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D.5.4 « Online and printed communication tools for dissemination of
information to the general public »

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TABLE OF CONTENTS

LIST OF FIGURES.....	4
LIST OF ACRONYMS AND ABBREVIATIONS.....	4
EXECUTIVE SUMMARY.....	5
INTRODUCTION	5
SEMINARS AND CONFERENCES.....	5
EVENTS	6
PRINTED TOOLS.....	6
MULTIMEDIA TOOLS	8
CONCLUSION	9

LIST OF FIGURES

Poster “Nuit de l’Antimatière” / “Antimatter Night” organized in Caen by GANIL

Poster of “Aurora borealis” mediation workshop

General presentation of the laboratory for the general public

Brochure for the layman

GANIL website homepage

Booklet for children “Trip to GANIL, from atoms to stars”

LIST OF ACRONYMS AND ABBREVIATIONS

GANIL	Grand Accélérateur National d’Ions Lourds, i.e. Large National Heavy Ion Accelerator
CLIL-EMILE	Enseignement de Matières par Intégration d’une Langue Etrangère, i.e. Content and Language Integrated Learning
SPIRAL2	Système de Production d’Ions RAdioactifs en Ligne 2 ^e génération, i.e. 2nd Generation Inline Radioactive Ion Production System
CNRS	Centre National de la Recherche Scientifique, i.e. National Center for Scientific Research
CEA	Commissariat à l’énergie atomique et aux énergies alternatives, i.e. French Alternative Energies and Atomic Energy Commission

EXECUTIVE SUMMARY

Communication towards the general public is a major challenge for research structures such as GANIL. It has several objectives: disseminate scientific and technological culture; provide access to popularized science information conducted at GANIL; report on the laboratory's activities and projects to the public, indirect funder of the laboratory through their taxes.

In addition, the general public is interested in science and its applications as evidenced by the growing popularity of the annual GANIL "Open Days". Finally, the communication actions towards the general public make people aware of the dynamic nature of the scientific community and to bring forward international joint project.

INTRODUCTION

The general public is a very large target audience. It is composed mainly of people who live or work near GANIL or in the Region: inhabitants of the Caen la mer urban area, schoolchildren and teachers of the region, visitors of the GANIL facilities.

The general public also includes any individual, wherever they live, wishing to learn more about GANIL and nuclear physics research in general. In order to make information accessible as many people as possible, popularized and educational communication tools have been developed, both in print and in digital form. In addition, seminars and conferences presented by GANIL researchers and visits of GANIL facilities were organized to maximize the interaction with the public.

SEMINARS AND CONFERENCES

From 2017 to 2020, GANIL offered to the general public and schoolchildren affordable seminars and conferences by GANIL researchers:

- « A la recherche de l'ultime atome », November 2019, University of Caen, France
- "Nuit de l'antimatière", March 2019, University of Caen, France
- « Il pleut des particules ! Le rayonnement cosmique », October 2018, Library of Caen, France
- Seminar in a high school in Milano, April 2018, CLIL-EMILE European program, Italy
- Seminar "From nuclei to stars", February 2018, Hungarian Institute, Paris, France
- « La lumière à travers les siècles » et « Des rayons X au GANIL, une petite histoire de la physique nucléaire », 2017 et 2018, Université Interage de Normandie, France
- Film-debate evening « Particle fever », March 2017, University of Caen, France



Poster « Nuit de l'Antimatière » / « Antimatter night» organized in Caen by GANIL

These seminars and conferences for the general public and schoolchildren allow listeners to meet research actors and ask them questions about their profession, their career path and their research.

They make it possible to connect the public with the world of nuclear physics and research more generally.

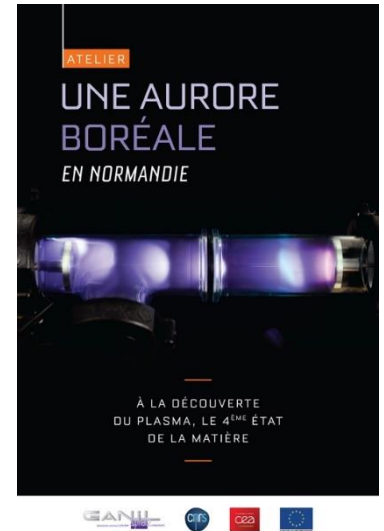
EVENTS

GANIL open days

Every two years, the GANIL open day welcome more than 600 visitors from the layman to visit the facilities during a tour guided by GANIL technicians, physicists, engineers and administrative staff.

On September 2017 and March 2019, visitors were able to discover GANIL's facilities: cyclotron accelerators and SPIRAL2 linear accelerator, experiment rooms, control rooms... During the 2-hours visit, the general public was able to discover the backstage of the installation and ask all their questions to their guides.

The GANIL conference room was also equipped for the occasion: mediation workshops for children and adults, games, an exhibition for Mendeleviev's birthday in 2019 and a screening of a film introducing the visit.



Poster of "Aurora borealis" mediation workshop

Artist residency

Arts/science projects are interesting tools to generate new ways of scientific mediation towards the public. In 2019, a partnership was set up between GANIL, the plastic artist Félicie d'Estiennes d'Orves and the Interstices Digital Arts Festival. After several visits to the laboratory and exchanges with researchers, particularly in nuclear astrophysics, the artist proposed a creation in Caen from 1st July to 13th September with the 2020 edition of the festival "Normandie Impressionniste" / "Impressionist Normandy".

PRINTED TOOLS

Exhibition posters

Exhibition posters were created to be installed in the facility and for external events. Posters are used as a support during visits and scientific mediation events. It highlights key figures, equipment that is not visible to the public and recent highlights.

In 2018, one of the posters was presented by the KU Leuven Institute at the Big Science event where the links between the laboratory and GANIL were to be presented.

General presentation of the laboratory for the general public



Brochure for the layman



Brochure for the layman

This brochure is dedicated to the general public, students and institutional partners. These are distributed during mediation events, GANIL visits and conferences. The content is popularized in order to adapt to a non-expert target audience. It presents the entire installation as well as the research themes in a question-and-answer format, making the content more dynamic. "Did you know?" inserts provide surprising information about the nucleus of the atom and GANIL.

GANIL's links with the local economic and institutional fabric are highlighted, as well as its international community of partners and users.

Activity booklet for children

A tool dedicated to children (6 - 10 years old) has been developed to give a first overview of GANIL and its research to children. The choice was made for a booklet of fun activities,

Two mascots were created for the occasion: two physicist's rabbits, named Proton and Stella. They guide the child through the activities in the booklet and give him/her some explanations about atoms and the Universe.



Booklet for children

"Trip to GANIL, from atoms to stars"

Escape Game

A card game has been created in order to discover GANIL environment through an escape game. In the game, a visitor of GANIL will become a researcher who comes to carry out an experiment in the laboratory

This discovery game is designed for families and used for communication operations as open houses, science festivals, trade fairs...



Cards game

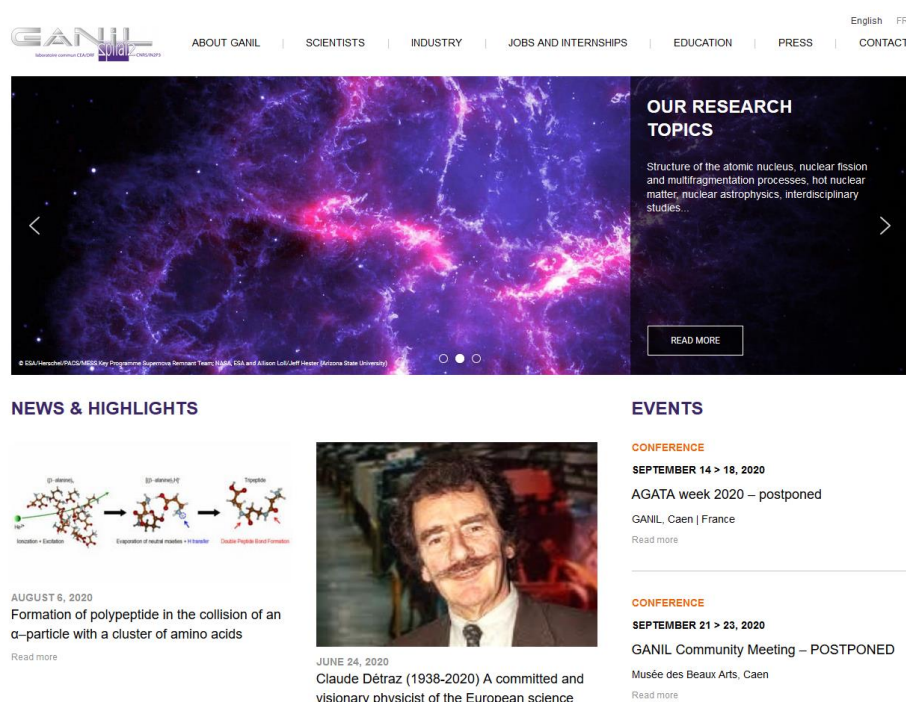
MULTIMEDIA TOOLS

Website

The former general public website was completely redesigned, both in terms of design and content: <https://www.ganil-spiral2.eu/>

The aim of this redesign was to make the content more accessible, in terms of writing, ergonomics and ease of navigation.

The website includes a section "Le GANIL" in French dedicated to the general public, with content adapted to the web and popularized. An "Education" section allows teachers and students to have practical information on requests for visits. It also refers to the educational content created by the CNRS, the CEA and partner sites: <https://www.ganil-spiral2.eu/enseignants-et-eleves/materiel-pedagogique/>



GANIL website homepage

Social media strategy

A report on GANIL's social media strategy was conducted. This report reviews the various social media, their main targets and GANIL's current presence on these different platforms.

If GANIL wanted to undertake communication actions on social networks, Twitter would seem the most appropriate tool. Twitter's target, which is mainly professional, with a strong presence of guardians, partners, institutions and journalists, would help to federate an active and relevant community, provided that it is regularly moderated.

Touch screens

GANIL has two touch screens, used during GANIL visits and off-site demonstrations.

One of the screens is available at the entrance to GANIL and offers an interface inviting visitors to navigate through GANIL. Tour guides can use the content to introduce their tours of the facilities.

The second screen is mobile and used during events such as the Science Festival. The interactivity of the device allows children and adults to discover the facility in a fun way and to access multimedia content on a large screen.

Virtual visit

The existing virtual tour carried out in 2015 was completed by more recent views of the installation and in particular of SPIRAL2 with all its cryomodules, LISE spectrometer and ACTAR TPC detector. The visitor can move from one room to another and access content informing him/her about the discovery room: photos, highlights...

This visit, available online and on GANIL touch screens, allows users who do not have access to the facilities to view them: type of instruments, scales, complexity.... https://u.ganil-spiral2.eu/virtualvisit_en/

CONCLUSION

The communication actions carried out by GANIL for the general public aim to make the laboratory and its activities known, through various contents and events, in order to meet the specific needs and expectations of the target sub-groups.

Through these actions, and taking into account the age, knowledge and place of residence of the people, GANIL also wishes to be able to share scientific culture with as many people as possible.