



Instrumentation, detection, and simulation in modern Nuclear Physics

27th September to 2nd October 2015, Port-Barcarès (France)



Port-Barcarès



Speakers
Students
Committee

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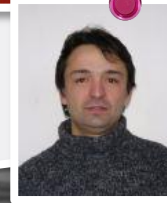
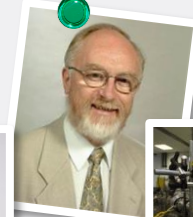
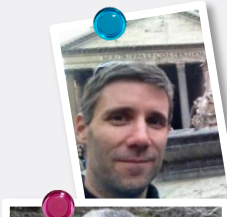
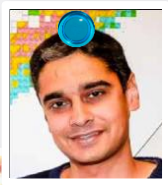
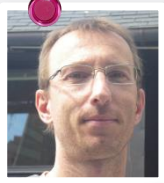
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Committee



Speakers

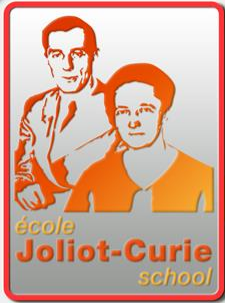
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Mehdi AOUADI



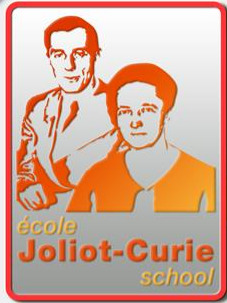
My Ph.D is about the development and integration of PIPERADE (Pièges de Penning pour les Radioisotopes à DESIR) at CENBG. This apparatus aims to cool the beam and make bunches. Then, it can purify this bunches and selects interesting isotopes. At CENBG, we test this apparatus before its installation at DESIR.

PhD student
CENBG, France



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Saba ANSARI



Currently I am pursuing my masters from university of cologne, Germany. I am working on the data analyses of the Exill-fatima campaign where fission fragments of the neutron induced fission reaction on ^{235}U and ^{241}Po are studied. My goal for this year is to measure the lifetime of the nuclei ^{110}Ru and ^{112}Ru , belonging to the same experiment. My interest lies in Fast Timing Nuclear Physics and this is something I would like to do in my PhD.

Apart from that I like hiking and biking.

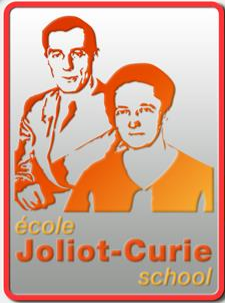
Master student

University of Cologne, Germany



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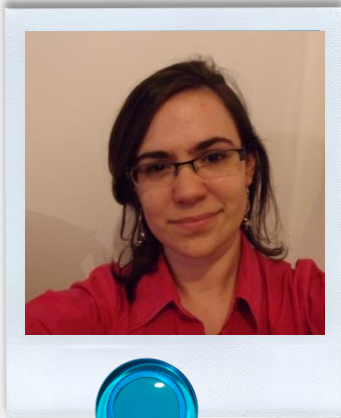
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Lou AUGÉY



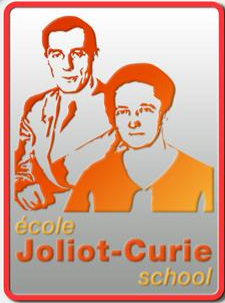
The goal of my PhD work is to improve our understanding of the influence of isospin over the nuclear matter equation of states. In this context, I'm involved in the data analysis of the reactions $^{34-36-40}\text{Ar} + ^{58-60-64}\text{Ni}$ @ 13 A.MeV realized at GANIL with the INDRA multidetector coupled with the VAMOS spectrometer. In order to observe the influence of isospin, I'm analysing the deexcitation by evaporation of the 5 compound nucleus : ^{92}Pd , ^{94}Pd , ^{96}Pd , ^{100}Pd and ^{104}Pd .

PhD student (since October 2013)
LPC Caen, France



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Mathieu BABO



For the last 2 years, I have been studying the beta decays of Si isotopes on the edge of the proton drip-line, where some new multiple proton decays could occur. To reach this goal, we have used a novel arrangement of Silicon Detectors surrounded by high-purity Ge. This will lead to the indirect measurement of the Si isotope masses.

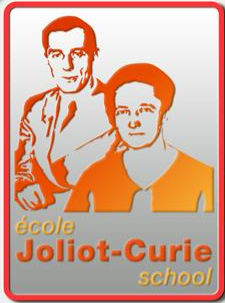
Beside of this exciting and fascinating work, I enjoy hiking for few days or weeks in the mountain and far from any civilization.

PhD student
GANIL Caen, France



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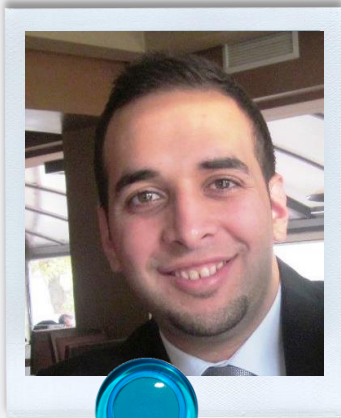


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Hussam BADRAN



I am a member of the Nuclear Spectroscopy group at University of Jyväskylä, Department of Physics. Our group specialises in nuclear structure studies of exotic nuclei, mainly along the proton drip line and in the region of heavy to superheavy elements. My responsibilities in the group are concentrated around the gas-filled separator RITU, working with the GREAT spectrometer at the focal plane and the JUROGAM-II HPGe array the target position. Currently I am analysing 179-Pb decay spectroscopy data.

PhD student since October 15th 2013
University of Jyväskylä, Finland



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Akashrup BANERJEE



My research work deals with development of Pulse Shape Analysis and Gamma Tracking Mechanism in a segmented Germanium detector. It also involves developing a charge scanning technique for the detector and then using the developed tool to study Physics problems. As of now, the physics problem we plan to study is Shape Coexistence near the Pb region using the developed scanning technique.

PhD student
University of Delhi, India



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Nicolas BEAUPERE



My research interest is based on a wish to transfer particle detector technology to common application.

Today I am working on XEMIS project that aim to use TPC detector, filled with liquid Xenon, to make three photon imaging.

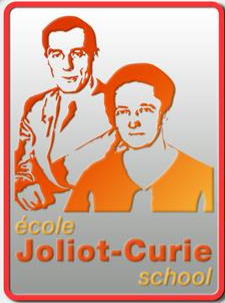
My main focus is on image reconstruction, I am developing a dedicated software based on Monte-Carlo simulation, cluster algorithm, Compton tracking and image deconvolution.

Post-Doctoral position
Subatech, France



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Roland BEYER



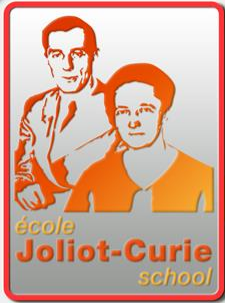
I received my PhD in November last year. The topic of my thesis was the “Inelastic scattering of fast neutrons on ^{56}Fe ”. Now I’m working as a PostDoc and beamline scientist at the neutron time-of-flight facility nELBE at Helmholtz-Zentrum Dresden-Rossendorf. My tasks are the preparation, execution and analysis of several experiments to measure different kinds of interactions of fast neutrons, namely elastic and inelastic scattering, fission and transmission.”

Post-Doctoral position
Helmholtz-Zentrum Dresden-Rossendorf, Germany



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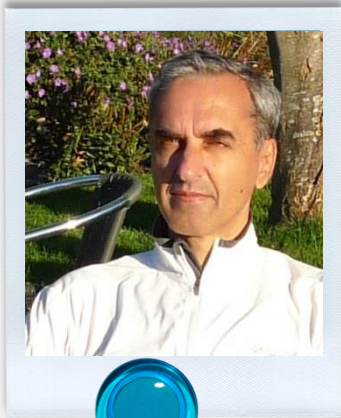


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Alexandru BOIANU



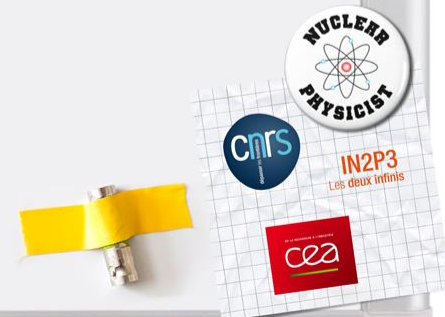
Alexandru Boianu is the head of Laser Activities for the ELI-NP project. He is responsible for the commissioning, installation and operation of the 2x10PW ELI-NP laser.

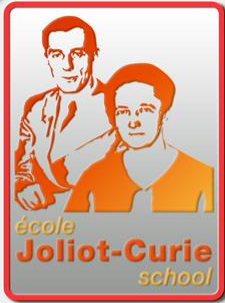
Alexandru Boianu has more than 20 years experience in testing and measurement of high power semiconductor lasers used in commercial and defense applications.

Head of laser activities for the ELI-NP
Bucharest-Magurele, Romania



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Thomas BONNET

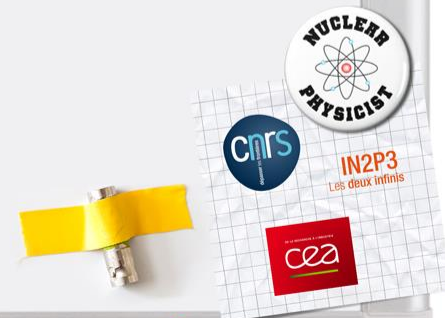


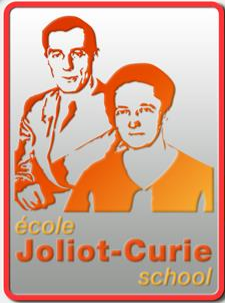
My current scientific work is dedicated to an experiment, planned on the Neutron For science (NFS) facility at Ganil, to measure (n,2n) reaction cross-sections on ^{239}Pu . This experiment will use a neutron ball counter : the CARMEN detector and a fission chamber as a fission veto which require developments and optimizations.

Post-Doctoral position
CEA, DAM-DIF, Bruyères-le-Châtel, France



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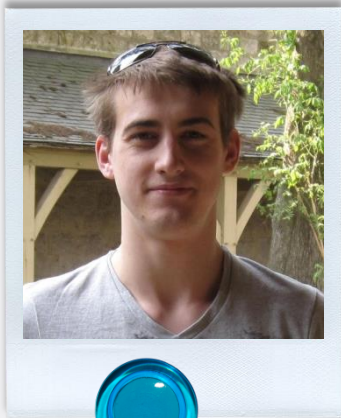


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Simon BOUTEILLE

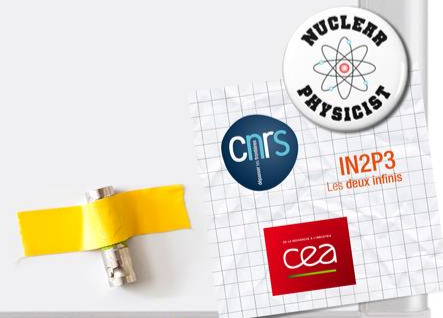


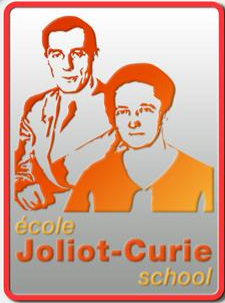
My name is Simon Bouteille, I was a student at Ecole Polytechnique which then lead me to attend the High Energy Physics master. In the following, I started a PhD at SPHN (CEA/Irfu) to develop multiplex micromegas. The aim is to take these detectors out of physics labs and use the cosmic rays muons to probe some objects from volcanoes to nuclear material. We want to provide a new imaging technique which fulfill all the constraint of these new application.

PhD student
CEA IRFU SPHN, Saclay, France



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Pierre BRIONNET



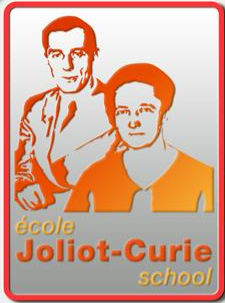
The spectroscopy of rare heavy isotopes is one of the biggest challenges of modern nuclear physics and requires new technologies in detection system as well as in beam, accelerator and separator performances. For the project S3/SIRIUS (SIPRAL2 (GANIL)) we characterize new generation of Silicon detector. Four of them will be part of the detection system SIRIUS. They are Stripy-Pad (64 pixels), windowless (dead layer <50nm) and large area (10cm x 10cm). After the characterization of these detectors, we performed more advance studies like pixel reduction.

PhD student (since october 2014)
IPHC Strasbourg, France



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Jose Antonio BRIZ MONAGO



We use the Total Absorption Spectroscopy (TAS) technique for the study of beta decay schemes of fission fragments produced in the nuclear reactor cores. Despite our results can also have implications in nuclear structure or astrophysics, the main purpose relies in neutrino and reactor physics. More specifically in the precise determination of the antineutrino spectra and the decay heat emitted after the fission of the reactor fuel.

Post-doctoral position
Subatech, Nantes, France



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Tom BUITENHUIS



I am a PhD student at KVI-Center for Advanced Radiation Technology at the University of Groningen. My research is about in-vivo dose delivery verification of proton therapy using positron emission tomography.

PhD student
KVI, The Netherlands



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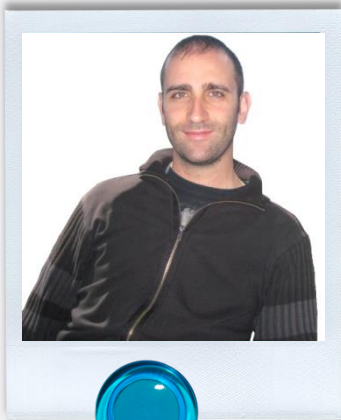


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Roger CALLABERO-FOLCH



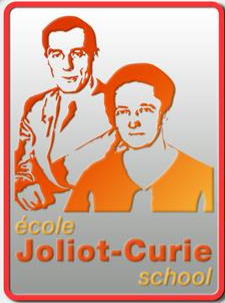
Born in El Vendrell near Barcelona in 1982. In 2008 I obtained a Bachelor Engineering degree in Telecommunication at Universitat Politècnica de Catalunya (UPC). After that I got some temporary fellowship contracts at Institute of Energy Technologies (INTE-UPC) and in parallel I enrolled for a MSc in Energy Engineering - Nuclear speciality. In 2010 I start a PhD in the Nuclear Engineering and Ionizing Radiation programme at UPC participating in several experiments supported by international collaborations. On June 2015 after a successful PhD thesis I started a postdoc contract at TRIUMF in Vancouver (Canada).

Post-Doctoral position
TRIUMF, Vancouver, Canada



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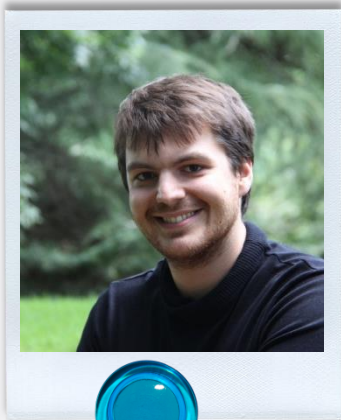


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Pierre CHAUVEAU



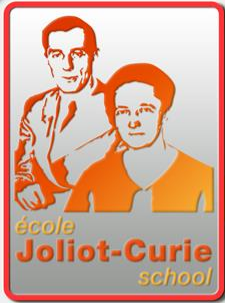
I am a 25 yo, third year PhD student working in instrumental physics and ion optics. I used to be an engineer and I now wear a researcher camouflage (I am a master of deception). My PhD thesis work is to design a mass spectrometer for on line mass measurement and separation of exotic ion beams. Apart from the sweet physic, I enjoy playing piano, guitar and ukulele and sing with a very soft and reedy (though a bit false) voice, which is a bit ridiculous given my fleshy/beardy/weird look. I am a big fan of comics and occasionally enjoy a book.

PhD Student
GANIL Caen, France



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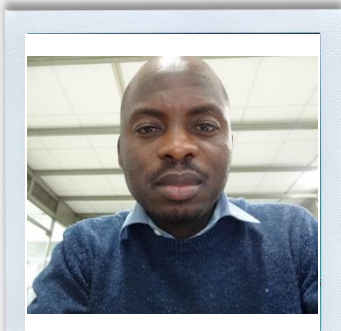
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Terver DANIEL



My Ph.D Research Journey: The Study of the Internal Structure of Atomic Nuclei with Unusual Proton-to-Neutron Ratios Using the Experimental Techniques of Gamma Ray Spectroscopy. Specifically, I have before now looked at some of the exotic nuclei in the hafnium isotopic chain such as $^{174, 176, 180}\text{Hf}$ and at the moment, analysing ^{105}Ru .

This will also include the Analysis of Complex Gamma-Ray Spectra Taken from State of the Art Gamma Ray Arrays Using LaBr3 and Germanium-Based Detections Systems.

Similar applications of these techniques can be applied for the analysis of the level of radiation in the environmental samples.

PhD student (since 2013)
University of Surrey, UK

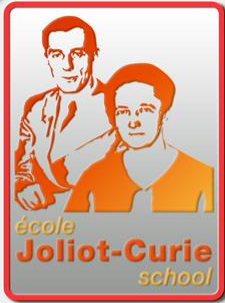


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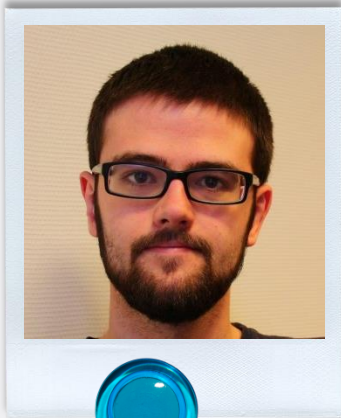


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Ruben DE GROOTE



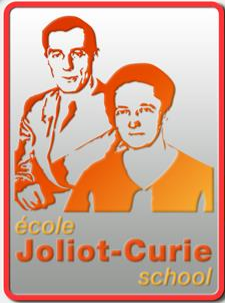
My main occupation so far has been the preparation of laser spectroscopy experiments at the CRIS experiment in ISOLDE, CERN. My research focuses on the evolution of the $N=50$ shell gap for neutron-rich exotic isotopes. In particular, I am working towards the study of the neutron-rich copper isotopes. The electromagnetic moments and spins of these nuclei will provide important clues on the magicity of ^{78}Ni .

PhD student
KU Leuven, Belgium



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Clément DELAFOSSE



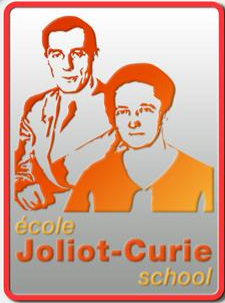
Recent experimental discoveries have revealed that the neutron effective single particle evolution above ^{78}Ni shows peculiar or unpredicted behaviours. My study is mainly focussed on the neutron $g_{7/2}$ effective single particle energy (ESPE) evolution towards ^{78}Ni .

PhD student
IPN Orsay, France



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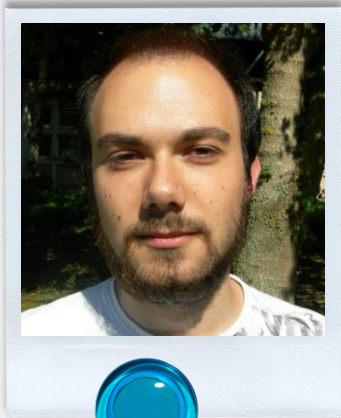


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Quentin DESHAYES

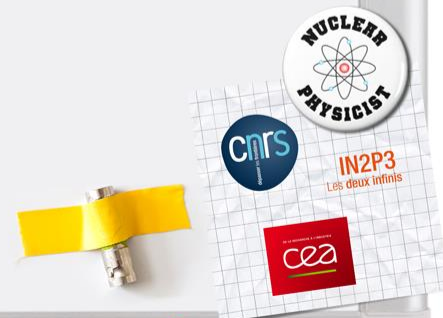


My Ph. D. is based on the analysis of one part of the data taken during the SAMURAI DAY-ONE campaign. This campaign aimed to study the structure of light nuclei along the drip-line. More precisely I am studying the structure of the Nitrogen isotopes along the drip-line (^{21}N to ^{24}N).

PhD student
LPC Caen, France



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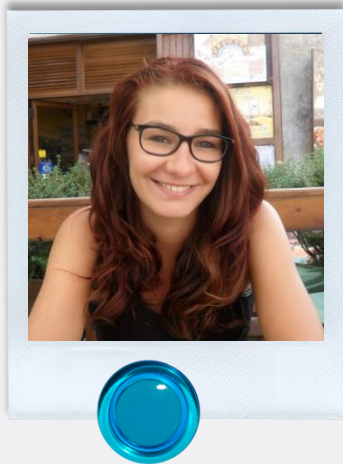


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Marie-Coralie DELATTRE

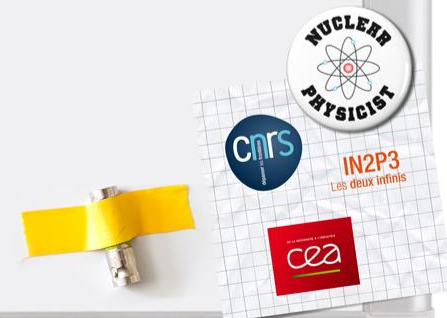


I'm Marie-Coralie, I work on magic numbers in exotic nuclei, as to say, an amazing topic to do a PhD ! It's indeed full of stars in my eyes that I started two years ago this journey in the wide field of the physics. Here I am now, still enthralled by my subject, discovering new things every day ! But that's not all, I'm also involved in two associations, Synapse and D2I2 (<http://d2i2.in2p3.fr/>), which help me find a lot of friends and spend a lot of time creating things with them. I do sport, I do reading, I do listening a lot of music, I do gardening in my office as well.

PhD student
IPN Orsay , France



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Port-Barcarès

Clovis DIVAY



The main purpose of my PhD Thesis is the measurement of double differential fragmentation cross-sections of ^{12}C for Hadrontherapy. My first year was focused on the preparation and analysis of an experiment at GANIL, Caen, with a 50 MeV/A ^{12}C beam. The next two years will be dedicated to the conception of a high resolution particle tracker for a new experiment in the ARCHADE center that will allow us to measure these cross-sections with a beam energy up to 400 MeV/A.

PhD student (since October 2014)
LPC Caen, France



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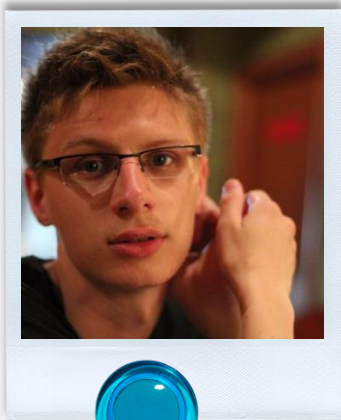


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Quentin FABLE



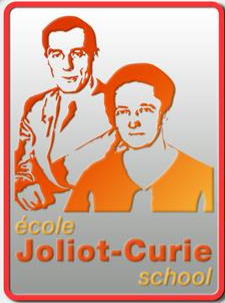
My Ph.D is about the analysis of the data from the coupling of the INDRA detector with the VAMOS spectrometer, at available energies at GANIL. This unique experiment aims to study the $40,48 \text{ Ca} + 40,48 \text{ Ca}$ peripheral and semi-peripheral collisions, in order to bring new experimental constraints on the nuclear asymmetric equation of state. More precisely, we look at isotope yields and correlation functions, which require a precise characterization of the particle emission sources by using such high angular coverage detectors.

PhD student (since October 2014)
GANIL Caen, France



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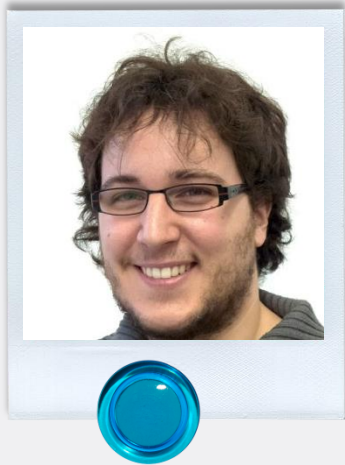


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Guillermo FERNANDEZ

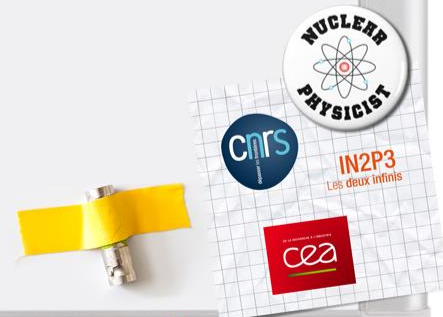


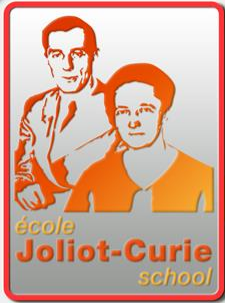
The future Facility for Antiproton and Ion Research (FAIR) will house the calorimeter and spectrometer CALIFA. Some of the scintillation materials under consideration to become part of it ($\text{LaBr}^3(\text{Ce})$ and CeBr^3) have been developed in the last few years. They show a combination of good energy and time resolution with high efficiency. On the other hand, fast digitisers allow the collection of data at increasingly higher sampling frequencies. They are also much more reliable and easily scalable for large arrays than traditional analog electronics. Therefore, my research is focused on the analysis of digitised pulses of scintillators, which, in addition to energy and time determination, enables particle identification.

PhD student
TU Darmstadt, Germany



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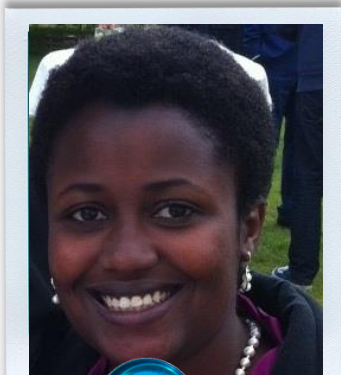


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Angélique GATERA



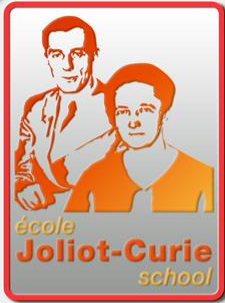
Since march 2014, I have been working as PhD student in the nuclear physics group of the IRMM in Geel, Belgium. The main focus of my thesis is measuring prompt fission gamma-rays from the reaction $^{239}\text{Pu}(n_{th},f)$, for nuclear data needs. For an improved precision, I use lanthanum bromides detectors ($\text{LaBr}_3:\text{Ce}$) for their superior timing and energy resolution compared to other scintillators.

PhD student
IRMM Geel, Belgium



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Instrumentation, detection, and simulation in modern Nuclear Physics

27th September to 2nd October 2015, Port-Barcarès (France)



Thomas GOIGOUX



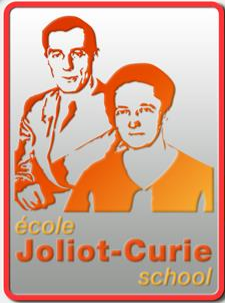
I'm involving in the development of the new time projection chamber (TPC) at CENBG to study the two proton radioactivity, a process observed for nuclei near the proton drip line. This detector will allow us to reconstruct the tracks of the protons. Generally I take part in all activities of the group related to the two proton radioactivity.

PhD student
CENBG, France



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Port-Barcarès

Laila GURGI



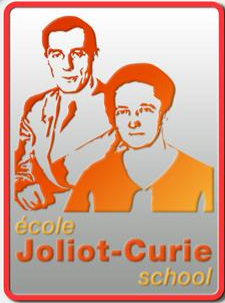
My PhD research project is based on detailed nuclear spectroscopy for investigations of detailed nuclear structure. In particular I am concentrating on the precision measurement of decay half-lives of excited nuclear state using the Fast-Timing Method (FTM) to determine the shapes and underlying structure of atomic nuclei of the elements Rhenium and Terbium. These experimental results are then compared with state of the art models of nuclear structure physics which predict various shape changes and underlying single-particle structures for these systems. My experimental work in this area has included the analysis of experimental data carried out using mixed arrays of gamma-ray detectors made up of both high-resolution hyper-Pure Germanium Detector and the fast-timing Lanthanum tri-bromide scintillation detectors at laboratories in both Romania (IFIN-HH, Magurele) and Japan (RIKEN-RIBF).

PhD student
University of Surrey, UK



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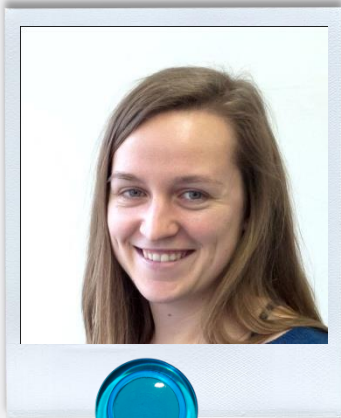


Instrumentation, detection, and simulation in modern Nuclear Physics

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Anna-Lena HARTIG



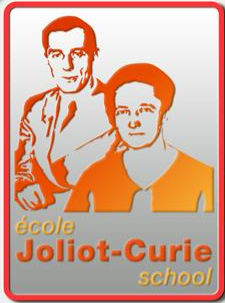
Last year I started my PhD with developments and simulations for the CALIFA calorimeter of the R3B set up, which will be located at the new FAIR facility in Darmstadt. This calorimeter is supposed to measure high energy gammas as well as protons and is composed of CsI and Phoswich detectors. Before joining the R3B collaboration I was working with Miniball data from ISOLDE, Cern.

PhD student since april 2014
TU Darmstadt, Germany



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Instrumentation, detection, and simulation in modern Nuclear Physics

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Sebastian HEIL



Having started my PhD in April 2015, I study the electromagnetic matrix elements in neutron-rich, light nuclei. Here, my main focus are lifetime measurements and the preparation and simulation of the according experiments with Geant4.

PhD student
TU Darmstadt, Germany



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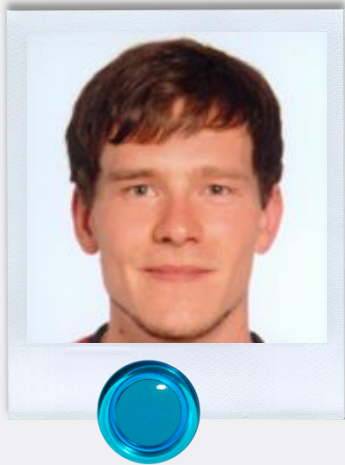


Instrumentation, detection, and simulation in modern Nuclear Physics

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Toni KOEGLER



I am a member of the Institute for Radiation Physics of the Helmholtz-Zentrum Dresden - Rossendorf. Since 2009 I am working in the nuclear physics department of Andreas Wagner and Arnd Junghans.

In 2011 I received my diploma in physics for the work on linear alkyl benzene (LAB) based scintillators. Currently I am doing my PhD on fast neutron induced fission cross sections of minor actinides (^{242}Pu).

I am interested in transmutation, detector physics and electronics, but also in volleyball, athletics and skiing.

PhD student
Helmholtz-Zentrum Dresden, Germany



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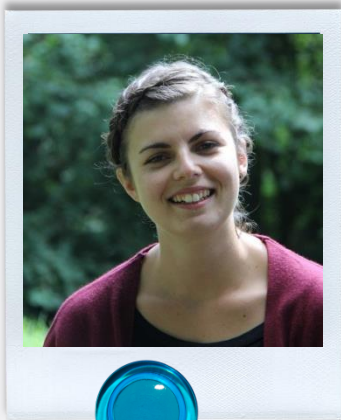


Instrumentation, detection, and simulation in modern Nuclear Physics

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Coralie LE DEROFF

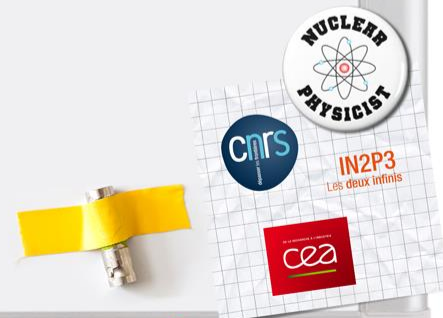


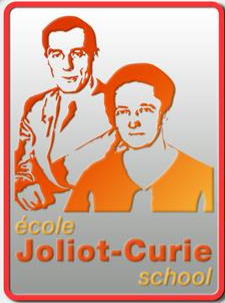
The field of my PhD is dosimetry in radiotherapy for small animals (preclinical research). More precisely my work concerns the assembly and characterization of a plastic scintillating optical fiber dosimeter for precise dose measurements under X ray irradiation of low energies (10 keV to 225 keV). The main issues are the quenching and energy dependence of the dosimeter combined to small field dosimetry.

PhD student (since october 2014)
GANIL Caen, France



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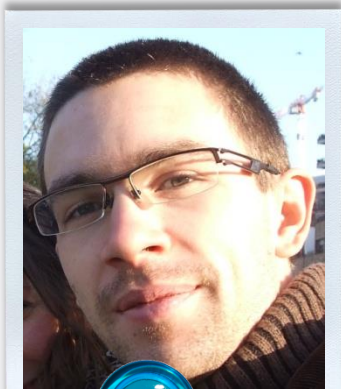
Instrumentation, detection, and simulation in modern Nuclear Physics

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Port-Barcarès

Loïc LE MEUR



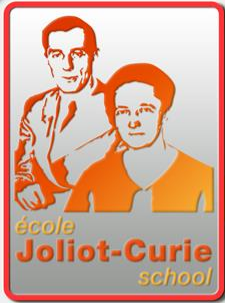
I have obtained a Master of Physics in 2010. After several years spent studying psychology, I decided to come back to physics and will start a PhD thesis in nuclear physics in 2015. The topic of my thesis is "Study of the beta decay properties of exotic nuclei around ^{132}Sn with the Total Absorption Spectroscopy (TAS) method". The TAS technique allows to access the beta feeding to the daughter nucleus, a quantity from which the beta strength can be obtained and compared with theoretical models. Another advantage of the TAS technique is to avoid the Pandemonium effect, which can bias the beta feeding when using germanium detectors in the case of decays of nuclei exhibiting large Q_{β} values. During my PhD, we will study with this technique several nuclei of interest for nuclear structure and nuclear astrophysics in the vicinity of the doubly magic nucleus ^{132}Sn using the ALTO facility in Orsay (France).

PhD Student
Subatech Nantes, France



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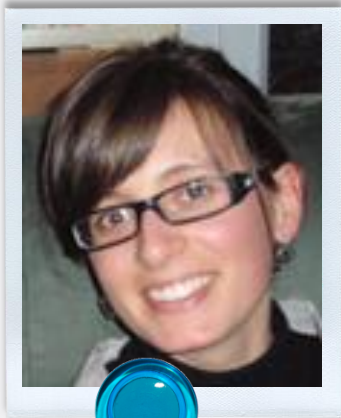


Instrumentation, detection, and simulation in modern Nuclear Physics

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Cécile MAGRON



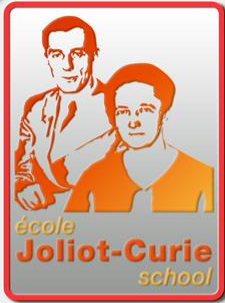
I'm Cécile, I'm 25 and I've been living in Bordeaux for 2 years. I'm starting my third year as a PhD student in the CENBG (centre of research in nuclear physics). I'm working on precise measurements of half-lives and gamma ray branching ratios of mirror beta decays, ^{23}Mg and ^{27}Si , in order to study the weak interaction and test the standard model.

PhD student
CENBG, France



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Instrumentation, detection, and simulation in modern Nuclear Physics

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Maxime MOUGEOT



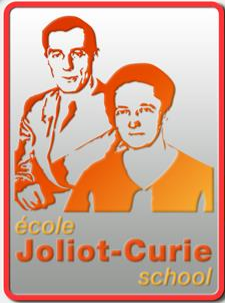
I finished my studies in physics in June 2015. I am currently a PhD student working with the ISOLTRAP collaboration at ISOLDE (CERN). My work will focus on high precision mass spectrometry of exotic nuclei using Penning traps. The mass of the nucleus is one of its most fundamental properties. Thus, since the early days of nuclear physics mass spectrometry has been an experimental tool of prime importance to deepen our understanding of nuclear structure as well as certain astrophysical processes.

PhD student
CSNSM Orsay, France



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Instrumentation, detection, and simulation in modern Nuclear Physics

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Carlos MUNOZ CAMACHO

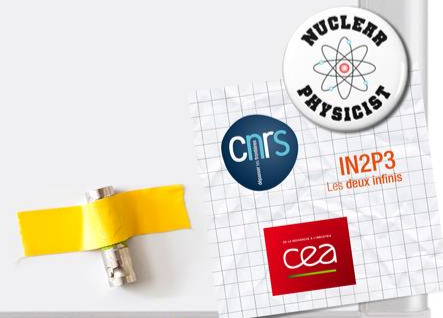


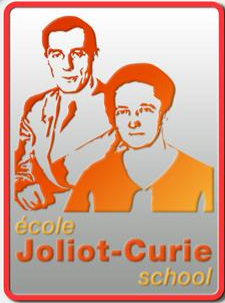
My research interest is non-perturbative QCD and the study of nucleon structure in particular. I carry out lepton scattering experiments using the high energy electron beam of Jefferson Lab (USA) in order to study the position and momentum correlations of quarks and gluons inside nucleons.

Member of Scientific Committee EJC2015
IPN Orsay, France



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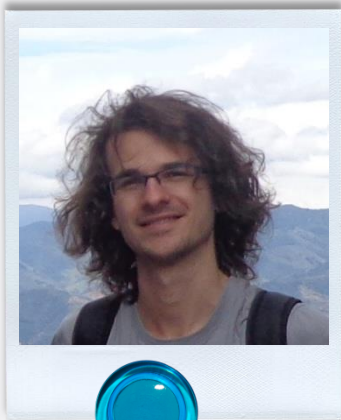


Instrumentation, detection, and simulation in modern Nuclear Physics

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Louis OLIVIER



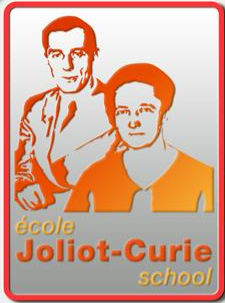
The SEASTAR collaboration performed an experiment at RIKEN, Japan, in May 2014 with the aim to measure the first excited state of ^{78}Ni , nucleus that is doubly-magic according to the shell model. Many nuclei around ^{78}Ni have been produced, and we are interested here in ^{79}Cu ($^{78}\text{Ni} + 1$ proton), that can give us direct information about the size of the gap $Z = 28$ in this very exotic region.

PhD student since October 2014
IPN Orsay, France



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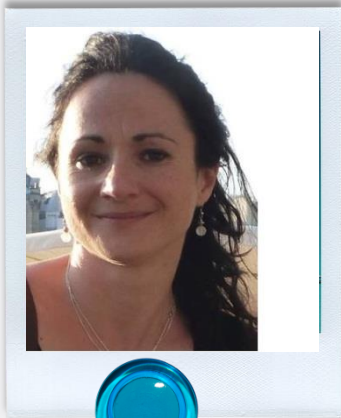


Instrumentation, detection, and simulation in modern Nuclear Physics

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Nicoleta PAUNA



My research activity concerns particle physics applied to hadrontherapy (a technique applied in cancer tumors treatment when the irradiating beams are made of charged particles: protons and other ions, such as carbon). I'm mainly focused on real time control of the dose distribution during ion therapy.

Member of EJC2015 Scientific Committee
LPC Clermont, France

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Instrumentation, detection, and simulation in modern Nuclear Physics

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Vadym PAZIY



I am Vadym Pazyi, a 3rd year PhD student (Nuclear Physics) from Universidad Complutense de Madrid. I was born in Crimea (Ukraine-Rusia) and came to Spain in 2002 where I finished the high school and degree in Physics. I work now in lifetime measurements of the excited states in exotic nuclei.

PhD student
UCM Madrid, Spain



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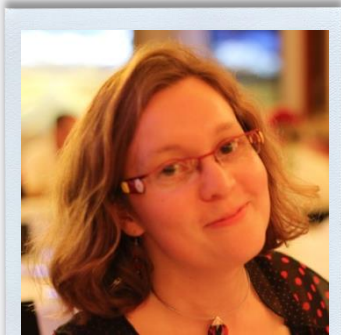


Instrumentation, detection, and simulation in modern Nuclear Physics

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Claire PORTAIL



The deep inelastic reactions can be an efficient way to produce even more neutron-rich nuclei. Two experiments were done in GANIL, Caen, to collect data on these reactions. The first one was done with the VAMOS spectrometer and 7 EXOGAM clovers for gamma detection. A large angular range of around 30 degrees was observed. The second experiment was done with the LISE spectrometer, only around 0 degree. The aim is to get a better understanding of this reaction mechanism.

PhD student
IPN Orsay, France

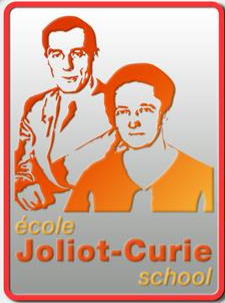


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IN2P3
Les deux infinis



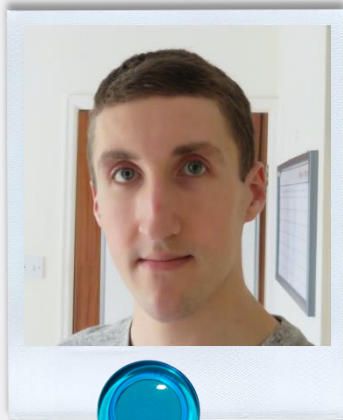


Instrumentation, detection, and simulation in modern Nuclear Physics

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Craig REID

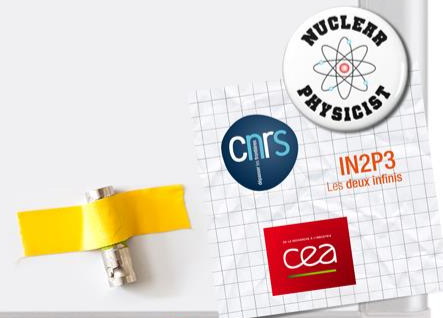


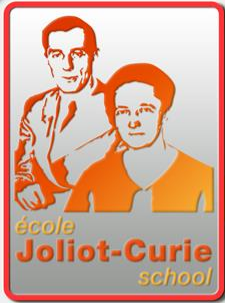
My PhD work is focused on the development of an iterative image reconstruction code for a Compton Camera system designed for low energy ranges typically associated with medical imaging. At present I am working on characterizing detectors that will be used in the Compton Camera system as well as investigating pulse shape analysis techniques to more accurately determine interactions within the detectors.

PhD student since October 2014
University of Liverpool, UK



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Serena RICCETTO



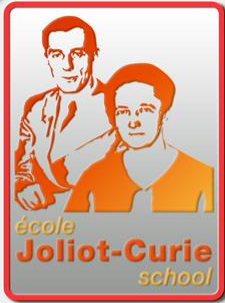
At the National Laboratories of Legnaro LNL it is running a R&D program on new technologies for the production of High Purity Germanium detectors. In this framework my work is focused on HPGe detectors characterization: in particular, on the analysis of the effects of different kinds of surface passivation and on the study of the digital signals produced by interaction of γ -rays in the detectors.

Master Student
University of Camerino - LNL National Laboratories of Legnaro, Italy



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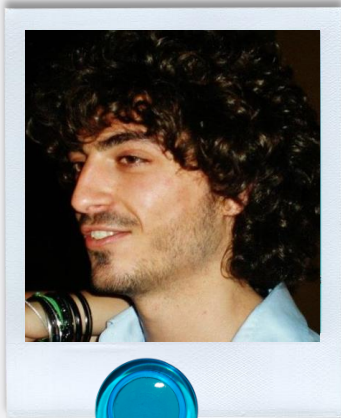


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Marco ROCCHINI



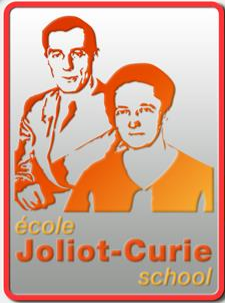
My research activity is related to nuclear spectroscopy experiments. My master thesis has concerned g-factor measurements of isomeric states in ^{174}W . I have also taken part to a study of $O(6)$ symmetry breaking in Xe isotopes via $E0$ transition measurements. My PhD project regards the development of an ancillary particle detector for Coulomb Excitation measurements of radioactive beams produced by the SPES facility under construction at Legnaro National Laboratory of the INFN.

PhD student
University of Florence, Italy



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Jennifer TEASDALE



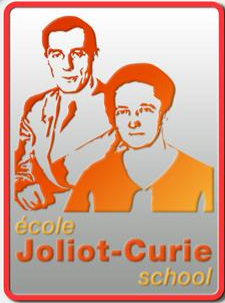
I am a 1st year PhD student in the Nuclear Imaging department at the University of Liverpool. My work focuses on nuclear instrumentation and my research is based on CdZnTe radiation detectors with spectroscopy and imaging capabilities for use in security applications.

PhD student
Nuclear Imaging department at the University of Liverpool, UK



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Marine VANDEBROUCK



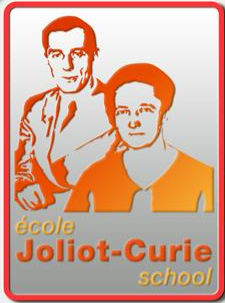
I am interested in nuclear structure of exotic nuclei. During my PhD, I have studied collective modes using active target detector. Currently in postdoc, I am working on neutron-proton interaction at the neutron drip line.

Post-doctoral position
GANIL Caen, France



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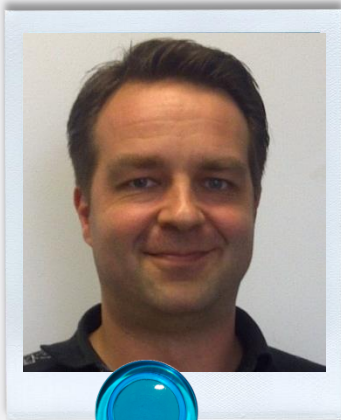


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Jacques VAN DE LAAR



The atomic mass is among the most fundamental properties in atomic physics. At the TRIGA Mainz research reactor, a double Penning trap system, TRIGA-TRAP, is installed. It is optimized to measure such masses of exotic nuclei produced in neutron-induced fission of actinide targets as well as of long-lived transuranium isotopes. My current project is the implementation of the phase-imaging ion-cyclotron-resonance technique at TRIGA-TRAP. This is a new method to measure the cyclotron frequency of an ion trapped in a Penning trap. Compared with the presently employed time-of-flight ion-cyclotron-resonance technique the new method is 25-times faster and provides a 40-fold gain in resolving power. This will allow obtaining data of much higher quality, which will serve as input data, e.g., for modeling of the astrophysical r-process.

PhD student
University of Mainz, Germany



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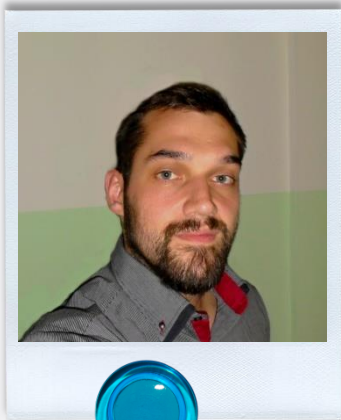
Instrumentation, detection, and simulation in modern Nuclear Physics

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Port-Barcarès

Radek VESPALEC



My research work concerns a cross-section measurement of products of spallation reaction in a thin thorium target as the experimental nuclear data are essential for validation of nuclear codes describing various stages of spallation reaction. Targets made of natural thorium are irradiated by different types of light particles at Phasotron and Nuclotron accelerators at Joint Institute of Nuclear Research in Dubna in the Russian Federation. The experimental cross-sections are compared with theoretical predictions using several models incorporated in different nuclear codes.

PhD student since October, 2014
Czech Technical University in Prague, Czech Republic

Speakers
Students
Committee

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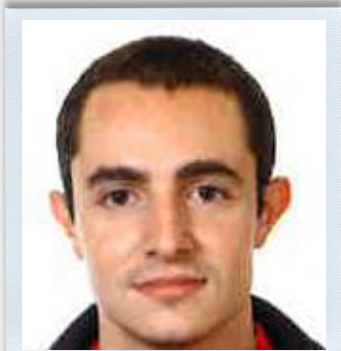


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Carlos VIVO-VILCHES



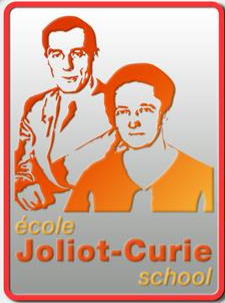
I am working in the Accelerator Mass Spectrometry (AMS) group at the Centro Nacional de Aceleradores, in Sevilla (Spain), with the 1 MV multi-element AMS system. AMS is a technique which allows the ultra-trace detection of long-lived radionuclides (such as ^{14}C) with radionuclide/stable ratios down to 10^{-15} depending on the isotope. My PhD thesis consist in the detection of ^{41}Ca ($T_{1/2}=10^5$ y), a radionuclide with applications to nuclear waste characterization and to calcium metabolism labeling.

PhD Student (since October 2014)
Centro Nacional de Aceleradores, Sevilla , Spain



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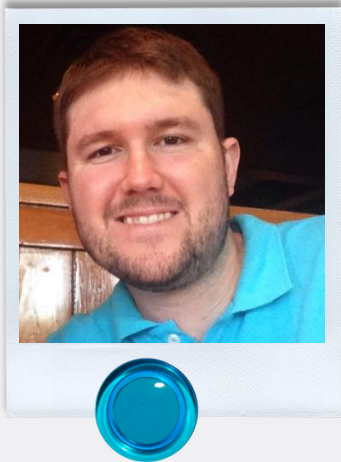


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Andrew ZARRELLA

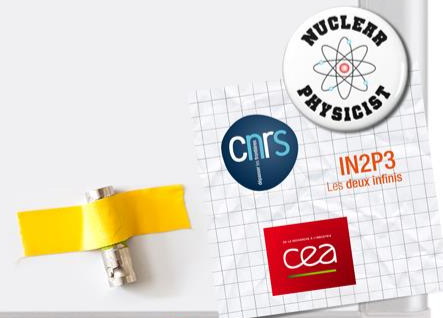


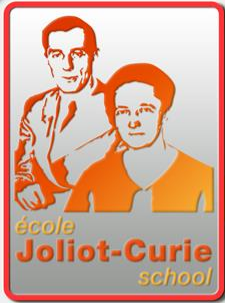
I have been working toward measuring pionic fusion reactions in the $^4\text{He} + ^{12}\text{C}$ system with the newly constructed ParTI Array and the MARS Spectrometer. My work aims to produce the first experiment to produce a coincidence measurement of charged pions and their associated heavy residue in these types of reactions. These experiments will be performed at the Cyclotron Institute located on the campus of Texas A&M University.

PhD student since 2011
Texas A&M University



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Dennis WILMSEN

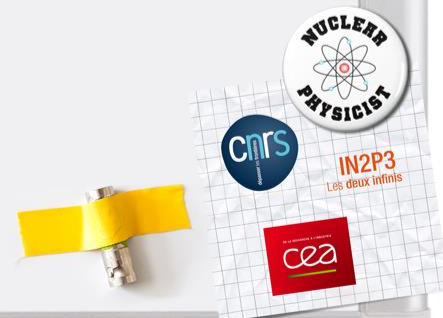


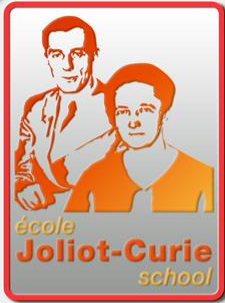
Studied and worked in the University of Cologne, Germany in the research group of Prof. Dr. Jan Jolie on nuclear structure; now PhD student at the research center GANIL in Caen, France under supervision of Dr. Gilles de France working in the field of gamma-spectroscopy and the effect of shape coexistence in neutron-rich nuclei around mass number 50-60 experimentally obtained from fission data within the 2012 EXILL campaign. Later working on the development of the ILL FIPPS spectrometer in Grenoble, France.

PhD student
GANIL Caen, France



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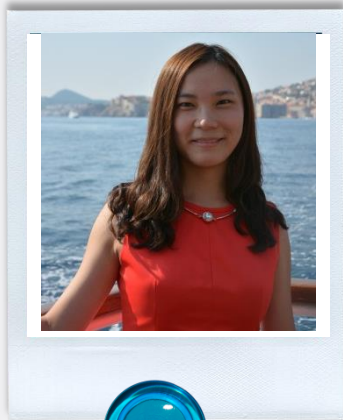


Instrumentation, detection, and simulation in modern Nuclear Physics

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Yiman YAN



I am a third-year PhD student studying nuclear physics in Université Paris-Sud. My thesis subject is "Study of fission of exotic actinides by relativistic reactions". The experiment took place in GSI in October 2014. I am now working on the data analysis. I am looking forward to making new friends in this summer school.

PhD student
IPN Orsay, France



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Port-Barcarès

Thomas COCOLIOS



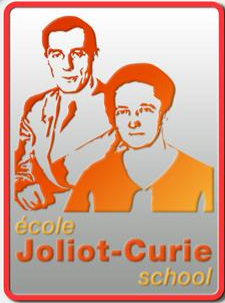
My research is focused on the ground-state properties of radioactive nuclei, including their half-life, decay modes, mass, spin, electromagnetic moments, shape, ... The nuclear ground state is the corner stone on which the rest of the nucleus is built and many experimental techniques are required to gain a comprehensive picture, such as decay spectroscopy, mass spectrometry, or laser spectroscopy. The quest for always more exotic beams has lead me to use those techniques for both direct study and manipulation of radioactive ion beams.

Lecturer EJC2015
STFC Ernest Rutherford Fellow, School of Physics & Astronomy, The University of Manchester
Instituut voor Kern- en Stralingsfysica, KU Leuven, Belgium



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William GELLETLY



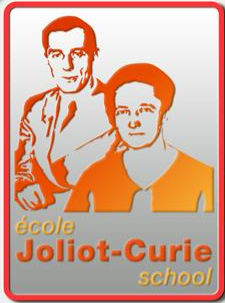
He has been working on nuclear and atomic physics for about 40 years. In particular he has been interested in inner shell processes in atoms and in gamma-ray spectroscopy. His main current interests lie in the study of nuclei far from stability and the development of a radioactive beam facility in the UK. He is a member of a number of International Committees concerned with Nuclear Physics. He is also a member of the Measurement Advisory Committee of the Department of Trade and Industry. In his spare time he is interested in history and the theatre and plays golf. He was awarded the OBE in the 1993 Queen's Birthday Honours list for distinguished services to science.

Lecturer EJC2015
University of Surrey, UK



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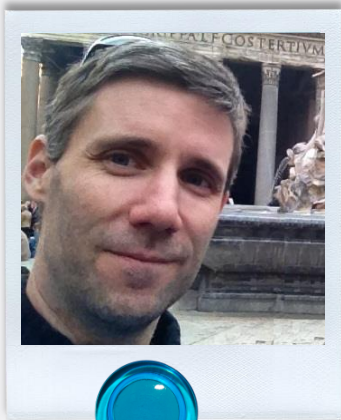
Instrumentation, detection, and simulation in modern Nuclear Physics

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Port-Barcarès

Stéphane GREVY

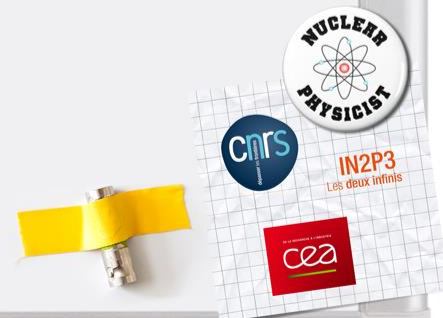


I'm an experimentalist in nuclear physics, interested mainly by the structure of the exotic nuclei. I have worked for 15 years around GANIL being focused on the evolution of the shell structure for the neutron-rich nuclei around the $N=28$ magic number. Since 5 years, I have joined the CENBG and my work is mainly devoted to experimental developments related to the DESIR project in the context of SPIRAL2. More precisely, we are developing a double Penning trap system (PIPERADE) in order to highly purify the secondary beams of exotic nuclei.

Lecturer EJC2015
CENBG, France



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Hervé GUEGAN



I manage the technology transfer unit of the CENBG. We provide for 20 years Ion Beam Analysis services (RBS/ERDA/PIXE/NRA/PIGE) for industry and public or private laboratories. We operate the AIFIRA platform using a Singletron © Particle Accelerator with H^+ , $^2H^+$, $^4He^+$ ions at energy between 500KeV and 3.5MeV. The fields of application concerned are microelectronics, optics, surface coatings, air pollution, irradiation for space components, and expertise of works of art.

Lecturer EJC2015
ARCANE CENBG Bordeaux, France

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Port-Barcarès

Ferid HADDAD



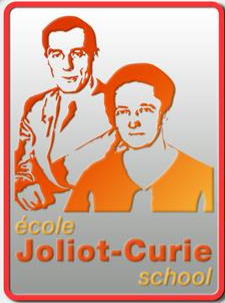
After a Phd in nuclear physics at Subatech (Nantes) and a post doc at Texas A&M University, I got a teaching position at the university of Nantes. I have been working in nuclear physics (collective effects in heavy ion collisions, light charged particle cross section measurements in the context of accelerator driven system) as well as in astroparticles (cosmic ray detection using radioemission). Since 2006, I am involved in production of radioisotopes for medical applications in connection to the ArronaxProject.

Lecturer EJC2015
Subatech Nantes, France
Director GIP Arronax



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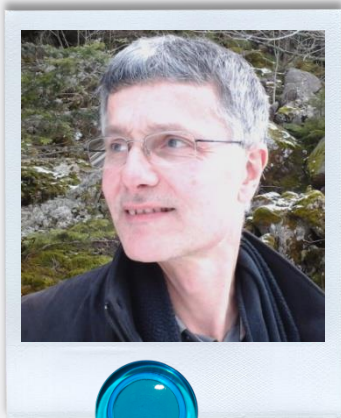
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Port-Barcarès

Daniel HUSSON

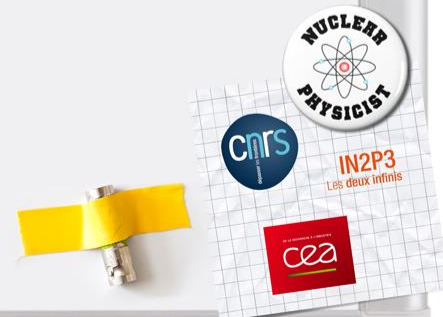


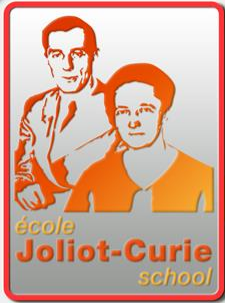
I am a University teacher since 1990 and my research started with LEP physics at the Z peak (DELPHI). Later on, I turned to front-end instrumentation in the LEPSI team still in Strasbourg (silicon and diamond sensors). In 1999 I was in the team who developed the very first CMOS sensor for tracking in particle physics. Since 2003 we work on silicon systems for active dosimetry and neutron metrology.

Lecturer EJC2015
IPHC Strasbourg, France



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Port-Barcarès

Fabienne KUNNE



Working in hadronic physics to study the nucleon structure and nucleon spin structure to improve our understanding of QCD essentially in the non perturbative regime. Currently doing experiments at CERN, exploiting the polarized muon beam and the polarized targets, as well as the pion beam, with the COMPASS spectrometer. I have also worked on the development of micro-pattern gaseous detectors for the detection of charged particles in very high fluxes.

Lecturer EJC2015

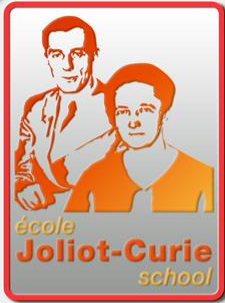
Director of Research at CEA Saclay IRFU SPhN, France

Spoke person of the COMPASS experiment at CERN



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Instrumentation, detection, and simulation in modern Nuclear Physics

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Yuri LUTVINOV



Heavy ion storage rings offer unparalleled opportunities for precision experiments in nuclear, atomic, and astrophysics. Investigations of ground state properties like masses and lifetimes of short lived nuclei or cross-section measurements of key astrophysical reactions were my main interest in the recent years.

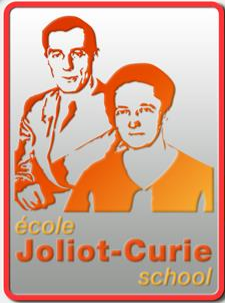
One of the fascinating facts is that often a single ion is sufficient to measure its properties which enables one to study nuclides hardly accessible by any other technique or method

Lecturer EJC2015
GSI Helmholtz Center for Heavy Ion Research, Germany



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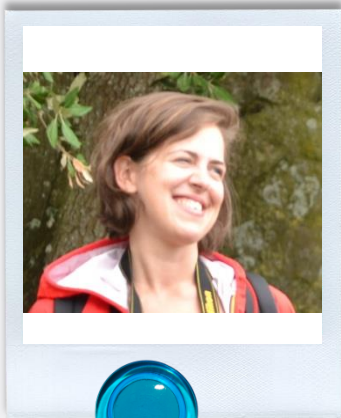
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Port-Barcarès

Caterina MICHELAGNOLI

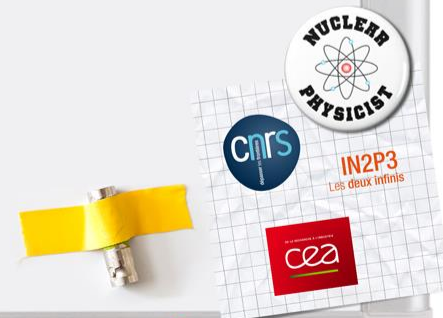


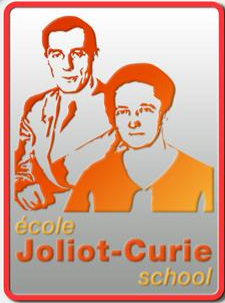
My research activity focuses on two main topics: the study of the interplay between single-particle and collective degrees of freedom in the structure of neutron-rich nuclei, with particular interest to the shape evolution and shape coexistence phenomena in the Kr isotopes; the determination of stellar burning rates through the precise measurement of nuclear structure observables, as the lifetime of 6.79 MeV state in ^{150}O , fundamental for the determination of the rate of H-burning through the CNO cycle, subject of my PhD Thesis (University of Padova and Legnaro National Laboratories, 2013). I have been conducting these investigations by using advanced gamma ray spectroscopy techniques. During my PhD I participated to the installation and development of the Advanced-Gamma-Tracking-Array AGATA, nowadays at GANIL, where I am conducting my research activity as PostDoc fellow.

Lecturer EJC2015
GANIL Caen, France



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Riccardo RAABE



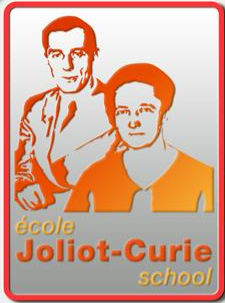
My research interest is the experimental investigation of nuclei far from stability. My attention goes especially to light nuclei and nuclei in the vicinity of closed shells around, for example, ^{78}Ni and ^{208}Pb . I study their structure using different decay and reaction methods, employing large detector arrays. Measurements take place at large accelerator facilities, in particular I am active at CERN-ISOLDE and GANIL. During the past few years I have been strongly involved in the development of a novel type of gaseous detector, the active target.

Lecturer EJC2015
KU Leuven, Belgium



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Elias KHAN



Theoretical and experimental approaches in nuclear structure :
excitations in exotic nuclei, astrophysical applications, cluster
states, etc.

Professor, Head of EJC school
IPN Orsay, France

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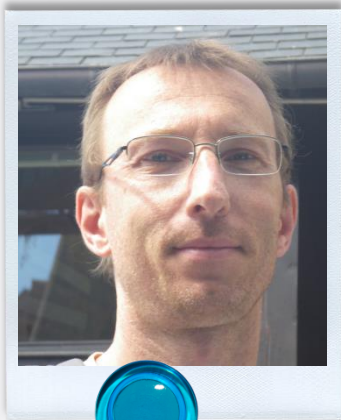


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Alain ASTIER



Research fields: nuclear structure of exotic nuclei, produced at high spins as fission fragments and studied by prompt gamma spectroscopy. Study of the evolution of spherical gaps at large neutron excess, in particular the N=50 gap towards the doubly-magic (?) ^{78}Ni Graal nucleus.

Also interested by the clusterization of heavy nuclei such as ^{212}Po which can sometimes behave as a " $\alpha+^{208}\text{Pb}$ " system.

CNRS Researcher
CSNSM Orsay, France



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Miguel MARQUES

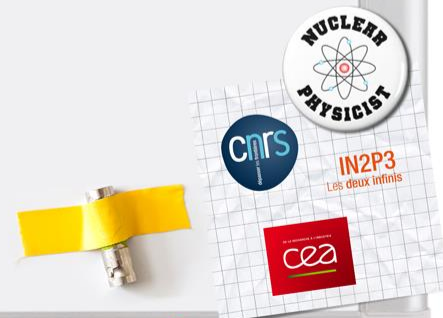


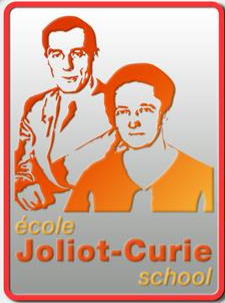
My group explores the limits of neutron binding in nuclei and the potential new phenomena that may arise. We started this research at GANIL, with experiments probing the neutron dripline and beyond up to Beryllium, and a few years ago we moved to RIKEN in order to extend our search to the highest masses available in the world, from Boron to Fluorine.

Staff researcher
LPC Caen, France



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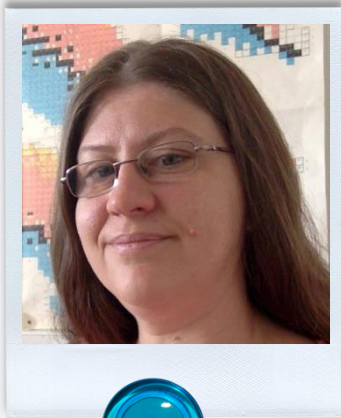


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Amanda PORTA



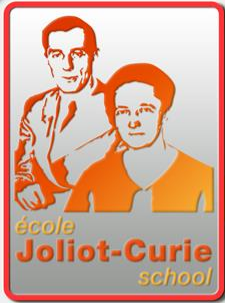
I work at the Subatech laboratory of Nantes on the study of beta decay properties of fission products using Total Absorption Spectroscopy (TAS) technique. These measurements are performed on exotic nuclei interesting for fundamental and applied physics: nuclear structure and astrophysics, reactor antineutrino spectra and decay heat calculations.

Assistant Professor
Ecole des Mines de Nantes, France



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Valérie FROIS



I'm in charge of communication department at the Institut de Physique Nucléaire, Orsay . The activities of the department also cover the area of internal and external scientific events (workshops , seminars, international conferences) headed by the laboratory. I am involved for many years in several organizing committees of scientific events for the physic's community.

Secretary of Joliot-Curie School 2015

IPN Orsay, CNRS-IN2P3 / Paris Sud University, France

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