



The « **20th Colloque GANIL** » will be held from 15th to 20th October 2017 near Amboise (Loire Valley – France)

The purpose of the conference is to review and discuss the research carried out at GANIL and the related activities carried out at similar facilities around the world. Traditionally the Colloque will cover the range of topics addressed at GANIL:

- Nuclear Structure
- Nuclear Dynamics
- Nuclear Astrophysics
- Fundamental Interactions
- Interdisciplinary research
- Related theoretical developments
- Applications
- Instrumentation and Technical developments

In order to preserve the informal character of the colloque and to stimulate presentation of innovative ideas, no proceedings will be published. A poster session will be organised to allow a complete discussion of the research programs performed at GANIL in recent years.

The programme will start on Monday October 16th at 9:00am and will close on Friday October 20th at noon.
The afternoon of Wednesday 18th October will be free and excursions will be proposed to the participants.

Monday 16th October 2017

SESSION 1 09:00 – 10:30

09:00 Introduction

09:10 J. José (Universidad Politecnica de Catalunya – Spain)
Nucleosynthesis in stellar explosions: type Ia supernovae, novae and X-ray bursts

09:35 B. Bastin (GANIL – France)
Stars on the SPIRALs (1 & 2)

10:00 P. Adsley (IPN Orsay – France)
Spectroscopy of F-19 and its impact on the production of N-15 in core-collapse Super Novae.

10:15 A.F. Fantina (GANIL – France)
Cluster distribution in core-collapse supernova

10:30 – 11:00 Coffee break

SESSION 2 11:00 – 13:00

11:00 D. Rudolf (Lund University – Sweden)
Alpha-photon coincidence spectroscopy of superheavy nuclei

11 :25 M. Laatiaoui (KU Leuven – Belgium)
Perspectives for laser spectroscopy of the heaviest elements

11 :50 A. Lopez-Martens (CSNSM – France)
Super heavy element studies: Lessons learnt from Dubna and ALTO and plans with S3

12:15 J. Piot (GANIL – France)
System for the Identification of Recoiling Ions using S3

12 :30 L. Le Meur (Subatech – France)
Study of the beta decay properties of exotic nuclei of interest for reactor physics, nuclear structure and nuclear astrophysics, with the Total Absorption Spectroscopy method (TAS)

12:45 M. Ciemala (IFJ PAN – Poland)
First results with PARIS array

13:00 Lunch

SESSION 3
16:00 – 17:50

16:00 W. Lynch (MSU – USA)
Probing the EoS of asymmetric matter

16 :25 O. Lopez (LPC Caen– France)
Latest results from INDRA and the new INDRA-FAZIA program at GANIL

16 :50 D. Durand (LPC Caen – France)
ELIE, a phenomenological model for central collisions in the intermediate energy range: comparison with INDRA data

17:05 P. St Onge (GANIL – France)
Influence of neutron enrichment on de-excitation properties of palladium isotopes

17:20 Q. Fable (GANIL – France)
Probing the EOS of asymmetric nuclear matter with $^{40,48}\text{Ca}$ collisions at $E/A=35$ MeV

17:35 I. Stefan (IPN Orsay – France)
Studies of the production of neutron-rich nuclei towards zero degrees in deep-inelastic collisions

17:50 – 18:15 Coffee break

Discussion on New GANIL User Organization chaired by A. Maj (IFJ Krakow-Poland)
18:15 – 19:45

20:00 Welcome Cocktail

20:30 Dinner

Tuesday 17th October 2017

SESSION 4 09:00 – 10:40

08:30 F. Azaiez (iThemba LABS' – South Africa) TBC
SAIF (South African Isotopes Facility) : Moving Forward with iThemba LABS' Long Range Plan

08:55 P. Van Duppen (KU Leuven – Belgium)
Recent developments at ISOL-based facilities

09:20 C. Scheidenberger (GSI – Germany)
Recent developments at in-flight facilities

09:45 N. Alahari (GANIL – France)
Xperimenting Xploring Xperiencing down to the Femtoscale at GANIL

10:10 P. Delahaye (GANIL – France)
New beams from the SPIRAL 1 upgrade: status and perspectives

10:35 – 11:00 Coffee break

SESSION 5 11:10 – 13:15

11:00 JC Thomas (GANIL – France)
The LISE spectrometer at GANIL: present and near future

11:25 A. Lemasson (GANIL – France)
The Vamos spectrometer at GANIL: present and near future

11:50 X. Ledoux (GANIL – France)
The Neutrons for Science Facility At Spiral-2

12:15 A. Drouart (DPhN CEA Saclay – France)
Status of the Super Separator Spectrometer (S3) at the SPIRAL2 facility

12:40 P. Ascher (CENBG Gradignan – France)
The DESIR facility: status of the project and future physics opportunities

13:15 Lunch

14:30 – 16:15
Discussion on the future at GANIL
moderated by Y. Blumenfeld and S. Grévy

SESSION 6
16:15 – 17:45

16:15 M. Rejmund (GANIL – France)
Simple views on repetitive patterns near Tin

16:40 H. Heylen (KU Leuven – Belgium)
 β -NMR/NQR measurements at the LISE fragment separator in GANIL: neutron-rich Al isotopes at the border of the island of inversion

17:05 N. Houda (University of Constantine – Algeria)
Shell-model progress in the investigation of nuclei above ^{132}Sn

17:20 A. Gottardo (IPN Orsay – France)
Beta decay studies of N=50 at ALTO: from shape coexistence to GT properties

17:45 – 18:15 Coffee break

18:15 – 19:45

Discussion on EURISOL DF
Presentations by M.Lewitowicz (GANIL) and B. Rubio (IFIC Valencia)

20:30 Dinner

Wednesday 18th October 2017

SESSION 7 09:00 – 10:35

09:00 G. Colo (University of Milano – Italy)

The description of stable and neutron-rich nuclei: correlations within and beyond Density Functional Theory

09:25 E. Clément (GANIL – France)

2017 AGATA campaign at GANIL and future plans

09:50 C. Delafosse (IPN Orsay – France)

First life time measurements in the ^{78}Ni region with AGATA at GANIL

10:05 J. Dudouet (IPN Lyon – France)

Exploring the low Z boundary of the island of deformation at N=60 using AGATA and VAMOS

10:20 AM. Sanchez-Benitez (University of Huelva – Spain)

Borromean nuclei ^6He and ^8He elastic scattering with heavy targets at near-barrier energies

10:35 – 11:00 Coffee break

SESSION 8 11:00 – 12:50

11:00 E. Liénard (LPC Caen – France)

Weak interaction studies at GANIL/SPIRAL(2)

11:25 B. Blank (CENBG Gradignan – France)

Super-allowed Fermi and mirror beta decay to test the weak-interaction standard model

11:40 J. Wilson (IPN Orsay – France)

Highlights of the LICORNE physics program and prospects for future experiments at NFS

12:05 M. Caamano (USC – Spain)

Fission in Inverse Kinematics at GANIL

12:20 A. Chietera (DPhN CEA Saclay – France)

Development of the FALSTAFF spectrometer devoted to the fission studies

12:35 S. Prokofiev (Uppsala University – Sweden)

How can the emerging NFS facility help fusion?

12:50 Lunch

14:30 Departure of the excursions

18:00 – 20:00 Poster Session

20:30 Dinner

Thursday 19th October 2017

SESSION 9 09:00 – 10:35

09:00 F. Flavigny (IPN Orsay – France)

Recent results from direct reactions with exotic beams

09:25 F. Delaunay (LPC Caen – France)

Single-particle structure of ^{17}C studied with the $^{16}\text{C}(d,p)$ transfer reaction

09:40 B. Fernandez-Dominguez (University Santiago di Compostella– Spain)

New insights into the evolution of the $N=20$ island of inversion for Mg isotopes

09:55 A. Georgiadou (IPN Orsay – France)

Transfer reactions induced with ^{56}Ni : pairing and $N=28$ shell closure

10:10 L. Gaffney (CERN-ISOLDE - Switzerland)

Exploiting RIBs at HIE-ISOLDE

10:35 – 11:00 Coffee break

SESSION 10 11:00 – 13:00

11:00 K. Johnston (CERN -ISOLDE– Switzerland)

The solid state physics programme at ISOLDE: recent developments and perspectives

11:25 S. Pallada (Wroclaw University of Technology - Poland)

Billion-fold increase in NMR sensitivity and beta-detected NMR studies of metal-ion interaction with biomolecules

11 :40 X. Deschanels (CEA –Marcoule France)

Are mesoporous silica resistant to radiation damage?

12:00 H. Rothard (CIMAP – France)

Cosmic ray effects in astrophysical ices and complex organic molecules

12 :20 S. Balme (Institut Européen des membranes – Montpellier, France)

Track-etched nanopore to mimic biological channels

12:40 M. Moreels (SCK CEN – Belgium)

The impact of different radiation qualities on cancer cells: Carbon ion irradiation experiments at GANIL

13:00 Lunch

14:30 – 15:30
Discussion future GANIL

SESSION 11
16:00 – 17:20

16:00 G. Hupin (IPN Orsay – France)
Towards Unified Approaches to Nuclear Structure and Reactions for Nuclei

16 :25 M. Marques (LPC Caen – France)
The tetraneutron program at RIKEN

16:50 Q. Deshayes (LPC Caen – France)
Across the neutron drip-line: Study of the heaviest nitrogen isotopes at RIKEN

17:05 A. Revel (GANIL – France)
Neutrons correlations in the continuum of two (core + 4n) systems and p-n interaction at the neutron drip line

17:20 – 17:45 Coffee break

Commemoration of the 20 colloques
17:45 – 19:45

20:30 Conference dinner

Friday 20th October 2017

SESSION 12 09:00 – 10:45

09:00 JP. Ebran (CEA – France)

Nuclear Clustering in the Energy Density Functional Approach

09 :25 G. Verde (INFN Catania– Italy)

Exploring in-medium dynamics and structure in nucleus-nucleus collisions

09 :50 D. Gruyer (LPC Caen – France)

Exploring in-medium structure with particle-particle correlations in heavy-ion collisions.

10:05 D. Dell Aquila (IPN Orsay – France)

alpha particle correlations for studying Nuclear Structure and Dynamics

10 :20 T. Marchi (KU Leuven– Belgium)

Reaction dynamics and exotic systems: a focus on fast processes

10:45 – 11:15 Coffee break

SESSION 13 11:15 – 12:10

11:15 T. Roger (GANIL – France)

Active Target and Time Projection Chamber (ACTAR TPC)

11:40 T. Goigoux (CENBG Gradignan – France)

Two-proton radioactivity of ^{67}Kr

11:55 S. Leoni (University of Milano – Italy)

Search for the gamma-decay of ^7Li into the continuum by the cold neutron capture reaction $^6\text{Li}(n,\gamma)^7\text{Li}$

Closure

12:30 Lunch

A poster session (with drinks) will be organised on Wednesday evening. There will be special sessions devoted to the new GANIL user organization and to the EURISOL Distributed Facility initiative. Discussion sessions on future initiatives at GANIL will be organized. A commemorative session of the 20 Colloques featuring the previous chairs will be held on Thursday before the conference dinner.

REGISTRATION DESK

Participants will be welcome in the afternoon of Sunday 15th October, from 5:00 pm. to 8:00 pm and during conference hours starting at 8:30 on the following days.

In case registration fees are not credited on time to the congress account, participants are advised to bring with them a copy of their proof of payment (bank transfer or other justification) or their acknowledgement of receipt.

TRAVEL INFORMATION

Participants should organise their own travel to Amboise.

Location : Villa Bellagio
115 Route de Civray de Touraine
37400 Amboise

Phone reception +33(0)2 47 30 07 00

Web site <http://vbamboise.popinns.com/>

✓ **By car**

Coming from Paris, it takes about 2 hours 30 minutes via A10.
Free parking at the conference site.

GPS Latitude: 47.390396 (47°23'25.43" N)

GPS Longitude: -1.008736 (1°0'31.45" E)

Helpful link: <https://www.google.fr/maps>

✓ **By train**

Coming from Paris:

Go to the Montparnasse train station and take a train to Saint Pierre des Corps station (TGV high-speed train), 25 km from Amboise.

For exemple : departure from Paris at 17:35 arriving at St Pierre des Corps :18:39

A shuttle to the conference site will leave Saint-Pierre-des-Corps train station at 19:00

Departure on Friday October, 20th

A shuttle to the Saint-Pierre-des-Corps train Station will leave the conference site at 13:45 for the train to Paris at 14:53

Helpful links:

Train information: <http://www.voyages-sncf.com>

EXCURSION

Three excursions are proposed for the Wednesday afternoon. If you are interested, please indicate your choice in the "registration form".

➤ **Royal Castle of Amboise** : This emblematic monument and its landscaped gardens offer one of the most remarkable panoramas of the Loire valley, and are registered as a World Heritage site by Unesco. Each visit has its own special way of looking at this exceptional site of French history: its political and artistic importance within Europe in the Renaissance; intimate moments in the sovereigns' lives, daily life in Court and behind the scenes

02:30 pm: Departure of the bus

Price : 20€ per person

➤ **Clos Lucé Castle** : The Clos Lucé becomes the summerhouse of the kings of France. Charles VIII asks for a chapel to be built for his young wife, Queen Anne de Bretagne, who comes to mourn the loss of her young children. The chapel is decorated with four frescos, including the *Annunciation*, which was painted by Leonardo's pupils. The *Virgin of light*, « *Virgo Lucis* », above the door, may have given the site its current name: Château du Clos Lucé.

In 1516 King Francis I invite Leonardo da Vinci to Amboise and names him "Premier Painter and Engineer and Architect of the King" and offers him the enjoyment of the Château of Clos Lucé, located only a few meters away from the Château d'Amboise. Leonardo spends the last three years of his life at the Château of Clos Lucé and works on several projects for the king of France, surrounded by his students.

02:30 pm: Departure of the bus

Price : 20€ per person

➤ **Caves du Père Auguste** : Presentation of the cellar dug in the stone of the hill and the profession of winegrower. Tasting of wine and local products (charcuterie and goat cheese from Touraine) then visit the vineyard. (3 hours)

02:30 pm: Departure of the bus

Price : 20€ per person

ACCOMPANYING PERSON

For accompanying persons wishing to come please contact: colloques@ganil.fr.