RADIATIONS FOR HEALTH

EJC Joliot-Curie ÉCOLE SCHOOL

cnrs GDR Groupement de recherche
MI2B Outils et méthodes nucléaires pour la lutte contre le cancer

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After a first part of my researcher career at CNRS in interdisciplinary research on ion-matter interaction syudies, I moved toward medical applications of nuclear physics and detector developments. In particular I have been working on online verification of particle range during hadrontherapy. I am presently the director of the Groupement de Recherche MI2B, whicha aims at the federation of CNRS research on medical applications of nuclear physics and radiobiology.

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I am a physicist working on dosimetry applications in the field of radiobiology and radiotherapy (external beam radiotherapy, targeted radiotherapy, X-rays, protons, alpha particles). My main specialty is scintillation dosimetry, but I can use other types of detectors depending on the application.

Anne-Marie FRELIN

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EJC Joliot-Curie ÉCOLE SCHOOL

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 GREVY

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EJC Joliot-Curie ÉCOLE SCHOOL

Researcher at IP2I-Lyon, studying high-density hadronic physics with the ALICE experiment at the CERN LHC.

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EJC Joliot-Curie
ÉCOLE SCHOOL

I am an associate professor working at IPHC on applied physics for medicine, and more specifically on hadrontherapy and radiation safety for space. My work mainly focuses on the measurement of secondary particles that are produced during therapy treatment or in space shuttles shieldings. In this goal, I participate in many ion-beam experiments at accelerator facilities (CNAO, GANIL, GSI), but work also a lot with Monte Carlo codes (Geant4, MCNPX, PHITS).

Marie VANSTALLE

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ÉCOLE SCHOOL

I am associate professor at university Paris Cité and IJCLab laboratory. My researches are focusing on the development of imaging devices for molecular radiotherapy such as gamma-cameras and SPECT as well as microprobes for preclinical neuroimaging studies. I have expertise in photodetection systems, Monte Carlo simulation and data analysis.

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EJC Joliot-Curie
ÉCOLE SCHOOL


Mario ALCOCER-AVILA


Julie CONSTANZO


Christian FINCK


Antoine MAITRALLAIN


Marco PULLIA


Florent SUREAU


Jacques BALOSSO


Rachel DELORME


Arnaud GUERTIN


Laurent MÉNARD


Charlotte ROBERT


Hoang TRAN

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RADIATIONS FOR HEALTH

EJC Joliot-Curie ÉCOLE SCHOOL

I'm an engineering physicist currently working as a postdoctoral fellow at the IP2I in Lyon. My research interests include the biophysical modeling of the effects of ionizing radiations and the development of Monte Carlo radiation transport simulations for medical applications. My work has largely focused on the potential advantages of targeted radiotherapies based on alpha particle- and Auger electron-emitters to improve the treatment of resistant and metastatic tumors.

Mario ALCOCER-AVILA

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EJC Joliot-Curie ÉCOLE SCHOOL

French, born in 1960, is Professor of Radiation Oncology and Radiobiology at Grenoble-Alpes University (UGA ex UJF) since 2003. From 2009 to 2017, he chaired the Cancerology and Radiotherapy Department of the Grenoble university hospital. His fields of study focus on gastro-intestinal cancers, radiobiology applied to radiotherapy, application of synchrotron radiation to radiotherapy at ESRF, medical physics and radiation protection. Finally, he has been involved since 1999 in the scientific development of hadrontherapy in France, notably as director of ETOILE and coordinator of France HADRON and he joined in September 2017 the ARCHADE project of hadrontherapy research in Caen in Normandy. Presently he's the scientific coordinator of ARCHADE and chairperson of the radiotherapy and protontherapy department of François Baclesse Center in Caen, France, and member of the steering committee of ENLIGHT.

Jacques BALOSSO

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EJC Joliot-Curie ÉCOLE SCHOOL

CNRS resarcher sharing my tine between applied physics for hadrontherapy and software and detector developments in high energy project Belle2.

Christian FINCK

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EJC Joliot-Curie ÉCOLE SCHOOL

Arnaud Guertin, experimental nuclear physicist, CNRS research fellow, Subatech laboratory, Nantes (France). With my colleagues in the PRISMA team, Physics of Radiation InteractionS with Matter and Applications, I conducted research in the field of production of innovative radionuclides for diagnosis and therapy. In particular, we investigate the production of unconventional isotopes using all the projectiles available (protons, deuterons and alpha particles) from high-energy accelerators such as the C70 cyclotron at GIP ARRONAX. We have developed expertise in measuring production cross-sections, an essential tool for optimising the production of radionuclides in terms of quantity and purity. The data collected are integrated into international databases such as EXFOR and is used to constrain nuclear reaction simulation codes such as TALYS.

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EJC Joliot-Curie ÉCOLE SCHOOL

I am an experimental physicist working at LP2i Bordeaux as a post doc on laser driven particle acceleration. My PhD thesis in CEA-Saclay focused on laser wakefield acceleration of electrons and associated applications which I defended in 2017. I then worked at the university of Strathclyde, Glasgow, UK where I pursued investigations on electron acceleration before joining the LP2iB to extend my field of studies to laser driven ion acceleration from gas targets. My current focus is to diagnose gaseous targets and particle diagnostics in high intensity laser environments. I conducted experiments on several high peak power laser facilities ranging from 10s of TW to PW (LaseriX, UHI100, SCAPA, CLF-Gemini, CLPU...).

Antoine MAITRALLAIN

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EJC Joliot-Curie ÉCOLE SCHOOL

I am an experimental physicist working at IJCLab (Université Paris Cité, Orsay). My research activities mainly focus on the development of imaging systems based on the use of radioactive markers dedicated to biomedical applications related to cancer treatment. More specifically, this work concerns radioguided surgery for solid tumors and dose control for internal vectorized radiotherapy.

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EJC Joliot-Curie ÉCOLE SCHOOL

I am an accelerator physicist and I was part of the design, construction and operation of the CNAO accelerator system since the early '90s. CNAO is a hadrontherapy center in the north of Italy and is one of the six centers worldwide where hadrontherapy is administered with both protons and carbon ions. The CNAO main accelerator is a small synchrotron of about 25m diameter. I am presently in charge of the Research and Experimentation department at CNAO and my research interests are multifaceted but they all lead somehow to the improvement of hadrontherapy. Summarizing the research activities in a few categories I would mention improvement of the accelerator and of the CNAO experimental facility, beam monitoring, dose delivery process, dose/range verification and improving the knowledge of the microscopic process involved in hadrontherapy. One of the main tasks ongoing in my department is the design of a superconducting gantry to be installed on our site in the medium term.

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PhD, is an associate professor at Paris-Saclay University, where she teaches medical and nuclear physics at the Faculties of Medicine and Sciences. After a thesis in physics dedicated to the optimization of semi-conductor SPECT systems (CEA LETI, Grenoble), she completed her training with a three-year post-doctoral position at IMNC laboratory (Imaging and Modeling for Neurology and Oncology) in Orsay, France. This post-doc was focused on the use of PET acquisitions for the dose delivery control in hadrontherapy. Since 2019, she coordinates research activities dedicated to innovative technologies applied to external radiotherapy at Gustave Roussy, with a main focus on artificial intelligence and radiomics for treatment personalization, modelling of radiation-induced lymphopenia and FLASH radiotherapy. The work is carried out in close collaboration with the radiotherapy department. She is also involved in national and European scientific societies including ESTRO.

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EJC Joliot-Curie ÉCOLE SCHOOL

I'm a researcher in the BioMaps Laboratory (CEA, Université Paris Saclay, France). My main research interests cover inverse problems, signal and image processing, optimization, AI, with application to Positron Emission Tomography (PET) and in particular PET image reconstruction.

Florent SUREAU

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EJC Joliot-Curie ÉCOLE SCHOOL

Ngoc Hoang Tran is a research engineer at the Centre national de la recherche scientifique (CNRS) and the Institut national de physique nucléaire et de physique des particules (IN2P3), in France. He did his PhD in particle physics at the Laboratoire de Physique des 2 infinis - Bordeaux (LP2i) (2009-2012), post-doctoral fellowships at DPhN/IRFU/CEA-Saclay, France (2016 – 2018), IRSN (Institut de radioprotection et de sûreté nucléaire), France (2018 – 2020) and LP2i, France (2020 – 2022). He is a Geant4/Geant4-DNA collaboration member since 2014 and technical coordinator of the Geant4-DNA collaboration since 2022. His main research interests lie in the area of numerical simulations of particle interactions with matter, in particular to study the biological effects of ionizing radiation.

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EJC Joliot-Curie
ÉCOLE SCHOOL

I'm in my third year of PhD at the Institut Laue-Langevin (Grenoble, France) in collaboration with the Universities of Granada (Spain) and Grenoble. I am working in the field of biomedicine, specifically on Boron Neutron Capture Therapy (BNCT), with the goal of obtaining radiobiological data to optimize treatment dosimetry for patients and to study the DNA damage caused by the treatment.

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EJC Joliot-Curie ÉCOLE SCHOOL

Hey there!
I am Jeevan Babu Amakkattu, hailing from the state of Kerala in India. I am currently doing my Erasmus Mundus Joint Masters in Nuclear Physics, which includes the University of Seville, Spain, the University of Catania, Italy, and the University of Caen, France, with a specialization in Small Accelerators and their applications. My keen interests lie in learning more about simulation methods to study radiation interactions at the sub-cellular level.

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on IPHC-CNRS

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Joliot-Curie
ÉCOLE SCHOOL

I am a second-year PhD student at IJCLab. I work in the Physics Health Pole, on production of Tb-155 for internal vectorized radiotherapy. My subject entails optimization of production of Tb-155 via the Gd-155(p,n)Tb-155 reaction in the 8 MeV - 30 MeV range. Its particularity is that we use highly enriched Gd-155 targets (> 99.98%), produced by the electromagnetic isotope separator at Orsay (IJCLab).

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EJC Joliot-Curie
ÉCOLE SCHOOL

Hi!
My name is Hoa and I have nearly arrived at the end of my second year of PhD. I am working at CREATIS, Lyon and my work is relating to rigid patient motion detection and correction in SPECT. In my free time, I enjoy sleeping, reading and cooking :)

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EJC Joliot-Curie
ÉCOLE SCHOOL

CEA

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EJC Joliot-Curie
ÉCOLE SCHOOL

I am a PhD student at the Doctoral School of Exact and Natural Sciences at the University of Warsaw. As part of my research, I examine how the biological response changes after using two irradiation techniques: the classic and the newly developed FLASH technique. In this investigation I use a specific brain cancer cell line (M059K) as the experimental substrate. I conduct my research in the Faculty of Physics at the University of Warsaw and in the radiobiology laboratory at the Heavy Ion Laboratory at the University of Warsaw. In my free time, I enjoy cooking, swimming, and walking with my dog.

Patrycja CHUCHAŁA

RADIATIONS FOR HEALTH

EJC Joliot-Curie
ÉCOLE SCHOOL

I'm a phd student at IPHC Strasbourg working on the development of a gamma-ray imager based on pulse shape analysis. I'm using a HPGe detector from the AGATA collaboration to develop the imaging algorithms and will later dive into Geant4 simulations to explore diverse geometries for a HPGe gamma-ray imager.This year's school topic is of great interest to me as imaging is widely used in the medical field and I'm sure I'll learn from all the talks!

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EJC Joliot-Curie ÉCOLE SCHOOL

Research engineer in the CRAN laboratory. Our main research topics involve innovative radiotherapy modalities (including nanomedicine and nuclear medicine therapies). In particular, as a physicist, I have the charge of our preclinical irradiation and imaging platform. Moreover, I set up Monte Carlo simulations in parallel to the biological experiments and bring a radiophysical rational to the observed radiobiological effects.

Joel DAOUK

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EJC Joliot-Curie ÉCOLE SCHOOL

I am third year Phd student from GANIL, Caen. I work in the Nuclear Physics Applications team. Where we are developping a dosimeter tool to reconstruct Proton therapy treatment plan in 3D using a scintillator.

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I am a graduate of the University of Seville, where I completed my Bachelor's degree in Physics and Mathematics. Currently, I am pursuing an Erasmus Mundus Master's Degree in Nuclear Physics, which involves studying at multiple esteemed universities. My research interests lie in the field of Medical Physics.

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I am a PhD student at ILL (Grenoble)

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EJC Joliot-Curie
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I'm an Research Engineer at IRSN.

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I am a PhD student in physics (Subatech laboratory) working on the radiobiological platform of the ARRONAX cyclotron in Nantes. My research focuses on dosimetry (beam quality control, online dose monitoring and in-vivo dosimetry) for preclinical studies, involving proton and alpha beams at very high dose rates (FLASH), and combines instrumentation experiments and Monte Carlo simulations of the beamline and preclinical treatments.

Manon EVIN

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I am PhD candidate just a few sleepless nights away from the finish line, at the University of Strasbourg. My research focuses of secondary particles generated during particle therapy treatments. Within the CLINM project, I explore these particles through experimental studies and simulations comparisons, in order to understand their impact on dose distribution and treatment accuracy. Additionally, I work on improving those physics models with the deep learning algorithm DINo, which aims to enhance the prediction of nuclear reactions during therapy.

Lévana GESON

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EJC Joliot-Curie
ÉCOLE SCHOOL

I am a PhD student at the Laboratoire d'Optique Appliquée (Palaiseau, France), in collaboration with the Institut Curie (Orsay, France). My passion lies in physics and its medical applications, especially in cancer research and innovative therapies aimed at reducing healthy tissue toxicities. My research focuses on Very High Energy Electron (VHEE) beams produced with a laser plasma accelerator for advanced radiotherapy. I evaluate the dosimetric and biological effectiveness of VHEE compared to conventional electron beams. In my free time, I enjoy traveling, hiking, and spending time with friends.

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I have a Bachelor's degree in Cell and Molecular Biology and Master's Degree in the Bioengineering: Regenerative and Precision Medicine. Currently, I'm developing my PhD project "Exploring Advanced 3D Models of Breast and Lung Cancer for Evaluation of Proton and FLASH Radiotherapy" at Centro de Ciências e Tecnologias Nucleares from Instituto Superior Técnico, and the Division of Biomedical Physics in Radiation Oncology group from the DKFZ German Cancer Research Center. This project aims to delve deeper into the combined (and separate) effects of radiotherapy with chemotherapy on cancer treatment, through the utilization of advanced breast cancer and lung cancer 3D models (spheroids and tumoroids).

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I am a physical chemist specializing in the radiolysis of water. I completed my thesis at CEA Saclay/Synchrotron Soleil, focusing on understanding the mechanisms of biological material degradation under ionizing radiation, particularly soft X-rays. Currently, I am involved in a scientific valorization project aimed at developing ultra-thin dosimeters for measuring skin doses in radiotherapy and characterizing low-penetration beams in the industrial context of radiosterilization.

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1st PhD student at Universite Paris Saclay, doing my PhD at IJCLab, health physics pole

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LPMS, Université Frères M'entoure - Constantine1

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EJC Joliot-Curie ÉCOLE SCHOOL

I am a first year PhD student at the University of Warsaw. In my research I study the effects of alpha radiation on brain tumor cells.

Patrycja KAMINSKA

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I am a postdoc at the LPSC Grenoble. I am working on data reconstruction algorithms for prompt-gamma time imaging in particle therapy. My research interests include data analysis, Monte-Carlo simulations, and applications of machine learning methods in medical physics.

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EJC Joliot-Curie
ÉCOLE SCHOOL

Hi!
I'm a first-year PhD student working at LPCA in Clermont-Ferrand. I am working on the FLASHMOD project, which aims to study water radiolysis at UHDR (Ultra-high dose rate). Currently, I am collaborating with Arronax to measure the main chemical species and trying to model the beam line considering the pulsed structure using GATE 10. Apart from my research, I am interested in doing yoga and discussing philosophy.

RADIATIONS FOR HEALTH

EJC Joliot-Curie
ÉCOLE SCHOOL

I am currently in the second year of my PhD in analytical chemistry at IJCLab at Paris-Saclay University. My thesis is devoted to the study the complexation of lanthanide ions (Tb(III) mostly) with a differents ligand by electrophorese capillary, fluorescence and DFT (density function theory). Part of my thesis will also be dedicated to testing the cytotoxicity of Tb(III)-Ligand complexes in this part we also work with the IRSN which is an Institut of radioprotection in Nuclear safety. The topic of my thesis is a part of vast project PRISM of IJCLab, devoted to the new isotope production and its use in nuclear medicine. I am passionate about this subject and I hope that it will allow to increase the possibilities of imaging/therapies
and better personalize treatments.

Sabine LAM

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EJC Joliot-Curie
ÉCOLE SCHOOL

I work as an experimental physicist at the National Centre for Nuclear Research in Warsaw, Poland. I deal with the physics and engineering of electron beam acceleration, dosimetry and beam measurement for medical, industrial and research purposes. Recently, I have been working on FLASH radiotherapy, the generation of ultra-high dose rate beams and their measurement methods, which is the subject of my PhD thesis. I also carry out radiobiological studies using an ultra-high dose rate beam with various institutions.

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EJC Joliot-Curie
ÉCOLE SCHOOL

I'm a PhD student at LPSC in Grenoble in the Nuclear Physics, Medical Application team. I'm working on diamond detectors for the detection of short range particules. One goal is to develop a detector for on-line monitoring of ion microbeam. Those installations performe radiobiology experiments at the cellular and sub-cellular levels.

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EJC Joliot-Curie ÉCOLE SCHOOL

I have a background in medical physics and currently work at the LPSC on the development of diamond detectors for online monitoring in radiotherapy, particularly had to therapy and novel synchrotron-based radiotherapies. I have experience in experimentation, instrumentation and Monte Carlo simulations. I also teach physics and metrology at the Université Grenoble Alpes Institute of Technology. When I am not at work I enjoy sports and outdoor activities, as well as learning music.

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EJC Joliot-Curie ÉCOLE SCHOOL

Hello ! I'm a first year PhD student at LPC Caen. My research will concern dosimetry by small fiber scintillator in alphaterapy. Beside Sicences, I like to play both board games and video games and spending time with my family or my friends.

Francesco MAZZA

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RADIATIONS FOR HEALTH

EJC Joliot-Curie ÉCOLE SCHOOL

I'm a 3rd year PhD student working at the Laboratoire de Physique Subatomique et de Cosmologie in Grenoble. I developed a diamond detector for ion beams. I particularly focused on the behavior of diamond detector at high flux (for example for FLASH therapy uses) and high fluence (after an amount of irradiation). Diamond can be used as a solid-state ionization chamber: each particle depositing a bit of energy will produce electron-hole pairs, and these pairs will drift and be collected to get a measurable signal. I also computed a simulation tool for foreseeing diamond response.

Robin MOLLE

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EJC Joliot-Curie ÉCOLE SCHOOL

I am an experimental physicist at IJCLab (Université Paris Cité, Orsay) working in the field of radiobiology and external ion beam radiotherapy. Exploring ion beam applications has led me from cultural heritage analysis to irradiation platforms for radiobiology. These studies require characterization of detectors, development of new beam monitoring tools, and implementation of irradiation platforms.

Quentin MOUCHARD

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EJC Joliot-Curie
ÉCOLE SCHOOL

My name is Sarah Otmani and I'm a first year PhD student at LPSC in Grenoble. My thesis is about the development of a system to control the dose deposition during the treatment delivery in protontherapy. In order to do, I work on a method called Prompt Gamma Energy Integration (PGEI) where we propose the detection of secondary particles, the prompt gammas by means of multiple detectors around the target and the measurement of the integrals of the energy deposited by the secondary particles. The advantage of our method is that it is compatible with the pulsed-beams delivered by synchro-cyclotrons.

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EJC Joliot-Curie
ÉCOLE SCHOOL

I'm a first year PhD student working at Subatech and at the GIP Arronax (Nantes). I'm working on the production of isotopes of medical interest with alpha beam. Part of this work involves measuring production cross sections with the stacked-foils technique. Besides my scientific interest, I really like reading, playing music and hiking !

Laurine PUREN

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EJC Joliot-Curie
ÉCOLE SCHOOL

I began my career in chemical engineering and shifted to physics, focusing my master's project on the development of lignin-based supercapacitors. Currently, I am specializing in nuclear physics. I work on both experimental and theoretical aspects, developing methodologies for the fabrication and characterization of targets for radionuclide production for use in nuclear medicine. I collaborate with the scientific groups Arronax and Subatech at IMT Atlantique in Nantes, France.

Vanessa RHODEN

SEPTEMBER 8-13, 2024
Saint-Pierre d'Oléron | FRANCE

COMMITTEE SPEAKER **PARTICIPANT**

RADIATIONS FOR HEALTH

EJC Joliot-Curie ÉCOLE SCHOOL

I have a degree in Biotechnology and a Master's degree in Pharmaceutical Engineering from the Instituto Superior Técnico of the University of Lisbon. Currently, I am a first-year PhD student in Biomedical Engineering, developing work between the Center for Nuclear Science and Technology (C2TN) and the German Cancer Research Center (DKFZ). My PhD involves both computational and experimental studies and is my first contact to radiation for health. The main scientific question of my project aims to understand the extent of the effect of the combined use of radiotherapy (RT) (photon and, more importantly, proton therapy and FLASH-RT) with chemotherapy compared to radiotherapy as a standalone treatment, as well as the effects of different RT approaches on the interaction between reactive oxygen species and specific target tumor cells.

Cátia ROSA

SEPTEMBER 8-13, 2024
Saint-Pierre d'Oléron | FRANCE

COMMITTEE SPEAKER **PARTICIPANT**

RADIATIONS FOR HEALTH

EJC Joliot-Curie ÉCOLE SCHOOL

Hello!
I'm a master's student in the Erasmus Mundus NucPhys program, with a future research focus in medical physics, particularly in microdosimetry using heavy ions like helium and oxygen. Outside of my studies, I enjoy music and football. Excited to connect with everyone here!

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RADIATIONS FOR HEALTH

EJC Joliot-Curie ÉCOLE SCHOOL

I am a PhD student in nuclear chemistry at the JH Institute of Physical Chemistry (Prague, Czech Republic) and the Institut de Chimie Physique (Orsay, France). My work is motivated by facilitating the design of new radiosensitizers for concomitant chemoradiotherapy, enabling a higher therapeutic effect and reduced side effects. Therefore, I study potential and approved chemoradiotherapeutics and their interactions with secondary low-energy electrons as a possible source of synergism in chemoradiotherapy. I aim to reveal the reaction mechanisms of such interactions and draw conclusions about the properties of a suitable candidate for a radiosensitizing chemotherapeutic agent. Mainly, I apply experimental approaches such as electron attachment spectroscopy and pulse radiolysis. In addition, I enjoy hiking in the mountains, painting, writing, and spending time with my dog. I look forward to gaining inspiration and a broader and deeper insight into new and promising therapeutic approaches during the Joliot-Curie School.

Barbora SEDMIDUBSKÁ

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RADIATIONS FOR HEALTH

EJC Joliot-Curie
ÉCOLE SCHOOL

I have been a CNRS researcher for 30 years: a biologist by training, assigned to the CNRS chemistry department, but member of a physics laboratory, so resolutely interdisciplinary. For 20 years, my research topic was the vectorization or delivery of therapeutic agents, focusing on the vector object. After moving in 2012 to a laboratory that was to become IJCLab, my work now takes place in the Physics-Health group, where I am the only biology researcher. Thanks to my close links with the physicists in my group, I am interested in the effects of ionizing radiation on living cells, and in particular the Bystander effect (interactions between irradiated and non-irradiated cells, whether pathological or healthy). My studies are mainly based on cell biology techniques correlated with in silico modelling methods. My main objective is to somehow anticipate the radiobiological effect of different types of radiation on heterogeneous cell populations.

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I am a researcher in chemistry at CNRS since 2004. Passionate about the study of metal ion equilibria in aqueous solutions, I have a long experience in the fields of the environment and the nuclear energy. Since September 2022 I have been working in “Health Physics Pole” of IJCLab. My research topic is devoted to the studies of the chelation and vectorization of new radionuclides for possible application in the internal radiotherapy and the diagnostic.

Vladimir SLADKOV

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EJC Joliot-Curie
ÉCOLE SCHOOL

I'm a starting PhD student at the university Paris-Saclay and I'm affiliated with the Institut de radioprotection et de sûreté nucléaire (IRSN). My PhD thesis is Monte Carlo simulation modelling of the effect of dose rate for the interpretation of experiments in radiobiology and applications in radiotherapy. This thesis aims for a detailed understanding of the phenomena behind early damage but also improvement to the Geant4-DNA code to evaluate water radiolysis and the action of free radicals, as well as radiation-induced damage. Aside from science, I'm practicing badminton, love to cook and read but also video games.

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EJC Joliot-Curie
ÉCOLE SCHOOL

I'm an Italian Master's student, originally from Padova, where I completed my Bachelor's degree. I'm currently enrolled in the Erasmus Mundus Joint Master Degree in Nuclear Physics, in the application path. I'm mostly interested in Medical Physics and Accelerators Physics!

Francesca SOGUS

RADIATIONS FOR HEALTH

EJC Joliot-Curie ÉCOLE SCHOOL

I have a bachelor's and master´s degree in biochemistry. I'm currently a PhD student in biomedical engineering, with a great ambition to learn and specialize in the field of radiation and health, with an emphasis on cancer treatment. My PhD thesis focuses on understanding the effect of radiotherapy and chemotherapy as a standalone treatment versus the combined use of them in breast cancer, as well as understanding the impact of different radiotherapy approaches (photons and protons and FLASH radiotherapy) on the interactions between reactive oxygen species and target tumor cells that overexpress HER2.

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I am a PhD student at Helmholtz-Zentrum Dresden-Rossendorf in Germany. My project is the measurement of prompt gamma-ray yields from various nuclear transitions in the context of proton therapy. We aim to improve the data basis of common Monte Carlo particle transport codes, e.g., Geant4, enabling accurate simulation of experimentally detected prompt gamma-ray spectra. Precise particle transport calculations are crucial not only for the treatment planning but also for the clinical application of the promising proton range verification methods based on prompt gamma rays – e.g., Prompt Gamma-Ray Timing, -Spectroscopy and -Imaging – which are highly needed in proton therapy. Besides my research, I enjoy meeting friends and playing flag football and chess.

Konstantin URBAN

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EJC Joliot-Curie
ÉCOLE SCHOOL

I am currently a master's student in the Erasmus Mundus Joint Master's Degree program in Nuclear Physics (NucPhys). Throughout my studies, I have participated in a couple of theoretical research projects, including one focused on material science. My primary interest lies in the applications of nuclear physics. This semester, I am excited to be interning at LPC, where I will be working on the localization of radiation sources and dose mapping using the nFacet 3D directional spectrometer. During my free time, I like to go to the gym

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I'm a PhD student at LPSC, in Grenoble. I'm developing a time-of-flight detector to improve the Lohengrin spectrometer's ability to measure rare events. The aim is to be able to accurately measure the mass yields of symmetric fission fragments.

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