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nuclei, neutrons, neutrinos

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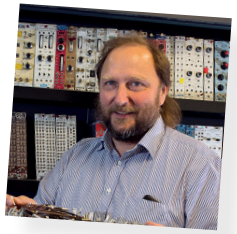

Bertram BLANK

Fanny CADOU

Pascale CHAMBON

Stéphane GREVY

Stéphanie ROCCIA

Loïc THULLIEZ

Maud VERSTEEGEN

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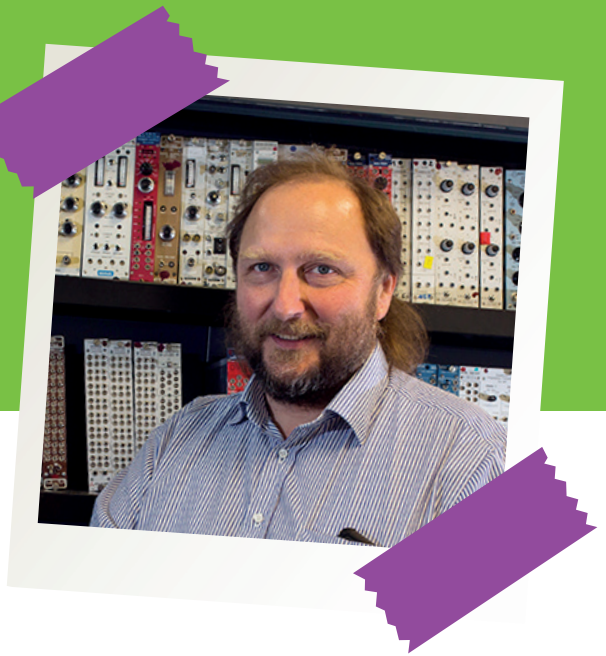

I am Bertram Blank, a senior researcher from LP2i Bordeaux, better known as CENBG. I am an experimentalist working
with exotic nuclei and studying details of the weak interaction by means of nuclear beta decay. I do experiments at GANIL,
ISOLDE, Jyväskylä, RIKEN, GSI, TRIUMF, MSU.....

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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 technics (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.

Stéphane GRÉVY

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Stéphanie ROCCIA

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nuclei, neutrons, neutrinos

I am an experimental physicist working at CEA-Saclay. I have started to study the nuclear fission reaction during my PhD. Now my activities mainly focus on the developement of compact accelerator driven neutron sources (CANS) in the framework of the ICONE and IPHI-Neutrons projects. Within the CRAB collaboration, I am also developing new calibration technics using neutrons for cryogenic detectors used in dark matter and neutrino experiments.

Loïc THULLIEZ

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I am an experimental physicist at LP2I Bordeaux, working on tests of the Standard Model in the weak sector using nuclear beta decay. I defended my PhD in 2009 in Grenoble, on the strange quark contribution to the nucleon electromagnetic structure. I am now part of the WISArD experiment, which is currently installed at ISOLDE to probe the existence of scalar and tensor currents in the weak interaction. I am also teaching Physics at Bordeaux University.

Maud VERSTEEGEN

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Adam FALKOWSKI

Muriel FALLOT

Martin GONZALEZ-ALONSO

Guillaume PIGNOL

Nathal SEVERIJNS

Torsten SOLDNER

Cristina VOLPE

Anastasia ZOLOTAROVA

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I am a theoretical physicist working on a wide range of topics in particle physics.
My main specialty is effective field theories, especially in relation with new physics searches in high-energy collider and low-energy precision experiments.
I am also interested in cosmology and astrophysics, as well as in the more formal topic of modern S-matrix methods.

Adam FALKOWSKI

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Muriel FALLOT

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I'm a theoretical physicist working at IFIC (Universitat de València / CSIC, Spain). My research focuses on the study of high-precision experiments, their implications for the search of new phenomena and their synergy with high-energy measurements. There is a wide variety of high-precision measurements that I'm interested in, including neutron and nuclear beta decays, flavor physics, precision collider data and neutrino physics. I have worked significantly with Effective Field Theory techniques, which allow one to carry out these studies in a model-independent framework.

Martin GONZALEZ-ALONSO

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nuclei, neutrons, neutrinos

I work in the field of precision tests of fundamental symmetries, mainly doing experiments with ultracold neutrons.
Presently I am co-spokesperson of the nEDM collaboration.
We are conducting a long term program at the Paul Scherrer Institute in Switzerland, to measure the electric dipole moment (EDM) of the neutron in order to test CP symmetry.
We have produced the best upper limit on the neutron EDM in 2020, and we are now installing the n2EDM experiment.
With my team at the LPSC in Grenoble we are contributing in various aspects, in particular we are developing quantum magnetometry.
Also, I teach subatomic physics at the Grenoble University as associate professor.

Guillaume PIGNOL

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I am a full professor at KU Leuven University, Belgium. I started my career in nuclear structure physics but moved rather soon to the study of fundamental aspects of the weak interaction at low energy. For this my team focuses on experiments, most of the time in international collaborations, that use nuclear and neutron beta decay as well as free neutrons as probes. Physics topics investigated are right-handed weak currents, searches for scalar or tensor components in the weak interaction, time-reversal violation, and weak magnetism which is an effect induced in weak interaction processes by the strong interaction. Experiments are performed at radioactive ion beam facilities, at present mostly at ISOLDE-CERN, and at the ultracold neutron facility of the Paul Scherrer Institute.
My interest in sustainability also led me to investigate which new nuclear technologies (i.e. Generation IV and Small Modular Reactors) could contribute to sustainable energy/electricity production. The most important criteria in this are safety as well as ecological and social aspects. Since 2016 I am also teaching with colleagues from other faculties a bachelor and a master course on sustainability. These are mainly focusing on using systems thinking to find the key elements and stakeholders of sustainability issues such as climate change and biodiversity loss, and then try to search for possible paths to a solution via a co-creation process that ideally matches the full complexity of the problem. Finally, I am coordinating since eleven years the master of medical physics program at KU Leuven which was completely renewed in the last few years.

Nathal SEVERIJNS

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nuclei, neutrons, neutrinos

I am a theoretician and phenomenologist in neutrino physics and its interfaces with astrophysics, cosmology and nuclear physics.

Cristina VOLPE

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I am reseracher based in CEA-Saclay, France. My main domain of research is neutrino physics investigation via neutrinoless double beta decay studies. The experimental technique is cryogenic detectors at ultralow temperatures. I have worked on development of one of the leading demonstrator experiments in this domain, CUPID-Mo and now I moved to the ton-scale experiment preparation. The filed of cyrogenic bolometers is rather «young», and there are a lot of interesting aspects of this technology that has to be investigated, so I am involved not only in neutrino physics study but also the phonon and solid state physics.

Anastasia ZOLOTAROVA

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Gaël CRAVEIRO


Benjamin BALLY


Katia MICHIELSEN


Tom NEULINGER


Luis Miguel Motilla MARTINEZ


Quentin DELIGNAC


Yonghyun SON


Anu NAGPAL


Ksenija SVIRINA


Camille BERTHELOT


Xavier FLECHARD


Jean-Charles THOMAS


Bernadette REBEIRO


Mathias GERBAUX


Pierre DE MARCILLAC


Romain GARREAU


Duy DUC DAO


Alberto José SAAVEDRA GARCÍA


Marius LE JOUBIOUX


Simon VANLANGENDONCK

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Jérôme GIOVINAZZO


LEJUEZ


Ghnashyam GUPTA


Osama YAGHI

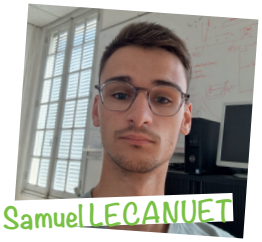

Lucas BEGUE-GUILLOU


Karina BERNERT


Pierre CHARPENTIER


Ren LI

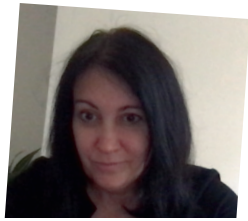

Giacomo ACCORTO


Samuel LECANUET


Benito GONGORA SERVIN


Judith VANKEIRSBILCK


Julien PÉPIN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Indu JANGID


Charlotte KNAPEN


Massyl KACI

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I am a post-doc researcher at CEA, Bruyères-le-Châtel. I am a nuclear physics theoretician, and my research is mainly focused on the nuclear fission process. I have investigated and employed the EDF framework and studied ways to improve it.

Giacomo ACCORTO

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Benjamin BALLY

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I'm currently working as a pre-doctorate student in Prof. de Groote's group in KU Leuven. My current work is related to developing a Doppler-free saturated absorption spectroscopy setup. My motivation to attend this school overlaps with my Phd topic 'Developing polarization techniques in ion traps for new physics searches' that I will proceed with right after my pre-doc.

Priyanka BARIK

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Lucas BEGUE-GUILLOU

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nuclei, neutrons, neutrinos

I am a PhD student at the Technical University of Munich. My main project is the developement of a prototype detector to be used as a backscatter detector in the new PERC spectrometer, currently being set up at the research reactor FRM II in Garching, Germany. We aim to study the free neutron decay and its correlation coefficients using high precision spectroscopy. By improving on current limits of the correlation coefficents, we test the Standard Model weak interaction and look for BSM physics. This year's EJC is of special interest to me, and I look forward to learning more and getting a chance to connect to other scientists.

In my free time, I enjoy cooking, going for walks, meeting friends and going to the gym.

Karina BERNERT

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nuclei, neutrons, neutrinos

Hi ! I'm a PhD student working at LP2i in Bordeaux. I'm working on the NECTAR project, aiming to study nuclear reactions at storage rings. After a first experiment in 2022 to determine neutron-induced cross-sections of 208Pb, my work is focused on the second experiment, planned in 2024, to perform the same analysis on 238U. The challenge for this part of the project is mainly to succeed in detecting fission in the ESR storage ring (GSI, Darmstadt).

I enjoy gaming, sewing, origami, collecting rocks and playing bass.

Camille BERTHELOT

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I'm a PhD student at LP2i at Bordeaux on the R2D2 R&D project.

Pierre CHARPENTIER

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BEYOND THE STANDARD MODEL OF WEAK INTERACTION:

nuclei, neutrons, neutrinos

I am a first year PhD student in nuclear physics at CEA Paris-Saclay. I am studying beta spectroscopy for applications in ionizing radiation metrology and fundamental physics. The main goal of my thesis is to improve the modelling of beta forbidden transitions contributing to the reactor antineutrino spectrum. To do this, several beta transitions are being measured very precisely. These measurements require an improvement of the existing apparatus (detectors, numerical acquisition), very accurate Monte Carlo simulations, spectral unfolding to eliminate detection distortions (scattering, bremsstrahlung), and the development of a robust methodology to establish the measurement uncertainties including correlations. Besides my research, I like to work out and go out with my friends.

CEA Paris-Saclay, France

Gaël CRAVEIRO

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I am a second year PhD student in LP2I Bordeaux. I am working on nuclear structure in exotic nuclei. To be more precise, I am studying silicon isotopes (Z=14) between N=20 and N=28. During LISE2022 campaign at GANIL, we performed two experiments. The first one studied the proton inelastic scattering with ACTAR-TPC and the second one was Coulomb Excitation with gamma detectors. Both were set up in «Brochette Mode», same beam at the same time. My thesis is based on the analysis of Coulomb excitation experiment. I spend my free time playing video game, watching series or hanging out with colleagues.

Quentin DELIGNAC

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Instrumentalist. I am working on low temperature detectors -bolometers- for spectroscopy and fundamental physics (neutrino experiments)

Pierre DE MARCILLAC

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I'm a young researcher in the Theory Group at the Pluridisciplinary Institut of Hubert Curien (IPHC), Strasbourg, France. Main research themes of our group cover nuclear structure and reaction studies from few-body systems to heavy nuclei. My current research focuses on nuclear structure aspects and on developments of new theoretical tools with the aim to study exotic systems and have new possibilities to investigate fundamental processes such as the double-beta decay. Apart from working, I enjoy traveling, reading and discovering new places. IPHC, Strasbourg, France

Duy DUC DAO

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I am a French experimental physicist from LPC Caen. After a PhD and a postdoc in atomic physics, in the field of ion atom collisions and cold atoms, I was recruited by the CNRS in 2001 to work on precision measurements in nuclear beta decay. Since then, I spend most of my research time on experiments at low energy whose aim is to test the Standard Model of elementary particles, such as LPCTrap, 6He@CENPA, WISArD, MORA and bSTILED. I also kept a foot in atomic Physics to study relaxation processes in ion-cluster collisions and contribute to instrumental developments such as S3-LEB.

Xavier FLECHARD

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nuclei, neutrons, neutrinos

I am a PhD student in the Atominstitut (TU Wien), Vienna. I am currenly at the end of my 1st year, and I am part of the Neutron Group, where I work on a proof-of-principle experiment, CREScent, aiming for a new high-precise beta spectroscopy technique, which could play a key role in the new generation of beta decay experiments, like PERC. Beside science, I like reading, playing a variety of musical instruments, playing both board games and videogames, and spending time with family and friends.

Alberto José SAAVEDRA GARCÍA

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Romain GARREAU

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After studying electron and proton acceleration through laser-plasma interaction during my PhD, I shifted to the topic of high gradient accelerating RF structures during a fellowship at CERN. I then joined the Exotic Nuclei group at CENBG (now LP2iB) to start developing ion traps in the framework of the SPIRAL2/DESIR project. We built the General Purpose Ion Buncher (GPIB) that will be the cooler and buncher for all the beams going to the DESIR hall in GANIL and PIPERADE, a double Penning trap system dedicated both to beam purification and nuclear mass measurement. Beyond these activities, I'm also involved in the other group activities on exotic radioactivities and Standard Model tests through high precision studies of β decays.

Half of my working time is also devoted to teaching at the University of Bordeaux, mainly about nuclear physics and electromagnetics.

Mathias GERBAUX

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My research activity in experimental nuclear physics, is carried out on several international facilities.
It mainly focuses on exotic decay modes of nuclei at the drip-line, but I am also involded in studies related to the Standard Model weak interaction and based on nuclear beta decay.
I am working at the LP2i laboratory of Bordeaux, as a CNRS researcher.

Jérôme GIOVINAZZO

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I'm from a far away country, Mexico. I'm a PhD student of the University of Ferrara and currently I'm working at the Laboratorio Nazionale di Legnaro (INFN), in Italy. My thesis is about anomalies in internal pair creation in 8Be and nuclear structure in Pt isotopes.

Benito GONGORA SERVIN

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I am a 3rd-year doctoral student at Jagiellonian University, Krakow, Poland. Currently, I am working on the development of BRAND experimental activities. The title of my thesis is «BRAND: Probing physics beyond the Standard Model using correlation coefficients in neutron beta decay». The neutron decay is an interesting probe to measure physics beyond the Standard Model (BSM) via transverse polarization-dependent correlation coefficients. Apart from my main activity, I spent time improving my cooking skills, playing chess, hiking, and reading about political, psychological, social, and cultural developments around the globe.

Ghnashyam GUPTA

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I am a first-year PhD student in GANIL, Caen, France. My thesis title is «FISSION STUDIES WITH VAMOS++ AND FALSTAFF SPECTROMETERS». In VAMOS (VAriable MOde Spectrometer) at GANIL, the inverse kinematics technique is used to access the nuclear charge information and high-resolution fragment. With the VAMOS magnetic spectrometer, only one fission fragment can be identified at a time. In my experiment, the FALSTAFF (Four Arm cLover for the Study of Actinide Fission Fragments) spectrometer had used to detect the second fission fragment. The aim of my thesis is to analysis the VAMOS and FALSTAFF spectrometers in order to determine the full identification of both fission fragments.

In my hobbies: I like cooking, sewing, and traveling.

Indu JANGID

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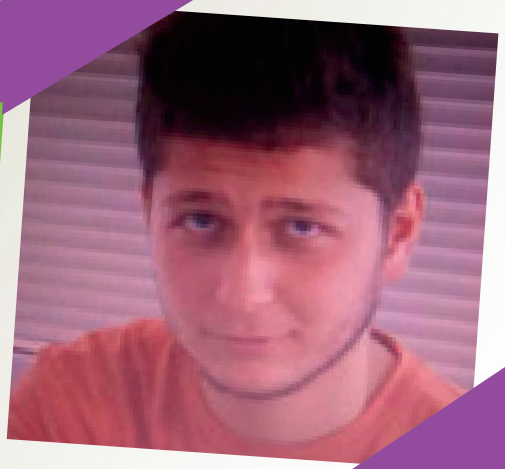

I am a starting the 3rd year of my PhD at IJCLab, within Paris Saclay University. My thesis research aims at the gamma-ray spectroscopy of the neutron-rich 79Cu nucleus in the vicinity of the doubly magic 78Ni. To achive this, I'm analysing data from RIKEN that we got from the 2021 HiCARI experiment.

Massyl KACI

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BEYOND THE STANDARD MODEL OF WEAK INTERACTION:

nuclei, neutrons, neutrinos

I recently finished my master degree in physics at the KU Leuven. For my master thesis I inves;gated Si(Li) detectors with regards to their use for measuring beta spectrum shapes. In September I will start a PhD in the same group to con;nue inves;ga;ng beta spectrum shapes using Si(Li) detectors. The aim of the project is to use high precision beta spectrum shape measurements to study proper;es of the weak interac;on at low-energy, and possibly to probe physics beyond the Standard Model.

During my free ;me, I enjoy kniJng and sewing.

Charlotte KNAPEN

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I'm in my first year of a PhD program at the University of Bordeaux, affiliated with the Laboratoire de Physique des 2 Infinis. My PhD thesis is centered on the WISArD (Weak Interaction Studies on Argon 32 Decay) experiment conducted at ISOLDE, CERN. The objective is to enhance the precision of measurements for the coupling constants that describe the Weak Interaction, with the aim of exploring exotic physics beyond the Standard Model. My work involves upgrading the experimental setup and conducting Geant4 simulations to facilitate a comparative analysis of these two approaches.

Samuel LECANUET

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Marius LE JOUBIOUX

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I am postdoctoral fellow from KU Leuven working on n2EDM at PSI about Cs magnetometer array and the offline analysis of its new DAQ, which aims at looking for new source of CP violation and understanding mater-antimatter asymmetry in Universe. I performed my Ph.D. study at IJCLab, University Paris-Saclay on precise measurement of Gamow-Teller strength [B(GT)] and its distribution of exotic nucleus 80g+mGa and investigating the quenching factor of gA/gV used to describe weak interaction in nuclei.
Apart of science, I am interested in pingpang, badminton, snooker and hiking.

Ren LI

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Researcher at LP2i-Bordeaux, I am working on new Physics beyond the Standard Model searching for neutrinoless double beta decay. Currently involved in the SuperNEMO international project taking data at the LSM underground laboratory I also contribute to the LiquidO R&D which is developing a new technology of particle detection.

Christine MARQUET

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I am a PhD student collaborating in GANIL and JYU, working in the MORA project. MORA aims to measure the triple D correlation in the beta decay, term related to CP violation, which could give further insights in the origin of matter in the universe. For this, we detect the coincidences between betas and recoil ions from trapped radioactive ions. I come from a theoretical background but my main work here is laboratory and data analysis, which I am enjoying pretty much. Right now I'm in Jyväskylä, where we have our setup (in IGISOL). Apart from physics I also enjoy cooking, parties and sports, among many other things, specially if I am with my friends.

Luis Miguel Motilla MARTINEZ

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After six months working on the muon electric dipole moment (EDM) at Paul Scherrer Institute (PSI) in Switzerland, I just started my PhD in the Ultra Cold Neutron group of Laboratoire de Physique des Particules et Cosmologie, Grenoble. The precision experiment n2EDM is an international collaboration looking for new physics and is currently being taken into operation. I will focus on quantum magnetometry and spin decorrelation. At PSI I have been devising a fast-response magnetometer based on the Faraday effect for measuring the transient field produced by a kicker inside the muEDM experiment currently being built. These electric and magnetic field measurements are important for being sure systematic effects are not leading to an EDM-like signal. I am a committed rower, hiker and biker and I love to play chamber music with the flute or street music with the trombone. I am looking forward to meeting you at Ile d'Oleron!

Katia MICHIELSEN

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I am working with the atomic codes to improve the description of nuclear magnetic moments and determine reliable magnetic corrections to the atomic hyperfine structure with the help of Nuclear density functional theory.

Anu NAGPAL

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Am a postdoc at the Institut Laue-Langevin in Grenoble, France. I got my PhD in 2021 at the University of Illinois, working on ultracold neutron (UCN) storage as part of the PanEDM collaboration, an experimental effort to measure a CP-violating neutron electric dipole moment. I am currently working on experiments with UCN, and on developing instrumentation for the spectroscopy of very cold neutrons.

In this year's school, I am looking forward to branching out beyond neutron physics, and to learning more about the EFT framework.

Tom NEULINGER

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I am at the begining of my second year of my PhD which is a shared position between Subatech, in Nantes, in France and the IFIC (Instituto de Física Corpuscular), in Valecia, in Spain. I'm working on beta decay of neutron rich nuclei involved in some field of research in nuclear physics like in the r-process in nulcear astro-physics or the calculation of decay heat for nuclear reactors.

Julien PÉPIN

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I am a postdoc at GANIL. I've worked in the field of weak interactions by focusing on precision measurement of the superallowed beta decays in 19Ne and by probing the nuclear structure of 136Ba and 136Cs to help constrain the nuclear matrix elements for 136Xe neutrinoless double beta decays.

Bernadette REBEIRO

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I am a PhD student at Seoul National University, South Korea. I am studying the CKM matrix unitarity by measuring the 10C superallowed beta decay. For this study, I did experiments at LNL in Italy this year. I am looking forward to learning a lot about weak interactions at the Ecole Joliot Curie 2023.

Yonghyun SON

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I am a Post-Doc at the Université Grenoble Alpes, UCN group at LPSC Grenoble, working on the measurement of the neutron electric dipole moment. Our collaboration – nEDM – which has set the latest limit on the neutron EDM in 2020, is now building a next generation apparatus - n2EDM - in order to further improve the measurement sensitivity. As an important part of the apparatus commissioning efforts, my focus was on the mapping of the magnetic field, and hence the development of a dedicated high-precision robot - the mapper. The magnetic commissioning of the apparatus is now completed with outstanding results on uniformity and reproducibility of the magnetic environment, and very soon it's the time for physics! Before, I obtained a PhD in hep-th/hep-ph, studying renormalization group equations in general gauge theories and some aspects of Higgs pheno in models with extra dimensions. I love travelling across France, visiting its cozy hinterland with little 'villages de caractère', atmospheric photography and sometimes painting, as well as discovering the cuisine and cooking myself. DIY also accompanies me everywhere.

Kseniia SVIRINA

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I am an experimental physicist, working since 2004 at GANIL where I am in charge of the operation of the LISE in-flight fragment separator and of the low-energy beam line of the SPIRAL ISOL facility. I am interested in exotic decay modes, fundamental intercation studies and nuclear structure. I am involved, together with colleagues from LP2iB, LPC Caen, IJCLab, IPHC and Subatech, in the DESIR project, a low-energy beam facility which construction has just started at GANIL.

Jean-Charles THOMAS

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I am a first year PhD student at the university of Leuven, Belgium and a member of the n2EDM collaboration. The n2EDM experiment is the next iteration of measurements of the permanent electric dipole moment of the neutron, which aims to improve the sensitivity by an order of magnitude compared to the previous campaign (10-26 e·cm). Our group at Leuven is involved by developing a current source monitoring system based on optically pumped Cs magnetometers. When monitoring a current, the high sensitivity (100 fT/√Hz) and stability of these magnetometers can be exploited so that, when placed in a gradiometer configuration inside a coil, the influence of environmental fields can be suppressed.

Judith VANKEIRSBILCK

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During my PhD at KU Leuven, which I finished at the start of this summer, I studied the effect of weak magnetism on the shape of the 114In beta energy spectrum. This study fits within our sustained effort to probe beyond Standard Model physics using nuclear beta decay. Weak magnetism is an important term of the recoil-order correction, this correction is one of the effects that become relevant given the ever-improving experimental precision. It is the first time that the weak magnetism form factor has been determined in this mass range. Apart from my research, I'm interested in sports and waterpolo in particular.

Simon VANLANGENDONCK

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I am in the 2nd year of my PhD in the IJC Lab and the university of Paris-Saclay. I am working on a unified ab-initio description of structure and break-up reactions in light nuclei. In particular, I am working on an extension of the No core shell model with complex scaling. Outside work, I like to run, go swimming and play tennis and ping-pong. I also like to play chess, watch anime and play video games.

Osama YAGHI

cnrs

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