



Theory to shape experiments



GdR RESANET
Scientific Colloquium



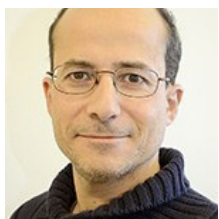
GANIL

13-18 September 2026
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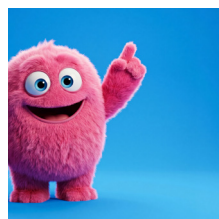
Sponsors



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Karim BENNACEUR



Fanny CADOU



Pascale CHAMBON



Stéphane GREVY



Guillaume HUPIN

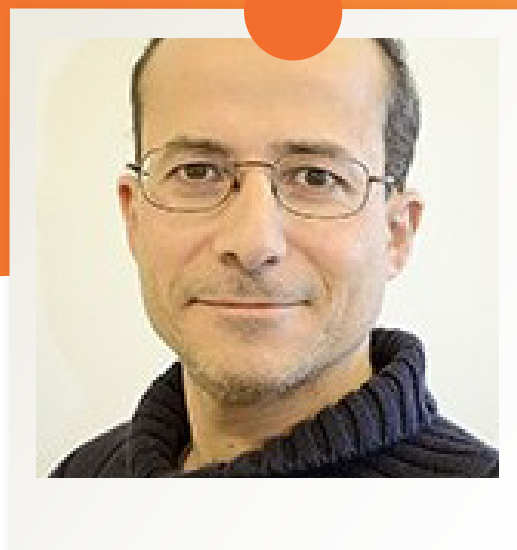
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Committee



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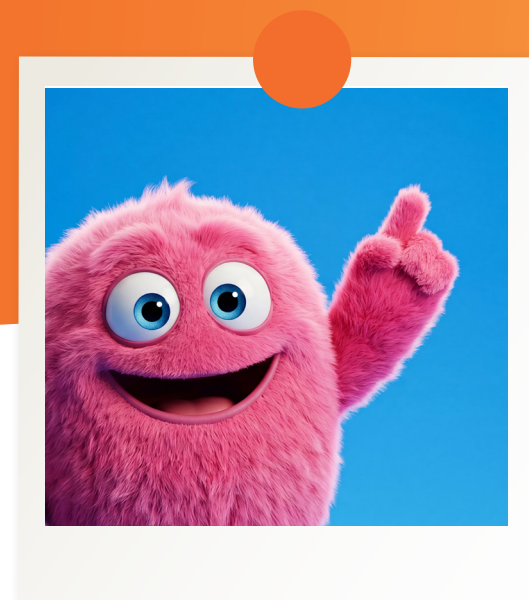
Karim BENNACEUR

IPNL IN2P3 - CNRS

Après une thèse de l'Université de Strasbourg effectuée au GANIL et des contrats post-doctoraux au CEA de Bruyères-le-Châtel et à l'Oak Ridge National Laboratory aux États-Unis, j'ai été recruté comme enseignant-chercheur à l'université Lyon 1. Mes activités de recherche portent essentiellement sur le développement de modèles de type «champ moyen» pour la structure nucléaire et plus spécifiquement sur le développement de nouvelles interactions effectives pour les calculs à l'approximation du champ moyen et au-delà.



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Fanny CADOU

LP2i Bordeaux / CNRS
Communications officer

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Committee Speaker Participant



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Pascale CHAMBON

LP2i Bordeaux / CNRS
Administrative

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Committee Speaker Participant



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Stéphane GREVY

LP2i Bordeaux / CNRS

I'm working in the field of nuclear structure and I have a particular interest for the evolution of the shell structure and the associated magic numbers in exotic nuclei. As an experimentalist, I proposed and performed several experiments at GANIL, ISOLDE and Jyvaskula to study the $N=20$, $N=28$ and $N=50$ shell closures and in order to improve our understanding of the underlying phenomena, my approach has been to combine several experimental techniques (beta decay, in gamma spectroscopy, coulomb excitation, mass measurements...). I'm also involved in experimental developments, in particular in the framework of the DESIR/SPIRAL2 project and I have strongly participated to the development of the PIPERADE setup that consist in a double Penning trap system.



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Guillaume HUPIN

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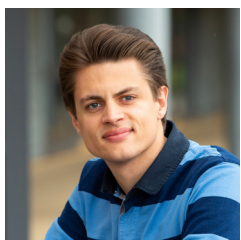
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Pierre ARTHUIS



Michael BENDER



Athena COUSTENIS



Anthea F. FANTINA



Chloë HEBBORN



Lotta JOKINIEMIA



Silvia LENZI



Alfredo POVES



David REGNIER



Nadezda SMIRNOVA

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Speaker



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Pierre ARTHUIS

IJCLab Orsay, France

I am a low-energy nuclear theory staff researcher at IJCLab in Orsay. My research is dedicated to the progress of ab initio methods for nuclear systems, that aim at describing finite nuclei or nuclear matter in an exact or systematically improvable way. Over my career I have worked with several many-body methods, as well as developed new chiral interactions for ab initio approaches. A particular interest of mine is the development of automated tools and methods for many-body formalisms to target higher orders more easily.

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Michael BENDER

IP2I Lyon, France

I am a lecturer at the upcoming EJC 2026: Theory to shape experiments. Please find enclosed my photo for the trombinoscope. A short text describing my scientific activities is :

I am a senior researcher affiliated with the CNRS and attached to the Institut de Physique des 2 Infinis de Lyon (IP2I). I am working on theoretical nuclear structure physics from a mean-field point of view. My research activities are shared between developing numerical tools for self-consistent mean-field models and beyond-mean-field models based on symmetry restoration and configuration mixing within the generator coordinate method, the construction and validation of effective energy density functionals for such calculations, and applying these tools to the description of structural properties of heavy and superheavy nuclei. Concerning the latter, I am mainly interested in nuclear deformation, shape coexistence, shape mixing, rotational bands, nuclear shell structure, pair correlations, the interplay between the aforementioned phenomena, their evolution with proton and neutron number, and their impact on bulk properties such as binding energies and charge radii.

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Athena COUSTENIS

LIRA Meudon, France

Space exploration in search of habitable conditions

Athena Coustenis is Director of Research at the French National Centre for Scientific Research (CNRS), at the LIRA Department of Paris Observatory. She is an astrophysicist specializing in planetary science and safe and sustainable space exploration. Her research focuses on the study of planetary atmospheres and surfaces, habitability conditions in the Solar System and exoplanets. She has worked in the past with large telescopes on the ground but also with space missions like Voyager, Cassini-Huygens and the Infrared Space Observatory (ISO) and is now Co-Investigator in the current space missions ESA/JUICE to the Jupiter system, ESA/ARIEL for exoplanets characterisation and JAXA/MMX which will return samples from the martian moon Phobos. Among other, she also chairs the COSPAR Panel on Planetary Protection and the IAU Division F.

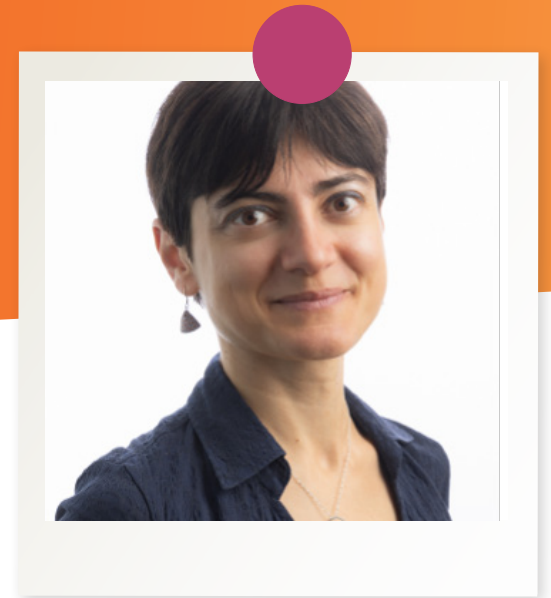
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Anthea F. FANTINA

GANIL Caen, France

I am a CNRS researcher at GANIL. I am a theoretician and my research focuses on modelling compact objects, such as core-collapse supernovae and neutron stars. I work on modelling dense matter in these extreme stellar environments and on studying the impact of microphysics properties on the macroscopic modelling of these compact stars.

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Chloë HEBBORN

IJClab Orsay, France

I am a CNRS researcher within the PhyNeT group of the Laboratoire de physique des 2 Infinis: Irène-Joliot Curie (IJClab) and an adjunct Assistant Professor of Physics at the Facility for Rare Isotope Beams (FRIB). I have studied both economics and engineering in my hometown, Brussels in Belgium. My interests for nuclear physics grew during my master thesis and drove me to apply for a PhD fellowship. I have conducted my PhD partly in Belgium and partly in Germany, and moved to the US in 2020. I was a FRIB Theory Fellow at Lawrence Livermore National Laboratory until August 2023, and in August 2023, I moved to FRIB at MSU as Assistant Professor of Physics. Since February 2024, I am a CNRS researcher at IJClab. My research focuses on improving the theoretical description of reactions involving very short-lived nuclei. I am particularly interested in the study of exotic phenomena arising close to the driplines, such as the halo formation, and in reactions of interest for astrophysics.



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Lotta JOKINIEMI

TU Darmstadt, Germany

I am a Herzberg Fellow at Technical University of Darmstadt, Germany. The aim of my research is to theoretically describe the structure and properties of atomic nuclei and to shed light on fundamental physics questions, like the unknown nature of neutrinos and possible existence of physics phenomena beyond the Standard Model of particle physics. My research focuses on nuclear-weak interactions such as neutrinoless double-beta decay. I use both the phenomenological nuclear many-body methods and ab initio nuclear methods depending on the purpose.

Before joining Technical University of Darmstadt in 2025, I held postdoctoral positions at the University of Barcelona and TRIUMF, Canada's particle accelerator centre. I obtained my PhD from the University of Jyväskylä in 2020.

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Silvia LENZI

INFN Padova, Italy

My research field covers different theoretical and experimental aspects of the structure of atomic nuclei, that complement each other. My activity consists of proposing and coordinating experiments with advanced gamma-ray spectrometers, data analysis and theoretical interpretation of the results in the shell-model framework. The main research lines are the experimental and theoretical study of the structure of $N \sim Z$ nuclei, the isospin symmetry in nuclei, the structure of neutron-rich nuclei far from stability, where new magic numbers appear and new regions of deformation develop.

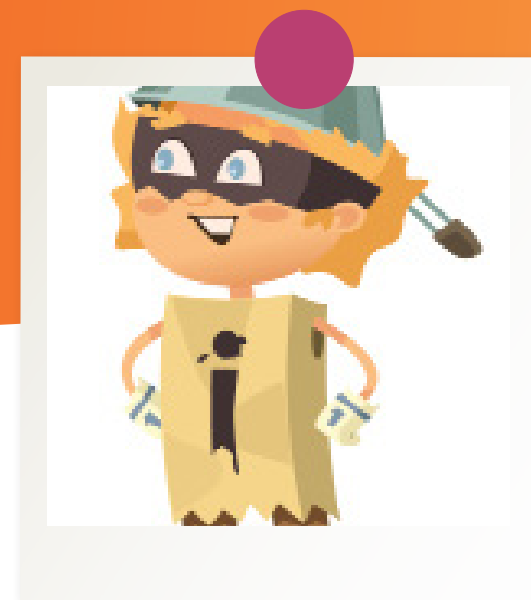
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Alfredo POVES

UAM, Madrid, Spain

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David REGNIER

CEA DAM Bruyères-le-Châtel, France

After defending a PhD thesis at CEA Cadarache on the de-excitation of nuclear fission fragments, my research shifted towards the theoretical study of the dynamics of atomic nuclei. This topic has been an opportunity to collaborate with teams of nuclear physicists from LLNL (USA), IJCLab (France) and CEA where I have been working since the end of 2019. I am now pursuing studies to improve the theoretical description of atomic nuclei and in particular our ability to simulate time-dependent processes such as nuclear fission.

Research topics:

- Dynamics of atomic nuclei
- Nuclear fission
- Computational physics
- Artificial intelligence for physics



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Nadezda SMIRNOVA

LP2i Bordeaux, France

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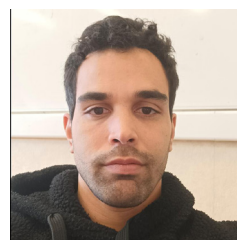
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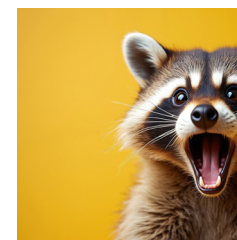
Nils-Filip AGERT



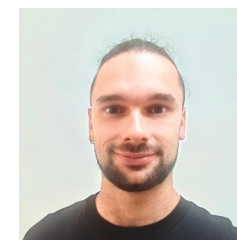
Batool ALMASRI



Adrien ANDOCHE



Rémi BOCQUET



Mathieu BOISSIER



Maylis BRUN



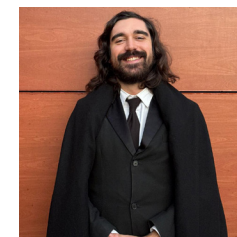
Caio Eduardo
Cabral de Vasconcellos



Mohamad
CHAMSEDDINE



Matheo COGUIC



Pedro COPETO

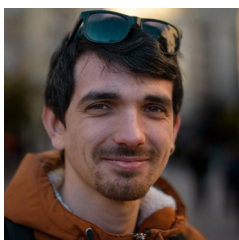
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Quentin DÉLIGNAC



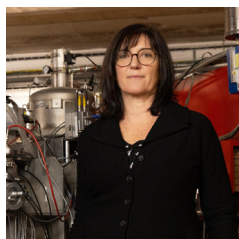
Rodrigue DIDIER-PICHAT



Dominik DUDA



Evaldie - Dominique
DURASTANTI - RABENGA MOMBO



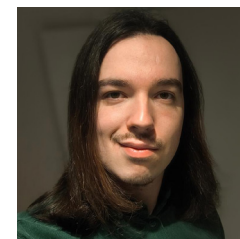
Fanny FARGET



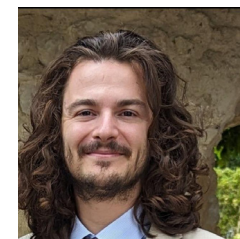
Rafael FRANCISCO



Alexia HOCINE



Antoine JACQUET



Louis LALANNE

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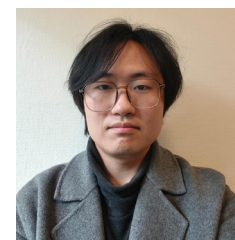
Tommaso LA MARCA



Simon LECHNER



Oscar LE NOAN



Shiyu LIU



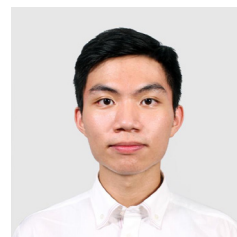
Juan LOIS FUENTES



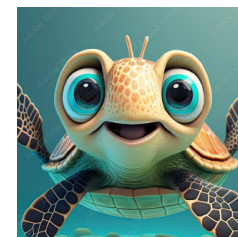
Ioannis MAVROUDIS



Linda Müller



Hoang Dang Khoa
NGUYEN



Pablo Nieto GALLEGO



Elia NSEIR

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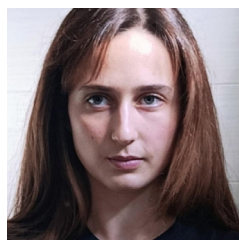
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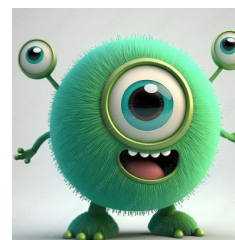
Margarida PAULINO



Paula Pećanić



Iwona Piętka



Leo PLAGNOL



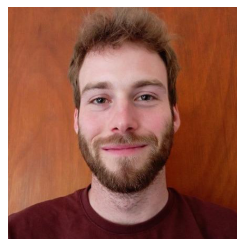
Alessandro REGONESI



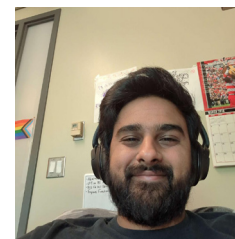
Emmanuel REY-HERME



Isaac RIVERA



Arturo RIVERO



Pranav SHARMA



Ashutosh SINGH

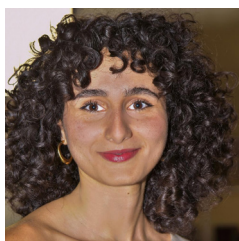
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Anna SKOULOUDAKI



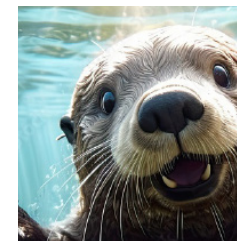
Dominik STAJKOWSKI



Varshini SUBRAMANIAN



Charlène
SURAULT CALOT



Nemetan TEIXEIRA RUA



Enzo
THIRIONT-BERNOLLE



Guillem TOCABENS



David VERNEY



Afonso VICENTE



Herlik WIBOWO



Jonathan WILSON

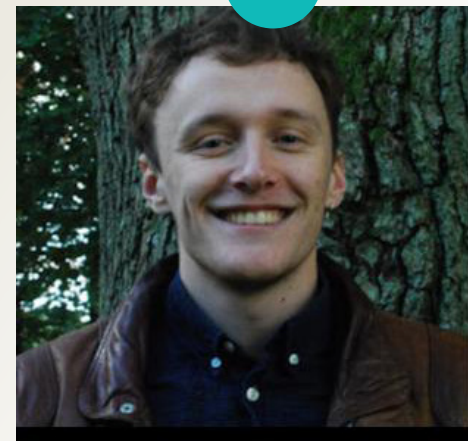
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Nils-Filip AGERT

CEA / CNRS

I'm Filip, a Swedish first year PhD student at CEA. My research currently focuses on precision calculation of the neutron+proton elastic scattering using pionless effective field theory (EFT) by fitting a nucleon-nucleon interaction. I implement rigorous uncertainty estimation to ensure high predictive power and statistical reliability to propagate uncertainties into reactor simulation codes. After this project is finished, I hope to go to apply EFTs in heavier systems while still retaining predictive power and rigorous statistics. I'd like to both apply EFTs in few-body systems as well as in many-body systems where beyond-mean field methods are required. Previously, I investigated the formation of superheavy elements in my master's thesis and a subsequent internship at GANIL in France. I used phenomenological models to model heavy-ion collisions to compute fusion probabilities. Here I worked on optimizing code performance and estimated uncertainties.

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Batool ALMASRI

LPC Caen

I am a first year PhD student at LPC Caen in nuclear experimental physics. My PhD thesis focuses on the structure of heavy carbon isotopes and the magic character of $N=16$

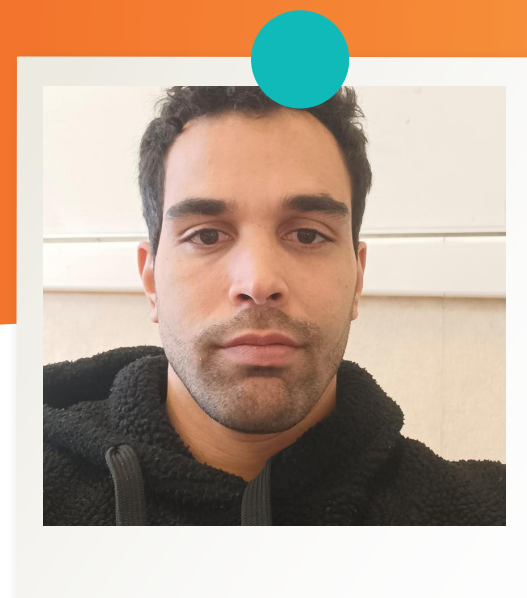
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Adrien ANDOCHE

CEA

My name is Adrien ANDOCHE, and I am a second-year postdoctoral researcher currently working at CEA, in the Laboratoire National Henri Becquerel. My work focuses on atomic electronic structure, with a particular interest in applying density functional theory to the calculation of microscopic observables. I have developed expertise in modelling radiative and radiationless processes following shell-vacancy creation, as well as beta-spectrum shapes that include electronic effects. More broadly, my skills lie in the accurate description of electronic structure at a high level of refinement, particularly within the RLDA framework. I am also interested in the quantum description of the nucleus and in learning more about the theoretical tools used to describe nucleons. This summer school represents a valuable opportunity for me to broaden my perspective, discover theoretical tools that may be relevant to my own field, and explore the connections between atomic and nuclear systems. Although these fields involve different energy scales, they are both fundamentally governed by quantum mechanics.

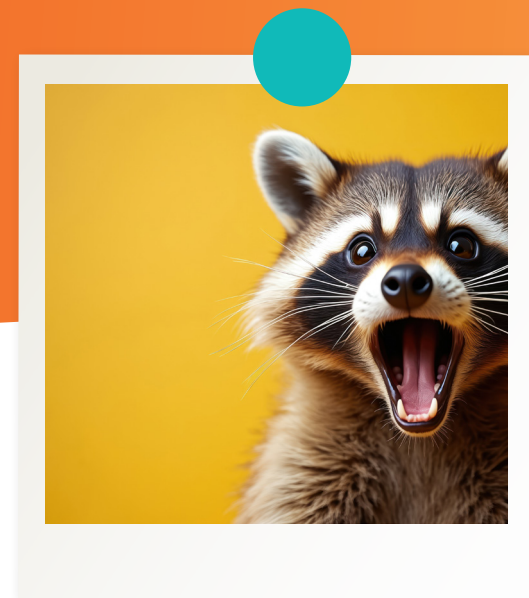
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Rémi BOCQUET

CEA

I am a fresh new PhD student in nuclear physics, focusing on theoretical description of structure of nuclei using quantum computers.

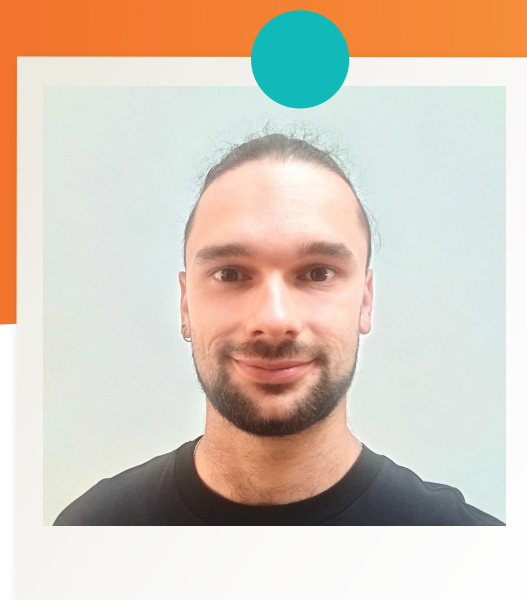
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Mathieu BOISSIER

CEA DES/DER/SPRC/LEPh

I am a first-year PhD student in experimental nuclear physics at CEA Cadarache. Before starting my PhD, I graduated in nuclear engineering from Phelma in Grenoble. My current research focuses on the experimental study of delayed neutrons, with an emphasis on the energy dependence of their associated data.

In parallel, I am interested in Monte Carlo simulations and their use in connecting experimental measurements with realistic modeling of physical processes. Although my work is mainly experimental and applied to nuclear reactors, I would like to better understand the theoretical ideas behind my research while also broadening my perspective to other areas of nuclear physics, such as nuclear astrophysics. I'm looking forward to meeting other PhD students and researchers with diverse backgrounds, and spending a few days in the stimulating and friendly environment of Oléron Island.

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Maylis BRUN

Laboratoire de Physique Corpusculaire de Caen

I am Maylis, a first year PhD student who lives in Caen, next to the sea. I am passionate about science and especially physics since my high school physics teacher unveiled the hidden world of atomic physics in front of my eyes. I always wanted to understand how the world works, so how about understanding its very first bricks ? This intuition led me to pursue science as my main subject in university and I am very proud to be now a PhD student, working on the laser spectroscopy and mass spectrometry of proton emitter isotopes of Thulium and Lutecium. My goal during those three years will be to probe the hyperfine structure of above-mentioned isotopes and add my "brick" of knowledge to the nuclear chart of electromagnetic moments.

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Caio Eduardo CABRAL DE VASCONCELLOS

CEA

I am a Brazilian PhD student in Nuclear Physics at CEA Paris-Saclay within the Laboratoire National Henri Becquerel. My research focuses on precise beta spectroscopy and the development of a new experimental setup for beta-gamma coincidence measurements. I am particularly interested in detector instrumentation, radiation spectroscopy, nuclear decay studies, and Monte Carlo simulations using GEANT4.

Before starting my PhD, I completed my Master's degree at the University of São Paulo, where I worked on the development and characterization of the "Nossa Caixa" gamma-ray spectrometer, a compact segmented detector array designed for particle-gamma coincidence measurements. During my academic journey, I have also worked on gamma-ray spectroscopy and lifetime measurements of excited nuclear states.

I am enthusiastic about experimental nuclear physics, the development of experimental setups, and international scientific collaboration.

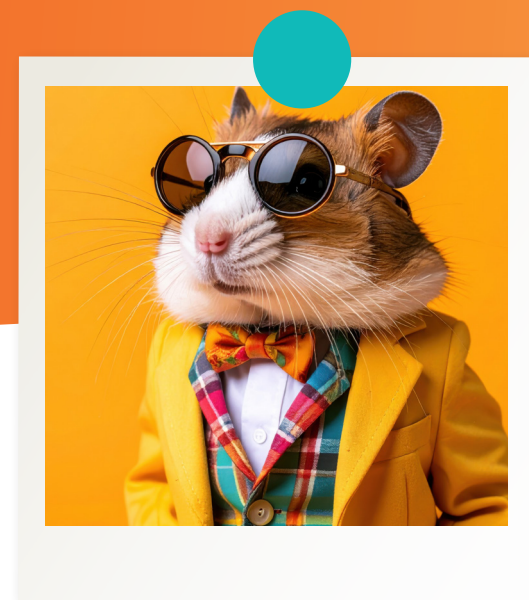
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Mohamad CHAMSEDDINE

IJClab

I am a postdoc at IJClab in Orsay, France. I work on a relativistic mean field model with aspects from QCD: chiral symmetry and confinement effects. The application of this model is for both nuclear matter and nuclear structure.

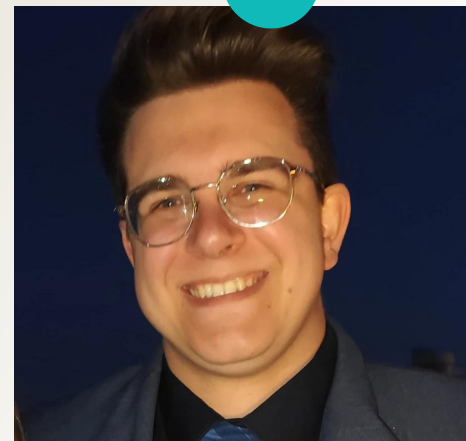
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Matheo COGUIC

CEA

I'm Matheo, 23 years old and a PhD Student about a new way to transfer protons and neutrons to produce heavy nuclei. I really like music (piano, electronic ect...) and motorcycle. I do a lot of trips with my car or my motorcycle to see some landscapes and to be disconnect from reality. I also like french gastronomy and other country gastronomy !

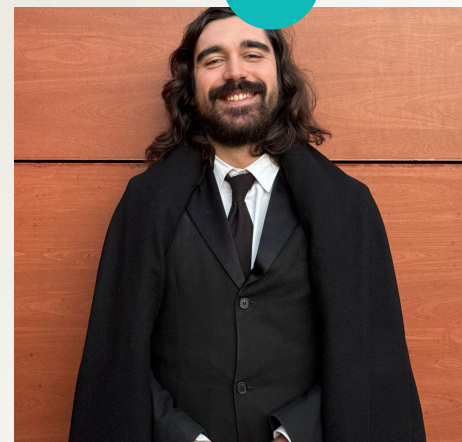
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Pedro COPETO

Technische Universität Darmstadt - Institute for Nuclear Physics (IKP)

Hi! I'm Pedro, a Portuguese PhD student at TU Darmstadt in Germany, where I work on hypernuclei — exotic nuclear systems where at least one nucleon is replaced by a hyperon. My research consists of detector development, simulations and hopefully some data analysis on the size of the hypertriton (if my experiment ever runs... as you may be aware, GSI burnt down...)

My background is in Physics Engineering, which, as it turns out, is a great way to learn a lot of physics while successfully avoiding the more theoretically demanding parts. Now that I got into my PhD, I've decided it's finally time to face the challenge, which is exactly why I'm here. Outside the lab, I love watching movies, reading, and pondering the big questions — like what is consciousness, the meaning of life, or the truly important ones: whether the next round is on me. Everything is best discussed over a cold beer with good company.

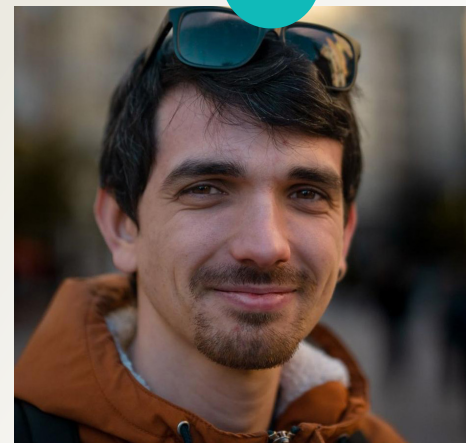
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Quentin DÉLIGNAC

IJCLab

I am currently postdoc at IJCLab and I am working on experiment on few-nucleons systems.

I did my PhD in nuclear physics, studying silicon isotopes between $N=20$ and $N=28$ using Coulomb excitation.

Currently, I am analysing GANIL experiment and looking for a potentially isobaric analog state of the tetra-neutron in the hydrogen-4 system.

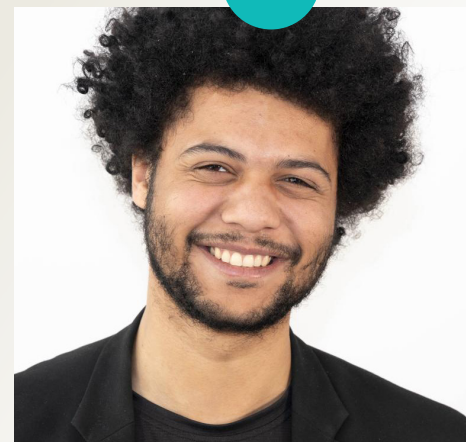
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Rodrigue DIDIER-PICHAT

IJCLab

I am a second-year PhD student at IJCLab (Université Paris-Saclay) working on Nuclear Structure Theory. My research focuses on four-body correlations in finite nuclei through two complementary approaches.

The first investigates how nucleons form pairs and how these pairs combine into quartets composed of two protons and two neutrons (alpha-like particles) within the Quartet Condensate Model.

The second aims at developing a relativistic mean-field framework to study interacting fermion (nucleon) and boson (alpha-cluster) degrees of freedom in finite nuclei in order to investigate the role of alpha clustering in nuclear structure.»

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Dominik DUDA

IFJ PAN

I am a PhD student at the Institute of Nuclear Physics of the Polish Academy of Sciences (IFJ PAN), where my research focuses on nuclear structure physics. My supervisor is Professor Piotr Bednarczyk. As an experimental nuclear physicist, I am involved in the development and application of detector systems for nuclear physics experiments. My current work is centered on the RFD detector, contributing to both its development and its use in experimental studies. My research combines detector instrumentation, experimental techniques, and data analysis to investigate the structure of atomic nuclei, with a particular interest in gamma-ray spectroscopy and nuclear reaction studies.

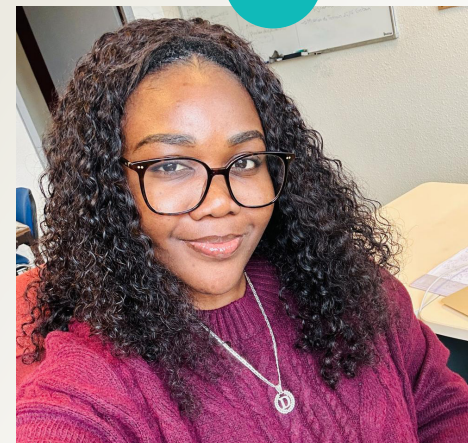
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Theory to shape experiments



Evaldi-Dominique DURASTANTI-RABENGA MONBO

IPHC/CNRS

Je suis Durastanti Rabenga Mombo Evaldie Dominique, de nationalité gabonaise, doctorante en physique dans le cadre d'une cotutelle entre l'Université des Sciences et Techniques de Masuku (USTM, Gabon) et l'Université de Strasbourg (UNISTRA, France). J'effectue mes recherches à l'Institut Pluridisciplinaire Hubert Curien (IPHC – CNRS), au sein du groupe DNE. Ma thèse est financée par la Fondation Schlumberger, une organisation internationale à but non lucratif qui soutient l'excellence scientifique des femmes dans les domaines des sciences, de la technologie, de l'ingénierie et des mathématiques (STEM). Mes travaux portent sur la physique nucléaire, plus précisément sur les réacteurs nucléaires naturels d'Oklo découverts au Gabon en 1972 par Le CEA, la radioactivité environnementale et leurs implications pour les conditions ayant favorisé l'émergence de la vie en générale sur Terre.

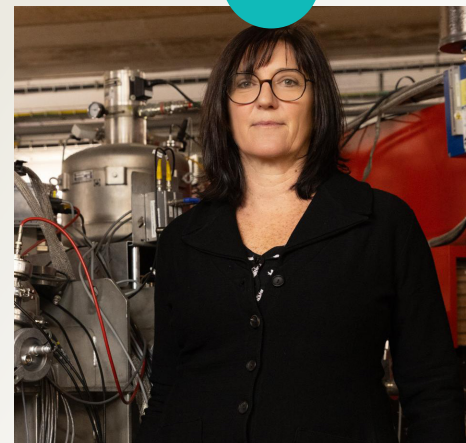
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Fanny FARGET

GANIL

Nuclear physicist, I am interested in nuclear fission and in particular the individual particle character of the nucleus (pairing and shell effects) that drive this collective phenomenon. I am an experimentalist !

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Rafael FRANCISCO

Laboratoire de Physique des 2 Infinis Irène Joliot Curie

I am a postdoctoral researcher in theoretical few-body physics, with a strong interest in universal phenomena in weakly bound quantum systems. My research focuses on few-body systems near the unitary limit, Efimov physics and the use of adiabatic hyperspherical and integral-equation approaches to describe cold-atoms and exotic nuclear structures. In my current work, I study universal models for neutron-rich halo nuclei, with particular attention to systems such as Carbon-22, where weak binding and large spatial extension make few-body correlations especially important. I am interested in connecting analytical theoretical frameworks with numerical calculations, including the computation of matter radii, density distributions, and binding-energy correlations.

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Alexia HOCINE

LPC Caen

Fascinated by astronomy, I specialised in computing and then in subatomic physics to understand how objects function at the level of their fundamental constituents.

Today, I am studying the nuclear matter found in the outer layers of neutron stars, using heavy-ion collisions produced at GANIL and detected by the INDRA-FAZIA multi-detector array.

What I enjoy about my work is its many facets: programming, data analysis, AI, theories, detector physics... But also its multidisciplinary nature; I also find it very interesting to extend this work into other disciplines, such as gravitational waves or particle physics, in order to understand these objects from a general perspective.

My results could help us understand the influence of this nuclear matter on neutrino transport during supernovae.

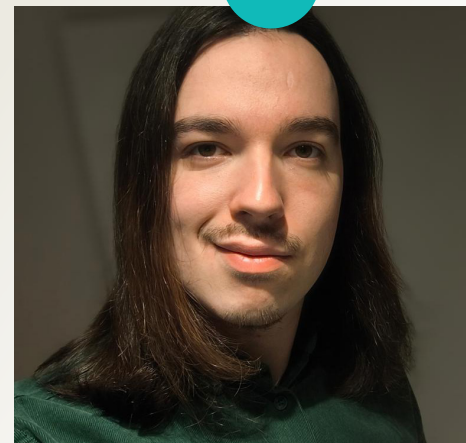
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Antoine JACQUET

CEA Cadarache

Hello, I am Antoine, a man passionate about physics (i have my preferences for theory !), good music, video games (how unusual, right ?), cooking, reading, board games and chess (i love chess). I also am fond of shiny things, nature and landscapes, good books and procrastination.

I am currently in my 1st year of PhD at CEA Cadarache, in theoretical nuclear physics : I am working with Photon Strength Functions, and more precisely with microscopic calculations (HFB+QRPA).

I would love to teach one day. This requires to have culture, among other things, which i do not have enough right now. I wish to learn everyday, amazing and curious information.

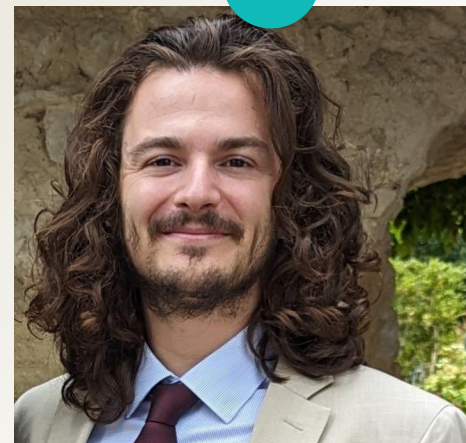
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Louis LALANNE

IJCLab

I'm Louis. I like lasers

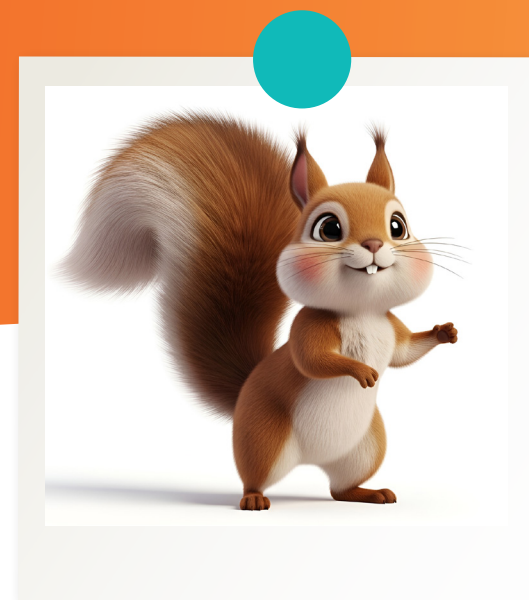
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Tommaso LA MARCA

University of Florence - INFN Firenze

I am a PhD Student from the University of Florence. I am involved in the study of Nuclear Structure through Gamma and Electron Spectroscopy techniques.

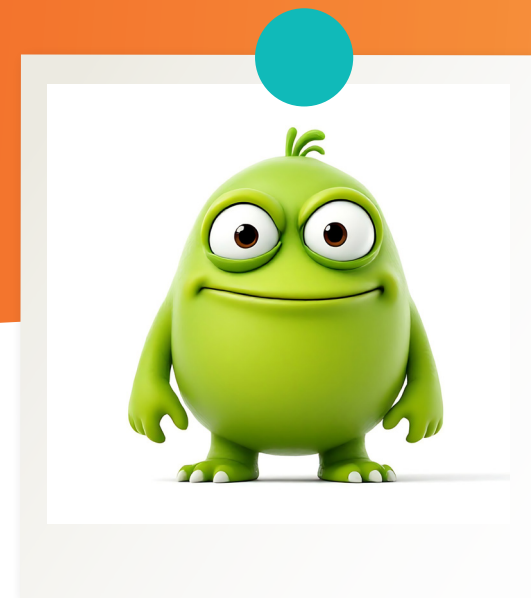
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Simon LECHNER

LP2i-B

I work on laser spectroscopy and mass measurements.

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Oscar LE NOAN

IPHC - CNRS - University of Strasbourg

I am a PhD student in theoretical nuclear physics at IPHC Strasbourg, working on the microscopic description of nuclear structure. My research focuses mainly on electric dipole responses in light nuclei, using configuration-interaction shell-model approaches to study giant and pygmy dipole resonances, and low-energy isovector and isoscalar dipole modes.

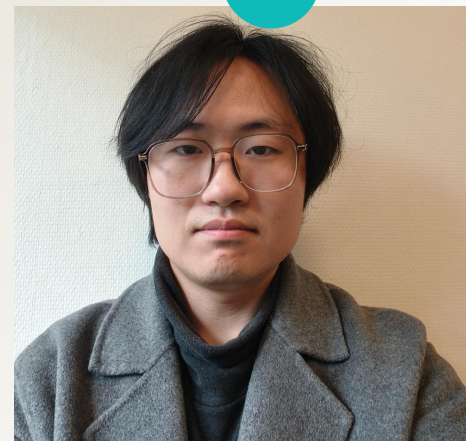
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Shiyu LIU

IJCLab

My name is Shiyu Liu, and I am a joint PhD student at IJCLAB, Université Paris-Saclay and Xi'an Jiaotong University (XJTU), China. My research focuses on the experimental study of neutron-induced fission of Th-232. In particular, I am interested in prompt fission products and their investigation through gamma spectroscopic methods. My work mainly involves the analysis of fission-product yields and the study of nuclear-reaction mechanisms using experimental nuclear physics techniques.

I am especially interested in topics related to fission and reaction dynamics, as well as in the connection between experimental observations and theoretical models. Through my PhD, I hope to deepen my understanding of fission processes and contribute to a better knowledge of neutron-induced reactions in actinides.

More broadly, I am very motivated to exchange ideas with researchers and students from different backgrounds and to broaden my perspective in nuclear physics.

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Juan LOIS FUENTES

LPC Caen

I'm an experimental nuclear physicist working at LPC Caen and a former PhD in IGFAE in Santiago de Compostela. My research lives at the heart of nuclear structure, studying nuclear shells and how they evolve in exotic systems.



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Ioannis MAVROUDIS

Aristotle University of Thessaloniki

I am a PhD candidate at the School of Physics of the Aristotle University of Thessaloniki (A.U.Th.). I received the Excellence Award from the Greek State Scholarships Foundation, as the first-ranked graduate, without exceeding the minimum required number of semesters for a Bachelor's degree in "Physics" (A.U.Th.). Then, I pursued a Master's degree in "Subatomic Physics and Technological Applications" (A.U.Th.), where my Master's thesis focused on the study of the outer crust of neutron stars in strongly quantizing magnetic fields. My current PhD work explores the exciting intersection of nuclear structure and astrophysics. I use Covariant Density Functional Theory (CDFT) to investigate finite nuclei under extreme magnetic fields, focusing on bulk properties and single-particle energies of critical r- and rp-process waiting-point nuclei. I am thrilled to attend this school as topics perfectly match my scientific interests. Finally, I have also been expanding my skills into machine learning and data analysis.

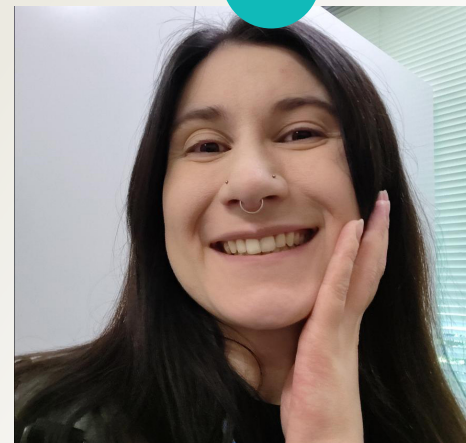
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Linda MÜLLER

University of Strasbourg - IPHC - CNRS

Originally from Luxembourg, I'm now a second-year PhD student at the IPHC in Strasbourg, France. I'm writing a thesis in experimental nuclear physics about the study of superheavy elements and the synthesis of elements beyond $Z = 118$.

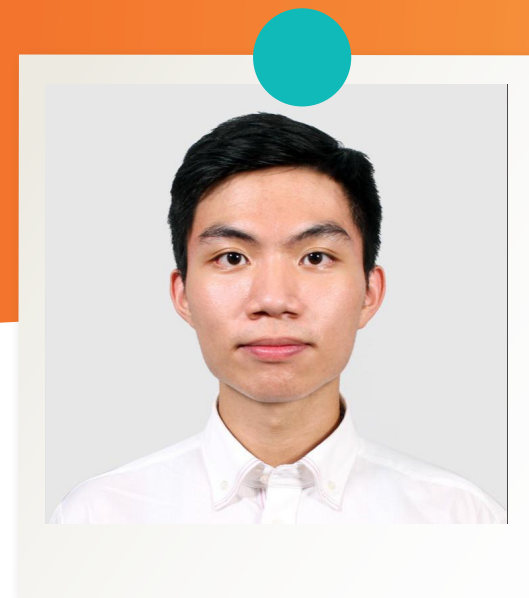
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Hoang Dang Khoa NGUYEN

IJCLab

I'm a PhD student at IJCLab (France) working under Dr Guillaume Hupin about application of ab initio theory in electroweak processes.

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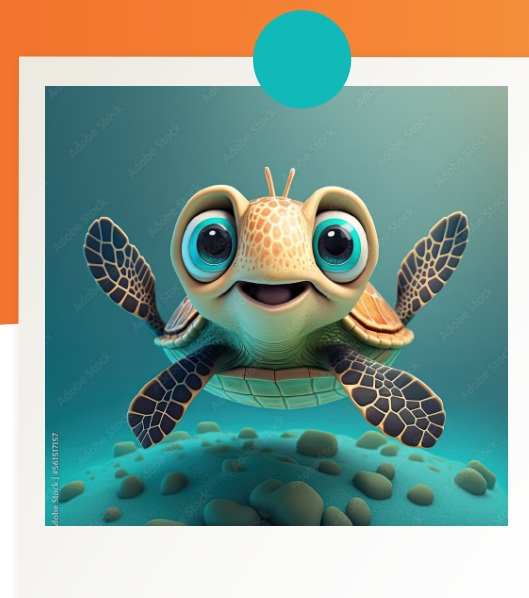


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Pablo NIETO GALLEGO

CEA

I'm Pablo from Spain. I'm a PhD student at CEA working on the microscopic description of nuclear fission.



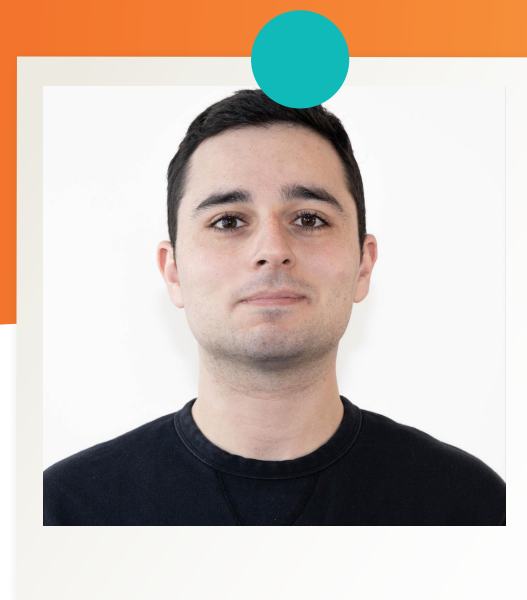
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Elia NSEIR

IJCLab

Elia NSEIR, second year PhD student at IJCLab (Orsay). I study the evolution of nuclear structure just above ^{78}Ni , by probing the decay of neutron-rich gallium isotopes. This work involves both experimental studies and theoretical calculations.

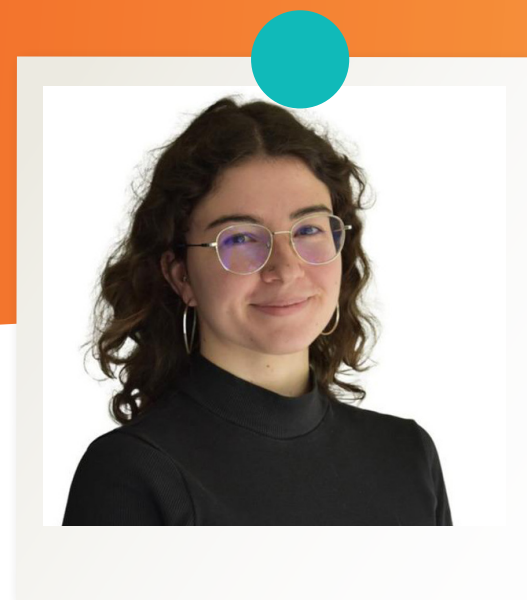
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Margarida PAULINO

GANIL

Hi! My name is Margarida Paulino and I'm a first year PhD student in the Heavy and Superheavy Elements group at GANIL. My current research focuses on decay spectroscopy of heavy and superheavy elements, aiming to better understand the structure of these exotic nuclei. I also work on the SIRIUS detection setup at GANIL and its upgrade to improve low-energy X-ray detection. Outside of my research, I enjoy traveling and reading.

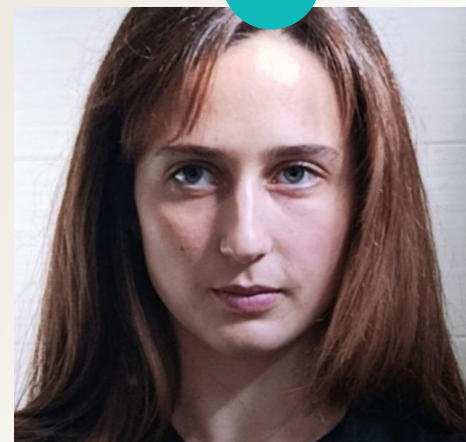
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Paula Pećanić

Department of Theoretical Physics, Faculty of Science, University of Zagreb

My name is Paula Pećanić, and I am a first-year PhD student and research assistant at the Department of Theoretical Physics, Faculty of Science, University of Zagreb. My research interests lie in nuclear astrophysics, with a focus on the theoretical description of nuclear structure and its role in astrophysical processes. I am particularly interested in how microscopic nuclear properties influence phenomena such as nucleosynthesis and the evolution of stellar systems. As part of my current research, I work on simulations of the r-process and its sensitivity to nuclear physics inputs.

Through my current work, I am developing a strong foundation in theoretical modeling and computational methods, and I am motivated to deepen my understanding of the connection between nuclear physics and astrophysical observations. I am especially interested in exchanging ideas with other participants and gaining new perspectives on current challenges in the field.

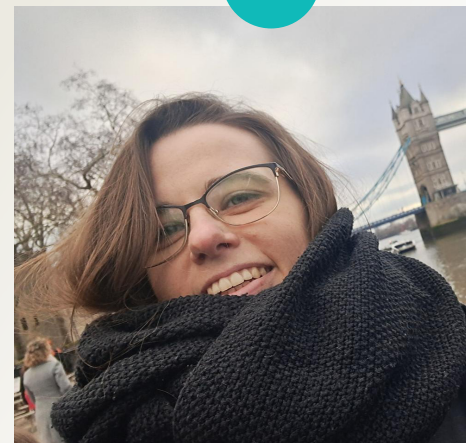
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Iwona Piętka

Heavy Ion Laboratory, University of Warsaw

I have always been fascinated by fundamental questions: How does it work? How is it built? This curiosity led me to nuclear physics, where I explore the structure of atomic nuclei. My research focuses on nuclear shapes and what they can reveal about the complex nature of matter at its most fundamental level.

Beyond the science itself, one of the most rewarding aspects of my work has been participating in nuclear physics experiments and collaborating with international research teams. These experiences have allowed me to meet remarkable people whose passion and expertise are truly inspiring. They have enriched not only my scientific work but also my outlook on the world.

Through the study of nuclear structure and shape, I hope to contribute to a deeper understanding of the fundamental building blocks of our universe.

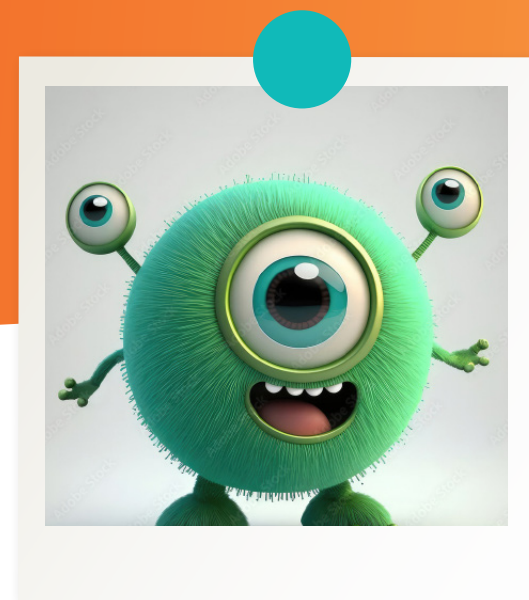
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Leo PLAGNOL

IJCLab, Orsay, France

I'm currently a postdoc at IJCLab working on the gamma spectroscopy of beta-decaying nuclei using tape stations. My research is oriented towards the study of shell closures, the presence of shape coexistence (such as around ^{78}Ni), and shell structure behaviour close to the (neutron) separation energies.

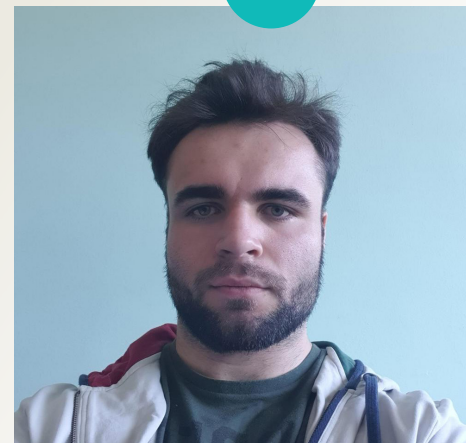
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Alessandro REGONESI

ED Physique de Grenoble

My name is Alessandro Regonesi, I'm from Milan and I studied at the Politecnico di Milano. I attended the physics engineering degree in my first three years and then I completed a double degree master program in nuclear engineering through a partnership between PoliMi and Grenoble INP Phelma. I am currently pursuing my PhD at the CEA Cadarache research centre in the field of nuclear data; specifically, I am working on the evaluation of fission yields and the application of fission models to account for incident neutron energy and to extend the JEFF library to cover high energies fission yields. I have a keen interest in the fields of nuclear physics, neutron physics, exotic nuclei and particle physics.

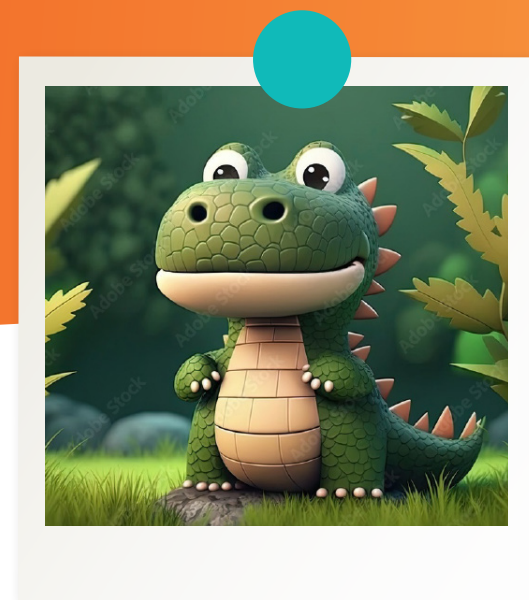
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Emmanuel REY-HERME

CEA/Irfu/DPhN

I'm a young staff scientist at CEA Saclay. I'm an experimentalist working on the study of heavy nuclei through low energy nuclear structure measurements (decay spectroscopy, mass measurement, laser spectroscopy), notably on the octupole deformation in the actinides.

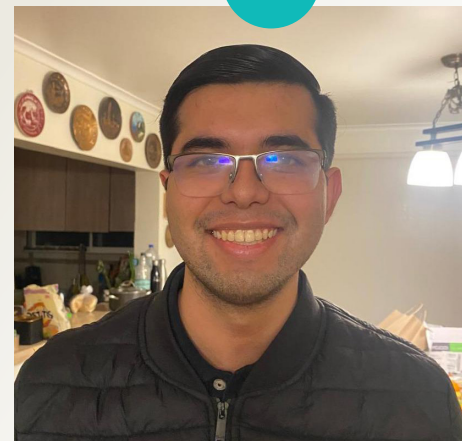
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Isaac RIVERA

Universidad de Chile

I am a Master's student at the University of Chile working under the supervision of Dr. Arellano. My research focuses on the description of deformed nuclei under the hypothesis of alpha-cluster models. This approach requires constructing effective potentials that incorporate the underlying geometric configurations suggested by binding energy indicators.

More broadly, I am interested in theoretical nuclear physics, especially in the development of effective models that relate microscopic interactions and quantum many-body problem.

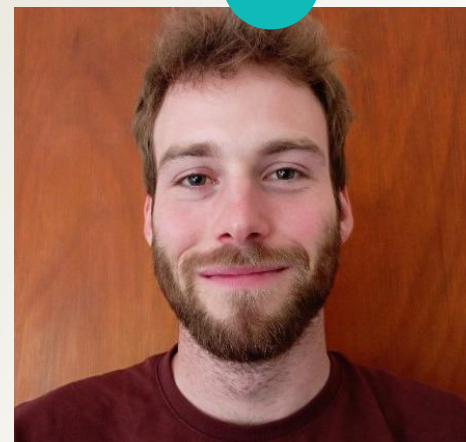
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Arturo RIVERO

LP2iB

I am a PhD student in theoretical nuclear physics in Bordeaux, where I completed all my studies. There, I mainly worked on the development of Hartree-Fock basis for closed-shell nuclei and on the microscopic construction of effective operators for ab initio calculations.

I am passionate about theoretical physics, whether in nuclear or particle physics. What I particularly enjoy in these fields is the mathematical and computational approach that they involve.

My ambition is to become a teacher-researcher, so I plan to take on a teaching assignment and aim to diversify my experience slightly, while staying focused on what interests me the most.

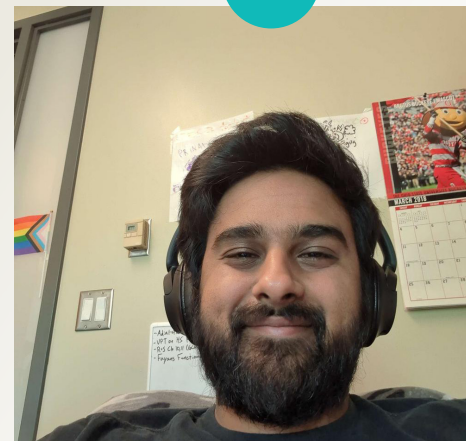
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Pranav SHARMA

Ohio State University

I'm focusing on path integral methods for describing collectivity in nuclei. I've looked at approaches for incorporating collective fields into the calculation of EDFs, and for removing zero modes for symmetry restoration by adding a collective coordinate via BRST quantization

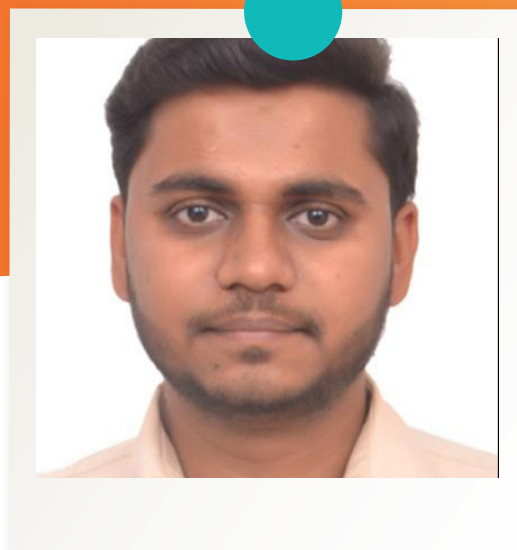
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Ashutosh SINGH

IJCLab, CNRS/IN2P3, Université Paris-Saclay

I am a postdoctoral researcher at IJCLab specializing in computational nuclear physics and quantum information science. My research bridges nuclear many-body theory and quantum computing, with a primary focus on simulating open quantum systems. During my PhD, I developed variational quantum algorithms to simulate nuclear resonance phenomena, notably applying the complex scaling method to address non-Hermitian Hamiltonians on quantum hardware using Qiskit. Currently, my work centers on developing scalable quantum simulations for complex nuclear systems and exploring quantum entanglement within many-body frameworks. I am particularly focused on extending these quantum computational methods to few-body systems to extract resonances.

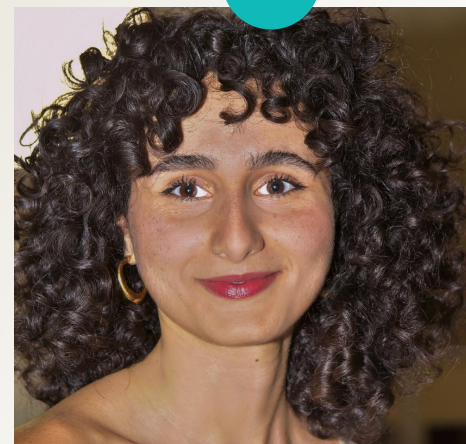
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Anna SKOULOUDAKI

CEA CADARACHE

I am a first-year PhD student at CEA Cadarache, originally from Greece. I completed a five-year diploma in Applied Mathematical and Physical Sciences, followed by a Master's degree in Nuclear Physics, both at the National and Technical University of Athens. My current research focuses on nuclear fission, through the PhD project "Experimental and Theoretical Studies of the Fission Fragment Excitation Energy and Angular Momentum Generation." My work combines experimental and theoretical approaches, with measurements performed at the PNI-LOHENGRIN recoil spectrometer at the Institut Laue-Langevin in Grenoble and use of the FIFRELIN de-excitation code. I am particularly motivated by the opportunity to participate in all stages of research, from measurements to data analysis and theoretical interpretation. Beyond science, I enjoy reading, painting, practicing yoga and I love swimming, especially in the sea during summer.

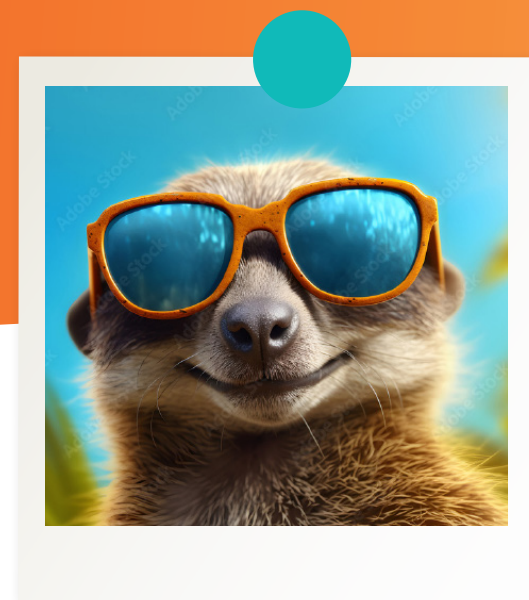
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Dominik STAJKOWSKI

University of Birmingham

I completed my postgraduate degree at the University of Birmingham and am currently pursuing a PhD in nuclear physics at the same institution. My research interests include indirect methods for investigating astrophysically relevant cross sections, as well as nuclear structure, particularly nuclear clustering.

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Varshini SUBRAMANIAN

University of Potsdam, Germany

I am a Master's student at the University of Potsdam in Germany, currently in my second year. I completed courses in Multi-Messenger Astrophysics, Nuclear Astrophysics and Compact Objects in my first year. I am now working on my Master's thesis, modelling the neutron star equation of state using relativistic mean-field theory under the guidance of Dr Guilherme Grams and Prof. Dr Tim Dietrich. I am also part of the Theoretical Astrophysics group at the university.

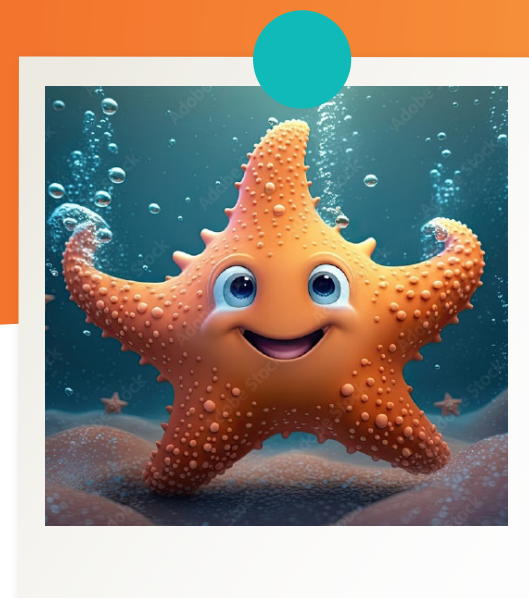
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Charlène SURAULT CALOT

CEA

Hi, I am Charlène, a 24-25 years old (depending on when you read this) French physicist from Compiègne. I am a Master's student at ENS Paris-Saclay, doing an internship at CEA. I am currently working on creating a new detector based on proton recoil to measure PFNS. The goal would be to ultimately obtain better resolution on the californium-252 spectra which is used as a standard for calibration. My background lies mostly on electrical engineering, rather than nuclear physics. I am to pursue my research for a PhD with the same team, starting in October. With this summer school, I hope to extend my knowledge of theoretical nuclear physics, which may prove useful in the near future.

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Nemetan TEIXEIRA RUA

CEA Cadarache - IRESNE/DER/SPRC/LEPh

I am Nemetan, 23 years old, and I am a PhD student at the CEA Cadarache research center, where I work on fission yields; that's the probability of producing different isotopes through nuclear fission.

Globally, my work is shared between the comparison of old experiments to make evaluations, which corresponds to determining the most probable value of the fission yield for an isotope, and conducting experiments on the LOHENGRIN instrument at the ILL (Institut Laue-Langevin in Grenoble) to determine some of the fission yields.

This may help us learn more about the fission, especially by looking at the charge polarization of the fission fragments.

Before starting my PhD on fission, I studied fundamental physics and nuclear reactor physics first at Rennes 1 University and then at Paris-Saclay University and CEA Saclay.

When I'm not studying fission, I enjoy hiking in the Alps and climbing at the top of the mountains.

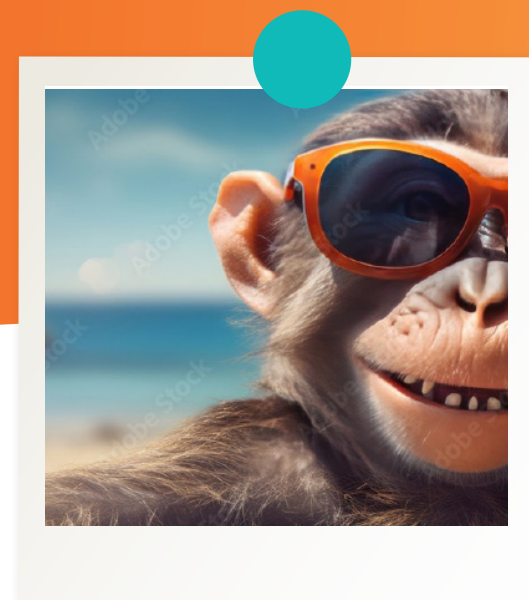
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Enzo THIRIONT-BERNOLLE

Cea Dam

We are developing an emulator for nuclear many-body calculations based on Eigenvector Continuation (EC), a reduced-basis method applicable to both ab initio Hamiltonians and Energy Density Functional (EDF) approaches.

The method exploits the observation that the parametric evolution of low-lying eigenvectors is confined to a low-dimensional manifold within the full Hilbert space. A reduced variational subspace is constructed from a set of representative eigenvectors computed at selected parameter values, and the Hamiltonian is then projected onto this subspace. This allows eigenvalues and eigenvectors at new parameter sets to be predicted rapidly, at a fraction of the original computational cost.

This approach provides an efficient surrogate model for nuclear structure calculations while preserving high accuracy, making it particularly well-suited to uncertainty quantification, parameter optimization, and large-scale exploration of nuclear interactions.

Beyond this, I have a broader interest in group theory, geometry — particularly symplectic geometry — and integrable systems.

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Guillem TOCABENS

IJCLab

I am working in the field of nuclear structure, trying to study the shape of the nucleus, especially neutron rich nuclei produced using the ISOL technique. I mainly use decay spectroscopy and innovative observables, such as conversion electrons, in order to do so.

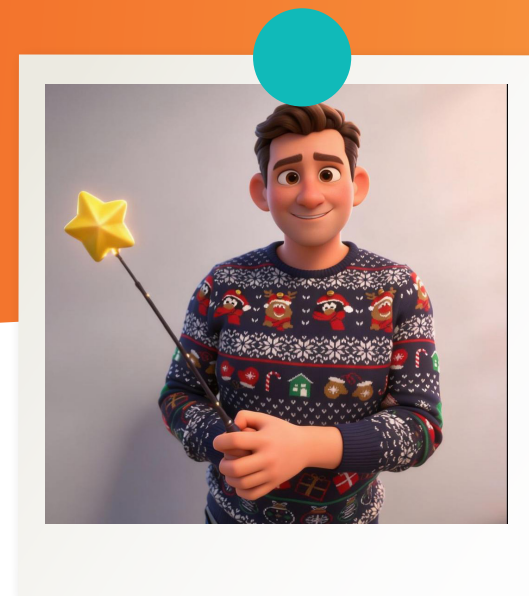
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David VERNEY

IJCLab

Experimental nuclear physicist at IJCLab working on nuclear structure far from stability, with a particular interest in shell evolution, β -delayed spectroscopy and the structure of states above the neutron emission threshold. I am involved in the development of decay-spectroscopy instrumentation at ALTO and in preparing future low-energy ISOL programmes at DESIR and S3-LEB.

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Alfonso VICENTE

IJCLab

I'm Alfonso and I started my PhD last November at IJCLab to explore possible new sources of symmetry violation within nuclei. My passion lies in the exploration of experimental techniques to tackle more fundamental questions. The possibility to design, assembly and work with experimental setups for nuclear physics has always been a dream of mine. Currently, I am fascinated by how laser spectroscopy can probe the structure of nuclei and their properties. Having studied and lived all my life in Portugal, I decided to go abroad to pursue this passion. Aside from Physics, I find myself drawn to other topics, namely philosophy, politics and their impact on culture. In my spare time, I like to read a good book or learn a new song on the guitar. Finally, I believe that a day spent with friends, doing activities like hiking in Nature, going to the beach or exploring a city, is always a day well spent!

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Herlik WIBOWO

School of Physics, Engineering and Technology, University of York

Herlik Wibowo is a postdoctoral research associate (PDRA) at the University of York, UK. He received a Ph.D. in theoretical low-energy nuclear physics from Western Michigan University, USA, under the supervision of Professor Elena Litvinova. Before working with Professor Jacek Dobaczewski (now Emeritus) at the University of York, Herlik was a postdoctoral fellow at the Institute of Physics, Academia Sinica, Taiwan, under the supervision of Dr. Meng-Ru Wu. His current research focuses on electromagnetic and exotic nuclear moments, such as electric quadrupole, magnetic dipole, electric octupole, Schiff, and anapole moments, studied using nuclear density functional theory (DFT).

13-18 September 2026
St Pierre d'Oléron | FRANCE



Committee Speaker Participant



Theory to shape experiments



Jonathan WILSON

IJC Lab CNRS Researcher at IJC Lab

Research interests are experimental studies of nuclear fission, nuclear structure, neutron-induced reactions, fast neutron production and applications for energy and tomographic imaging.

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