event was held during 27-28 July 2020. The online training workshop included talks on the preparation and presentation of scientific publications, project management, and an introduction to Electronic Lab Notebooks. Altogether 38 people participated in the workshop: 33 x early stage researchers, 5 x senior researchers, 58% female. Copies of the workshop presentations can be downloaded from the [MaNaCa website](#).

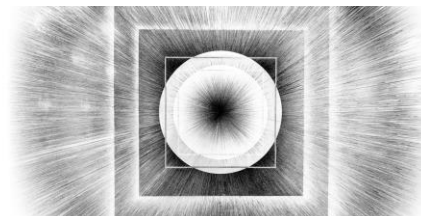


### Sept 2020, Update on project publications

The consortium partners have so far produced the following research publications:

- Synthesis and Characterization of Carbon Coated Fe-Fe<sub>3</sub>C "Core-Shell" Nanoparticles for Magnetic Hyperthermia, Aram Manukyan, Institute for Physical Research, National Academy of Sciences of Armenia, Ashtarak, Armenia in *SpinS, International Workshop, 2-4 October 2019, Duisburg-Germany*.
- Iron based "Core-Shell" Nanoparticles for Magnetic Hyperthermia of Cancer Cells Aram Manukyan, Institute for Physical Research, National Academy of Sciences of Armenia, Ashtarak, Armenia in *MaNaCa Training Workshop & Summer School, 25-28 August 2020, Thessaloniki-Greece*.
- Fe-Fe<sub>3</sub>O<sub>4</sub> "Core-Shell" Nanoparticles: Synthesis and Characterization, G. Chilingaryan, Institute for Physical Research, National Academy of Sciences of Armenia, Ashtarak, Armenia in *MaNaCa Training Workshop & Summer School, 25-28 August 2020, Thessaloniki-Greece*.
- Fe-Fe<sub>3</sub>C "Core-Shell" Nanoparticles: Synthesis and Characterization, H. Gyulasaryan, Institute for Physical Research, National Academy of Sciences of Armenia, Ashtarak, Armenia in *MaNaCa Training Workshop & Summer School, 25-28 August 2020, Thessaloniki-Greece*.
- Magnetic characterization of Fe/Fe<sub>3</sub>C nanoparticles fabricated by solid state pyrolysis, E. Papadopoulou, Fakultät für Physik, Universität Duisburg-Essen-Germany in *MaNaCa Training Workshop & Summer School, 25-28 August 2020, Thessaloniki-Greece*.





## News (continued)

### August 2020, 2nd Training Workshop and 1st Summer School

The MaNaCa consortium held a combined 2nd Training Workshop and 1st Summer School in Thessaloniki during 25-28 August 2020. It was a hybrid event – with both on-site and web participation – which focused on structural and magnetic characterization of magnetic nanohybrids and their application to cancer therapy. A copy of the event's book of abstracts is available [here](#).

#### **2nd Training Workshop**

The workshop programme consisted of 22 tutorial lecture sessions given by experts in the fields divided in four sessions: a). Materials & Structure, b). Magnetism & Properties, c). Biomedical Constraints and d). Cancer Specific Aspects. A full copy of the event's scientific programme is available [here](#).

#### **1st Summer School**

The Summer School involved four Lab Courses that took place during the afternoons, which the students had the chance to follow:

##### *Lab Course 01: Young researchers: Present & Publish*

M. Farle, Germany: How to make a good scientific oral presentation

C. Bratsas & S. Zapounidou, Greece: How to avoid predatory journals and plan your publication strategy. A video recording of Lab Course 01 is available [here](#).

##### *Lab Course 02: Young researchers: Propose & Manage*

G. Brandon, Luxembourg: H2020 MSCA Individual Fellowships for young researchers. A video recording of Lab Course 02 is available [here](#).

##### *Lab Course 03: Young researchers: Samples & Biomedicine*

E. Myrovali & K. Kazeli, Greece: Hands on Samples for biomedical applications. A video recording of Lab Course 03 is available [here](#).

##### *Lab Course 04: Young researchers: Magnetic Hyperthermia*

A.R. Tsiapla, N. Maniotis, A. Makridis, Greece: Hands on magnetic particle hyperthermia: Experiment & evaluation. A video recording of Lab Course 04 is available [here](#).

Also, the Summer School included two flash presentation web-poster sessions for young researchers where they had the chance to present their results while onsite participants hung printouts of their posters and discussed their results during the workshop breaks. A video recording of the web-poster sessions is available [here](#).

## Contact

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