

EGAN

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University of Padova and INFN



ENSAR Meeting

Warsaw, June 17-21, 2013

European Gamma and Ancillary detectors Network EGAN

a common forum for the high-resolution
gamma-ray spectroscopy
and ancillary instrumentation community

goals

This networking activity aims at the **mutual coordination** between the research groups involved in high-resolution gamma-ray spectroscopy

- to **optimize the use of the valuable resources** at the different infrastructures
- to **enhance synergies** among researchers on a broad European scale, to **ensure the sharing, design, construction and maintenance** of detectors and associated equipment in a **co-ordinated approach**.

specific actions

- promote the **coordination of the experimental campaigns** at the different infrastructures
- **encourage the pooling of distributed equipment** in order to enhance synergies between complementary resources for common large-scale projects
- promote **collaborative ventures** between experimental and theoretical researchers
- promote the collaboration between European laboratories for the **transfer of technologies** associated to Ge detectors and complementary equipment.

dissemination and training

The Network assures the exchange of information and transfer of knowledge by **organizing workshops** and **training courses** addressed to young physicists and engineers and **exchange of technical personnel**.

the tasks

Task 1 Coordination of Scientific Activities and Dissemination

- **Scientific Committee** for mutual cooperation and organization of experimental campaigns: *ensure efficiency, innovative and optimum use of the resources. One annual meeting.*
- **Coordination with AGATA** hosting infrastructures: EGAN facilitates the coordination and the mutual exchange of information between the AGATA steering committee and the management of the involved hosting laboratories.

the tasks

Task 2 Coordination on Ancillary Instrumentation

Working Groups:

WG1: Cooperation on the use, design and construction of ancillary detectors to maximise the performance and compatibility of the devices optimising the investments.

WG2: Cooperation on designing and building the electronics and data acquisition and on the mechanical integration.

WG3: Exchange of information on the development of simulation tools

The Working Groups meet once a year in coincidence with the workshops. Coordinator: Andres Gadea

the tasks

Task 3 Collaboration Workshops

basic research
technical developments
applications

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

The workshops host the annual meetings of the AGATA
Collaboration Council

the tasks

Task 4 Transfer of knowledge


training courses for new users
on biannual basis

exchange of key personnel
*to ensure common knowledge
base in detectors
development and maintenance*

Steering Committee and funds distribution

Silvia Lenzi (U. Padova and INFN) (coordinator)
Andres Gadea (IFIC-Valencia)(deputy coordinator)
Magdalena Gorska (GSI)
Araceli Lopez Martens (IN2P3-Orsay)
Daniel Napoli (INFN-LNL)
Paul Nolan (U-Liverpool)

Total funds (4 years) ~ 120 k€



- Darmstadt
- Liverpool
- Orsay
- Padova

4 workshops
2 training courses
exchange personnel
meetings of the WG
meetings of the Sci Com.
meetings of the Lab Dir.

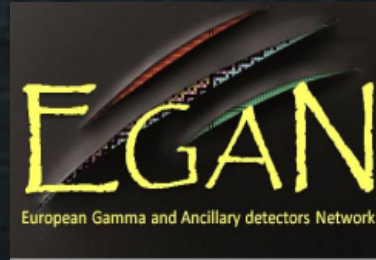
milestones



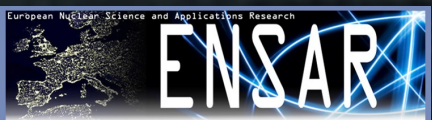
task 1

Coordination of Scientific
Activities and Dissemination

coordination and cooperation



- Scientific Committee meets once a year in coincidence with the workshops.
- exchange information and to encourage collaboration and cooperation
- a survey concerning germanium detector repair capabilities (and related topics) in the different European Laboratories has been produced with the aim of exploring the potential for a collaboration in order to achieve lower repair costs.
- coordination with AGATA hosting infrastructures:
 - First meeting in Legnaro, 12th November 2010
 - Second meeting in CNRS, Paris, 19th December 2011
 - Third meeting in GSI, Darmstadt, 13th December 2012



milestones



task 2
complementary
equipment

Subtask 1

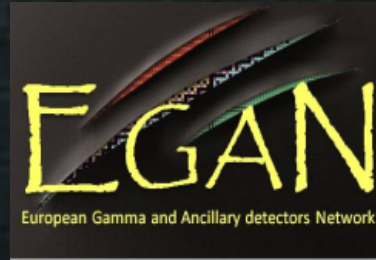
Activity of WG1 : Co-operation on the use, design and construction of detectors aiming to improve the performance and compatibility of the devices.

Convener: Daniele Mengoni (University of Padova and INFN)

Disseminate information on:

- ✓ Detector availability and capabilities
- ✓ R&D on New materials (e.g. solid Scintillators with γ -n discrimination capability)
- ✓ R&D on new Solid State or Scintillator detector design (e.g. PAD Si detectors, DSSSD design, etc...).
- ✓ R&D on light readout for scintillator detectors

Subtask 2



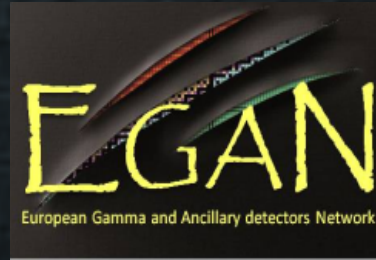
Activity of WG2 : Co-operation on designing and building the electronics and data acquisition and on the mechanical integration.

Convener: Sergio Brambilla (University of Milano and INFN)

Disseminate information on:

- ✓ Interfacing analogue electronics with the digital electronics
- ✓ Development of digital electronics
- ✓ High analogue/digital channel densities (ASICs)
- ✓ Participation in the trigger decision trees

Subtask 3

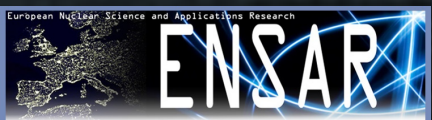


Activity of WG3 : Exchange of information on the development of simulation tools.

Convener: Marcin Palacz (HIL, Univ. Warsaw)

Disseminate information on:

- ✓ New tools for MC simulation.
- ✓ Full Ge array + complementary instrumentation → full simulation of performance figures
- ✓ Realistic simulations including physical processes in experimental conditions.



GHT Workshop



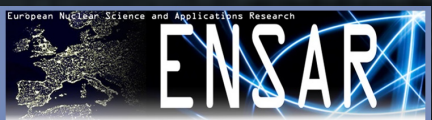
GASPARD-HYDE-TRACE Workshop

Monday 29 October 2012 - Wednesday 31 October 2012

Department of Physics and Astronomy - University of Padova

Programme

- ❖ Status and Progress of the GHT Projects
- ❖ Pulse Shape Analysis
- ❖ Simulation
- ❖ New Detector Technologies
- ❖ Electronics
- ❖ Mechanics
- ❖ Coupling and DAQ
- ❖ Detector Systems
- ❖ Collaboration Meeting



milestones



task 3
the workshops

EGAN 2011 Workshop

European Gamma and Ancillary Detectors Network

Present and future of Nuclear Structure studies in Europe with gamma ray spectroscopy techniques: basic research, technological developments and applications

Main Topics

- shell structure far from stability
- isospin degrees of freedom
- high spin structure
- superheavy nuclei
- nuclear astrophysics
- collective excitations
- nuclear moments
- spectroscopy with radioactive ion beams
- gamma ray detectors technology
- complementary instrumentation

Associated Events

- Annual Open Meeting of the AGATA Collaboration
- Meetings of the EGAN Working Groups

Centro Culturale Altinate
Padova, 27-30 June 2011



International Advisory Committee

A. Alt (Ankara), G. de Angelis (Legnaro),
F. Auzier (Orsay), D. Bassacco (Padova),
A. Bracco (Milano),
B. Cederwall (Stockholm),
G. de France (Caen), J. Gerl (Darmstadt),
S. Harissapoulos (Athens),
R. D. Herzberg (Liverpool),
J. Jolie (Cologne), R. Julin (Jyväskylä),
A. Jungblaus (Madrid), W. Korten (Saclay),
A. Maj (Krakow), P. Van Duppen (Leuven),
R. Wadsworth (York), V. Zamfir (Bucharest)

Organizing Committee

S. M. Lenzi (chair, Padova),
A. Gadea (co chair, Valencia),
S. Lunardi (Padova), D. Mengoni (Padova),
D. R. Napoli (Legnaro), F. Recchia (Padova),
E. Sahin (Legnaro), J. Simpson (Daresbury),
J. J. Valiente Dabán (Legnaro),
A. Vitturi (Padova)

Secretariat (INFN, Padova)

Annalisa Spalla and Sandra Calore

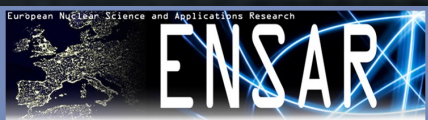
Info

<http://egan.inl.infn.it/egan2011>

Chair: S. Lenzi

Focussed mainly in the gamma-array campaigns: about 120 participants

Silvia Lenzi – EGAN, ENSAR Town Meeting, Warsaw, June 17-20, 2013

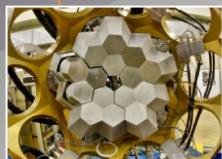


June 25-27, 2012

Orsay, France

INTERNATIONAL ADVISORY COMMITTEE

D. Balabanski
W. Catford
B. Fornal
L. Fraile
J. Nyberg
P. Reiter
M. Rejmund
C. Scholey
C. Ur



AL ORGANIZING COMMITTEE

V. Frois
A. Gadea
G. Georgiev
S. Lenzi
J. Ljungvall
A. Lopez-Martens - chair
J. Simpson

Chair: A. Lopez-Martens

<http://indico.in2p3.fr/event/egan2012>

egan2012@csnsm.in2p3.fr

Mainly focussed on the ancillary devices. With more than 100 participants, the workshop was very successful.

The slides/presentations of the different speakers can be downloaded from the EGAN website <http://egan.inl.infn.it/> website

EGAN 2013 Workshop



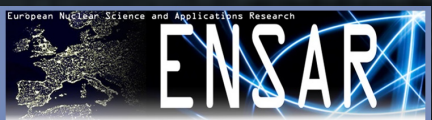
Organized next week in Liverpool

This time a special effort has been put in combining experimental and theoretical contributions to discuss new ideas and encourage collaborative ventures.

EGAN 2013 Workshop, June 24-27, 2013

University of Liverpool

Chair: Paul Nolan



milestones



task 4

transfer of knowledge

first school

Liverpool 5-9 December 2011

Monday 5th December	
Session start 2.00p.m	
Welcome	Andy Boston
From Liverpool to Europe	John Simpson (STFC Daresbury Laboratory)
Advanced Gamma Tracking Array	Dino Bazzacco (Padua)
Tuesday 6th December	
AGATA 2	Dino Bazzacco (Padua)
Canberra Presentation	Marika Keters (Canberra)
Weighting Potentials	Bart Bruyneeel (CEA Saclay)
Mobilities	Bart Bruyneeel (CEA Saclay)
Pulse Shape Analysis	Fabio Crespi (Milan)
Wednesday 7th December	
Electronics	Bart Bruyneeel (CEA Saclay)
Detector Characterisation	Fabio Crespi (Milan)
Data Analysis 1	Olivier Stezowski (IPN Lyon)
Thursday 8th December	
Data Analysis 2	Olivier Stezowski (INP Lyon)
Detector Acceptance Testing	Helen Boston (Liverpool)
Neutron Damage correction	Bart Bruyneeel (CEA Saclay)
Applications of gamma ray detectors	Laura Harkness (Liverpool)
Friday 9th December	
School Overview and Discussion	

In addition to the lectures there was a series **hands on** practical sessions:

- **computer based sessions on the use of data analysis codes**
- **sessions with detectors and pulse shape characterisation techniques.**

Attended by 30 doctoral research students from a wide range of European laboratories and institutes

second school

GSI 3-7 December 2012

Lectures:

- AGATA Data Analysis LNL (Olivier Stezowski, IPN Lyon)
- AGATA Data Analysis - GSI (Olivier Stezowski, IPN Lyon)
- Data analysis on the Grid (M. Kaci, IFIC Valencia)

Presentations:

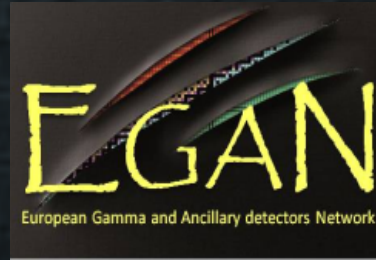
- Production and identification of radioactive beams at relativistic energies (Plamen Boutachkov, GSI)
- Coupling and triggering in Prespec/AGATA (Stephane Pietri, GSI)
- PreSPEC Library, a tool for online/offline analysis (Frederic Ameil, GSI)
- First experience with AGATA Prespec data (Tom Alexander)

Workshop sessions:

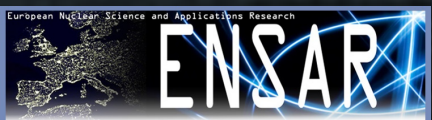
- AGATA data analysis – PSA
- Data analysis on the GRID

Attended by 20 research students from a wide range of European laboratories and institutes

future activities



- ✓ Third EGAN School foreseen by the end of 2013 in Legnaro
- ✓ Forth EGAN Workshop + WG and ESC meetings will be organized in GSI in 2014
- ✓ Meeting between AGATA management and the directors of the hosting laboratories in 2014.
- ✓ Exchange of personnel continues.



participants

Belgium: KU-Leuven
Bulgaria: U-Sofia, INRNE
Finland: JYFL
France: GANIL, CEA-DSM-DAPNIA Saclay, CSNSM-Orsay,
IPN-Orsay, IPHC-Strasbourg, IPN-Lyon
Germany: GSI, FZD, IKP, U-Koln, TU-Darmstadt, U-Bonn
Greece: NCSR-Demokritos
Hungary: ATOMKI, Debrecen,
Italy: INFN: LNL, Padova, Milano, Firenze, Napoli
Poland: U-Warsaw, IFJ-Pan, Krakow
Romania: IFIN-HH, Bucharest
Serbia: U-Novu Sad
Spain: IFIC-Valencia, UAM-Madrid, U-Huelva
Sweden: KTH, U-Lund, U-Uppsala
Turkey: U-Ankara, U-Istambul, U-Nigde
UK: CLRC-Daresbury, U-Liverpool, U-Manchester, U-Surrey, U-York