

NuSpIn

Nuclear Spectroscopy Instrumentation Network

the network for the **gamma-spectroscopy**
and **complementary-instrumentation** community

Promotion and Coordination

of scientific and technological activities for frontline research

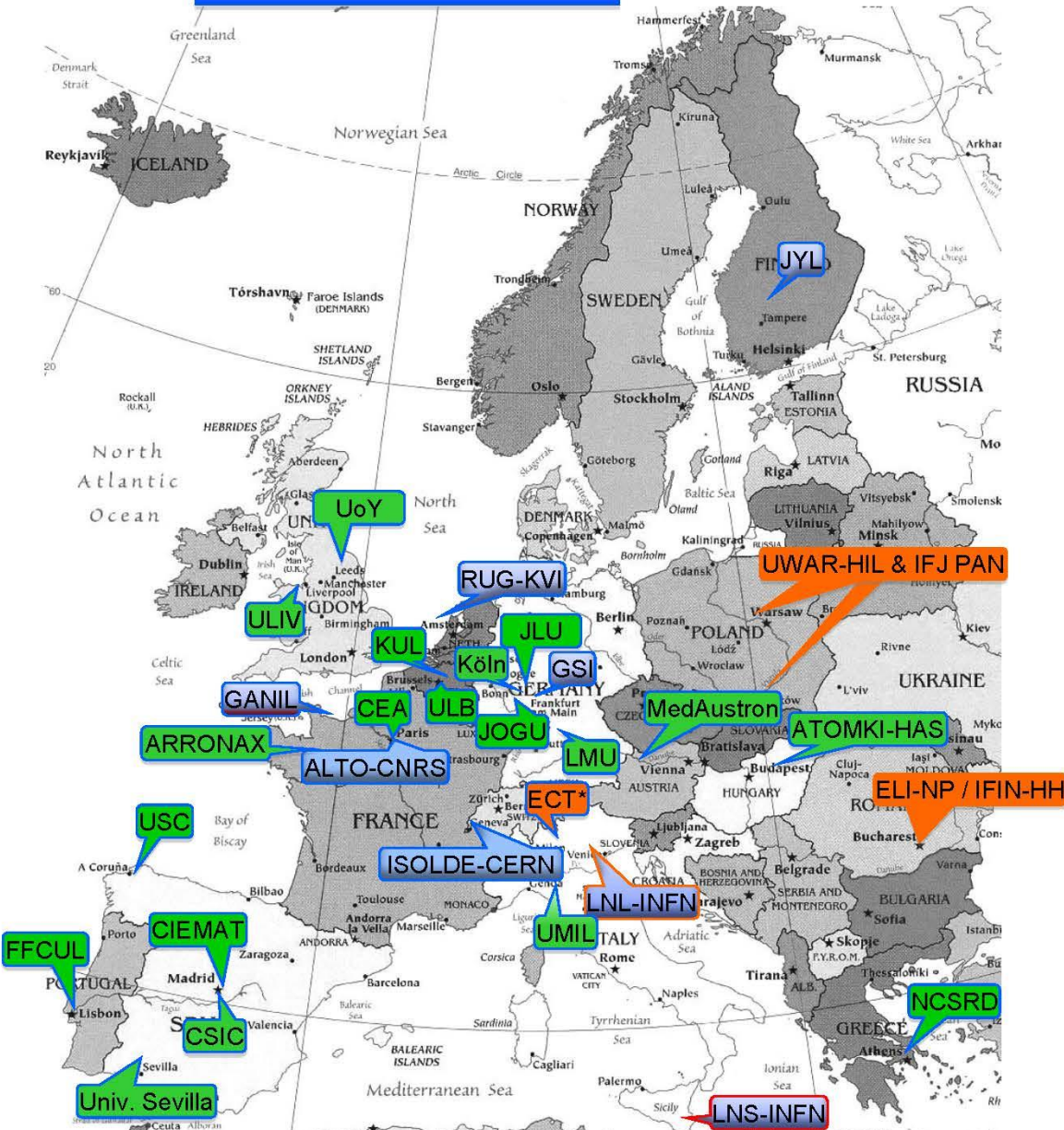
Exchange of knowledge and transfer of expertise

between the working groups and towards young researchers

Optimization

of the use, construction and maintenance of the resources

<http://nuspin.pd.infn.it>



10 TNA Facilities

30 beneficiaries
15 countries

Community: 2700-3000 scientists and highly qualified engineers

8 Network Activities:
FISCO, NUSPRASEN, MIDAS, NUSPIN, MediNet, GDS, ENSAF, NUPIA

7 Joint Research Activities
PASPAG, PSeGe, TheoS, RESIST, SATNuRSE, EURISOL, TechIBA



motivation

High-resolution gamma-ray spectroscopy is the principal tool for investigations in nuclear structure as it allows to study the excited nuclear states and their properties with high precision.

The **sensitivity** of gamma-ray devices **increases** significantly if combined with **ancillary detectors** for charged particles, heavy ions and neutrons.

High-efficiency gamma-ray detectors and **calorimeters** based on **scintillator materials** are essential tools to study weak processes, nuclear dynamics and structure far from stability.

The **exchange** of information and the development of **synergies** are of great benefit to the whole research community

the actors



Collaborations on the design, construction, and operation of:

High-resolution Ge arrays

High-efficient scintillator arrays (high energy and fast timing)

Charged-particle detector arrays

Neutron-detector arrays

Setups for beta-decay measurements

Setups for nuclear-moments measurements

specific actions



- To ensure the efficient and innovative use** of the valuable European gamma-ray spectroscopy resources at the different infrastructures, each with its specificity in beam species and energy ranges
- To promote the collaboration and sharing of expertise** between different research and technical domains
- To promote the coordination of the experimental campaigns** at the different infrastructures providing and exchanging information on their potential opportunities

specific actions (2)



- To promote the cooperation in the development, design and construction of gamma-ray and particle detectors
- To encourage and organize the pooling of distributed equipment in order to enhance synergies between complementary resources for common large-scale projects
- To encourage and facilitate the exploration of ground-breaking solutions to pave the way for future generation arrays, both high-resolution gamma spectrometers and complementary devices
- To build bridges between the scientific developments and the applications for the society.



The tasks



task 1

Coordination, promotion and dissemination

- 1.1 Steering Committee:** to coordinate and organize the different activities and tasks
- 1.2 Scientific Committee:** to promote collaborative ventures and to encourage the pooling of distributed equipment
- 1.3 Coordination between the Infrastructures:** to organize annual meetings between the management of the gamma-spectroscopy collaborations and the directors of the hosting infrastructures

organization and budget



The network is managed by a Steering Committee:

INFN-Padova: Silvia M. Lenzi (coordinator)

GSI: Magdalena Gorska (deputy-coordinator)

IN2P3-Orsay: Araceli Lopez-Martens

IFIC-Valencia: Andres Gadea

Uni Liverpool: Andrew Boston

The total budget is 170 k€ distributed in these 5 nodes to allow an efficient and optimized use of the funds

Scientific Committee

Meeting Wednesday at 16:00



Michael Bentley
Alison Bruce
Giacomo de Angelis
Gilles de France
Gilbert Duchene
Maria Jose' Garcia Borge
Juergen Gerl
Georgi Georgiev

Paul Greenless
Jan Jolie
Silvia Leoni
Adam Maj
Johan Nyberg
Peter Reiter
Berta Rubio
Calin Ur

task 2

Meeting Wednesday at 14:50



Working Groups (D. Mengoni):

to cooperate on the use, research and development of the detectors and to improve the performance and compatibility of the devices: mechanics, electronics, data acquisition, simulations tools, R&D

2.1 WG1: High-resolution gamma-ray spectroscopy.
Convener: **Francesco Recchia**

2.2 WG2: Particle detectors. Convener: **Marlene Assie**

2.3 WG3: High-efficiency and fast-timing scintillator detectors.
Convener: **Enrique Nacher**

2.4 WG4: Devices for nuclear moments and transition probabilities.
Convener: **Alain Goasduff**



task 3

Collaboration Workshops

organized **on an annual basis** in different countries, will allow the whole community to meet together, to present scientific results, to discuss on common problems, to strengthen collaborations and to start new ventures.

First Workshop in Venice June 2016

WG Workshops

task 4

Transfer of knowledge

4.1 training courses for new users

for a new generation of researchers, ready to exploit in the best way all the essential tools needed for their research

The first NUSPIN Training week on gamma-ray detectors will take place in Liverpool (late 2017- early 2018)

4.2 exchange of key personnel

to ensure common knowledge base

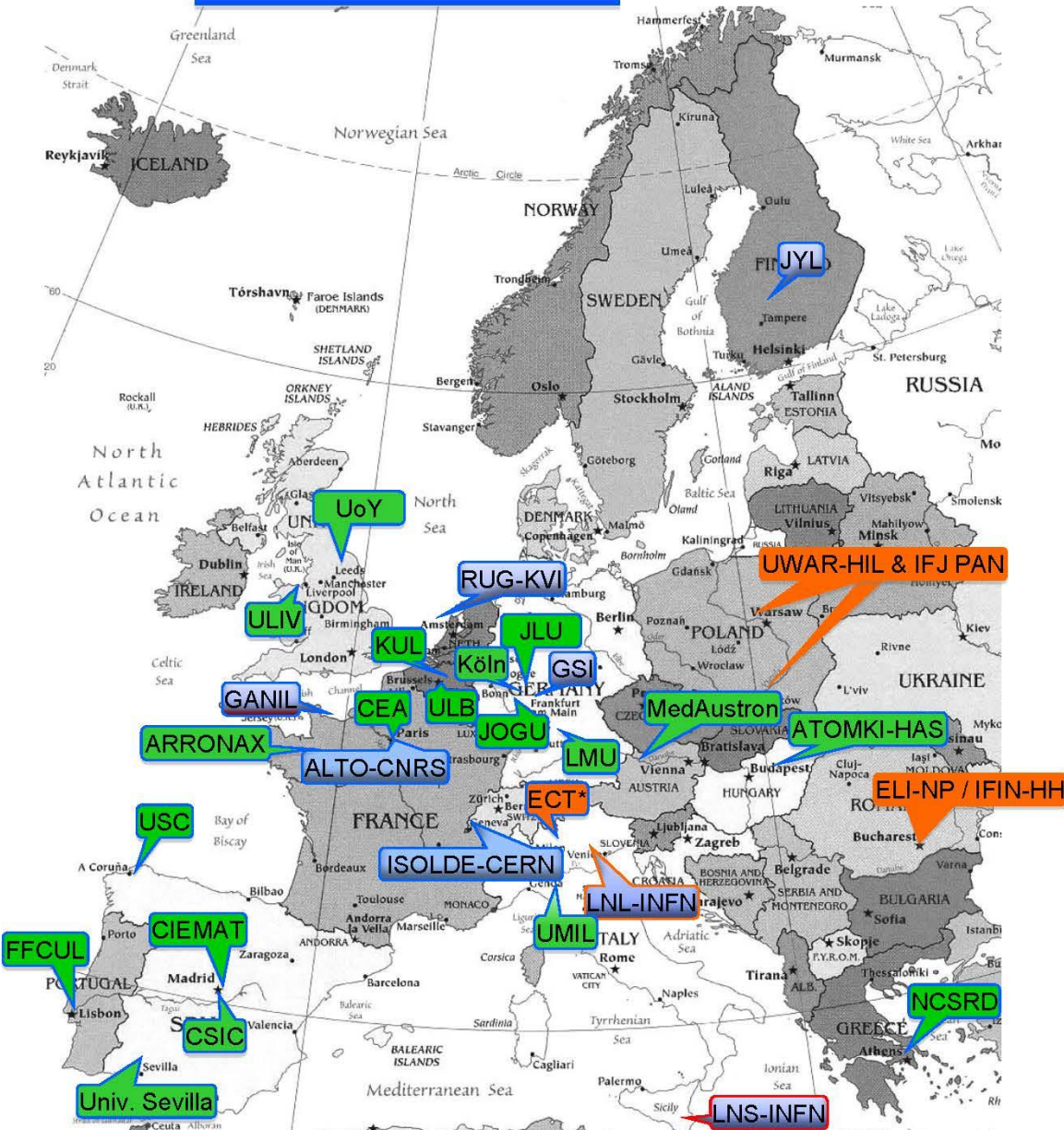


Participants

- Croatia:** Ruder Boskovic Institute (Zagreb), U-Zagreb
- Finland:** JYFL
- France:** GANIL, CEA, CSNSM-Orsay, IPN-Orsay, IPHC-Strasbourg; Subatech, Nantes
- Germany:** GSI, U-Koln, TU-Darmstadt
- Greece:** NCSR-Demokritos
- Hungary:** ATOMKI-Debrecen
- Italy:** INFN: LNL, Padova, Milano, Firenze, Napoli
- Poland:** HIL, U-Warsaw, IFJ-Pan Krakow
- Romania:** NIPNE, IFIN-HH/ELI-NP
- Spain:** IFIC-Valencia, UAM-Madrid, U-Huelva, U-S. de Compostela, IEM-CSIC; CIEMAT-Madrid, GFN-U-Complutense, U-Salamanca
- Sweden:** KTH, U-Lund, U-Uppsala
- Turkey:** U-Ankara, U-Istanbul
- UK:** STFC Daresbury, U-Liverpool, U-Manchester, U-Surrey, U-York, U-Birmingham, U-West Scotland



News from ENSAR2



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Close collaboration with Infrastructures outside Europe

MoU signed with:

- Japan: RIKEN Tokyo, RCNP Osaka
- China: IMP Lanzhou
- Russia: JINR Dubna
- India: VECC Calcuta
- South Africa: iThemba Cape Town

Ongoing discussions with:

- United States: NSCL East Lansing, ANL Argonne
- India: BARC Mumbai

News from ENSAR2



Translational access support with non-European facilities:

ENSAR2 will be able to provide transnational access to ENSAR2 Research Infrastructure (ENRI) facilities to international users from outside the European Union and associated countries. This could be up to 20% of the total ENSAR2 quantity of access allocated to transnational access.

Memorandums of understanding between the international labs and ENSAR2 are being signed with the ENSAR2 coordinator, delegated by the ENRI directors.

Open access publications:

Letter from the Research and Innovation Directorate-General of the European Commission, about open access obligations in Horizon2020, which apply to peer reviewed scientific publications.

http://ec.europa.eu/research/participants/data/ref/h2020/other/comm/170406_open-access_en.pdf:

Self-archiving in an online repository or **Open-access publishing**



Thank you for your attention!

Enjoy the Workshop and
participate actively to the meetings!