

Curriculum Vitae

PERSONAL INFORMATION

Simona BĂRUȚĂ (ILIE)



Sex Feminine | Date of birth | Nationality Romanian

POSITION NAME Doctoral Research Assistant

WORK EXPERIENCE

May 2017 - Present

Doctoral Research Assistant

November 2014-
May 2017

Physicist

Name and address of employer

Extreme Light Infrastructure Nuclear Physics, ELI-NP;
The Radiopharmaceuticals Research Center (CCR), Department of Applied Nuclear Physics, IFIN-HH;

Main activities and responsibilities

Monte Carlo simulation using Geant4 software;
Responsible for gamma-ray spectrometry measurements and analysis of environmental samples. Participation in research activities: gamma-ray spectrometry, physico-chemical analysis, sampling, other measurements using the gamma-ray spectrometry system. Characterisation of the HPGe semiconductor, scintillator detectors.

Type of business or sector

The institute is dedicated to the research and development in physical and natural sciences, mainly nuclear physics and nuclear engineering, and in related areas including astrophysics and particle physics, field theory, mathematical and computational physics, atomic physics and physics of condensed matter, life and environmental physics.

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EDUCATION
AND
TRAINING

PhD Student

October 2016-present Doctoral School of Engineering and Applications of Lasers and Accelerators S.D.I.A.L.A., University Politehnica of Bucharest.

October 2014-2016 Master' Diploma. Master Diploma: „The analysis of the environmental radioactivity using the gamma-ray spectrometry method”. Scientific supervisor: Prof.Univ.Dr. Octavian Sima and CS I Dr. Maria Sahagia. University of Bucharest, Faculty of Physics. Atomic Physics, Nuclear Physics, Elementary Particles, Astrophysics and Applications, FANPEAA.

October 2011- June 2014 Bachelor's Diploma. Diploma project: “Relative calibration methods for radioactive sources and solutions.” Scientific supervisor: Prof. Univ. Dr. Octavian Sima and CS I Dr. Maria Sahagia. University of Bucharest, Faculty of Physics Biophysics

PERSONAL
SKILLS

Mother tongue(s) Romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B1	B1	B1	B1	B1
Replace with name of language certificate. Enter level if known.					
French	B1	B1	A2	A2	B1
Replace with name of language certificate. Enter level if known.					

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Social skills and competences Ability to manage personal reactions and attitudes towards responsibilities and challenges in work and life. To comprehend, understand and profit from experience. Independent learning. Capacity to recognize and respect the beliefs, practices, cultures, traditions, principles of others.

Organisational / managerial skills Ability to create, plan for achieve personal and professional goals. Dependable, trustworthy and committed to mutual agreement in work.

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ADDITIONAL INFORMATION

Job-related skills Responsible for gamma-ray spectrometry measurements and analysis of environmental samples; Monte Carlo simulations; HPGe detectors, radioactive sources;

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Independent user	Independent user	Independent user	Independent user

Levels: Basic user - Independent user - Proficient user

[Digital competences - Self-assessment grid](#)

Strong computer skills and ability to learn software independently.
 Good knowledge of MS Windows 98/2000/XP and Microsoft Office tools. Knowledge of Linux. OriginLab, QtiPlot.
 Knowledge of Monte Carlo simulation codes: GESPECOR, Geant 4,
 Specific gamma-ray software: Genie 2000, Gaspware (xtrackn), GammaVision, ProSpect Software, Compass.

Other skills Life-long learner involved in an ongoing process of discovery, problem solving, discipline and refinement of skills in various art disciplines.

Driving licence Category B

Appendix

Articles

1. *Determination of the ^{60}Co source activity by using the sum-peak method*, **S. Ilie**, C. A. Ur, O. Sima, G. Suliman, A. Pappalardo, Romanian Reports in Physics, Vol. 71, No 4, 211, 2019;
2. *Process validation for production of copper radioisotopes in a TR-19 variable energy cyclotron*, R. A. Leonte, D. Cocioabă, L. E. Chilug, **S. I. Bărută (Ilie)**, T. R. Eșanu, B. Burghelea, A. Chiriacescu, L. S. Crăciun, and D. Niculae, Harnessing Isotopes for Improved Quality of Life AIP Conf. Proc. 2295, 020022-1–020022-7, 2019;
3. *Characterization of the segmented high-purity germanium clover detector from the ELIADÉ array at ELI-NP*, **Simona Bărută (Ilie)**, Călin A. Ur, Octavian Sima, Gabriel Suliman, Gabriel V. Turturică, Violeta Iancu, U.P.B. Sci. Bull., Series A, Vol. 83, Iss. 2, 2021;
4. *Systematic influences on the areas of peaks in gamma-ray spectra that have a large statistical uncertainty*, M. Bruggeman, S.M. Collins, L. Done, M. Durasevic, M.A. Duch, A. Gudelis, M. Hyza, A. Jevremovi, A. Kandi, M. Korun, **S. Ilie**, J.M. Lee, K.B. Lee, A. Luca, R.M. Margineanu, A. Pantelica, I. Serrano, B. Seslak, L.C. Tugulan, L. Verheyen, B. Vodenik, I. Vukanac, Z. Zeng, B. Zorko, Applied Radiation and Isotopes (2017);
5. *High-resolution gamma-ray spectroscopy with eliade at the Extreme Light Infrastructure*, P.-A. Söderström, G. Suliman, C.A. Ur, D. Balabanski, T. Beck, L. Capponi, A. Dhal, V. Iancu, **S. Ilie**, M. Iovea, A. Kusoglu, C. Petcu, N. Pietralla, G.V. Turturica, E. Udup, J. Wilhelmy, A. Zilges, Acta Physica Polonica B, Vol. 50, No. 3, (2019);
6. *Forecasting the production of medical radioisotopes at Extreme Light Infrastructure - Nuclear Physics gamma beam system*, D. Niculae, F. D. Puicea, **S. Ilie**, W. Luo, P. V. Cuong, G. Cata Danil, C. A. Ur, D. Balabanski, Eur J Nucl Med Mol Imaging (2017) 44 (Suppl 2):S119–S956, 2017;

Conferences

1. *Production of Copper Medical Radioisotopes in a Variable Energy Cyclotron*, Dana Niculae, Radu Leonte, Livia Chilug, Ramona Dusman, **Simona Baruta**, Diana Cocioaba, Liviu Craciun, NUSPRASEN Workshop on Nuclear Science Applications, Helsinki, Finland, November 25-27, 2019;

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2. *High energy gamma beam forecasted for production of new and emerging medical radioisotopes by photonuclear reactions, 13th International Symposium on the Synthesis and Applications of Isotopes and Isotopically Labelled Compounds*, Dana Niculae, **Simona I. ILIE**, Livia Chilug, Filip D. Puicea, Calin A. Ur, Dimiter L. Balabanski Czech Republic, Prague, June, 3-7, 2018, (Poster);
3. *Assessment of radioisotopes production for medical applications at ELI-NP*, **Simona Ilie**, Dana Niculae, C. A. Ur, 17th International Balkan Workshop on Applied Physics and Materials Science (IBWAP 2017), Constanta, Romania, July 11-14, 2017, Oral Presentation;
4. *Development of new production routes, separation and purification methods of ^{99}Mo and $^{99\text{m}}\text{Tc}$, New 2nd CRP Meeting on Ways of Producing Tc-99m and Tc-99m Generators (Beyond fission and cyclotron methods)*, Dana Niculae, D. Balabanski, C.A. Ur, **Simona Baruta**, Warsaw, Poland, May 13-17, 2019
5. *Characterisation of the segmented clover detectors from the ELIADe array at ELI-NP*, **Simona Ilie**, Sixth International Conference on Radiation and Applications in Various Fields of Research, RAD 2018, June 17-26, 2018, Oral Presentation
6. *Determination of the ^{60}Co source activity by using the sum-peak method*, **Simona Ilie**, Seventh International Conference on Radiation and Applications in Various Fields of Research, RAD 2019, June 09 – 15, 2019, Oral Presentation

Courses and Trainings

1. 4th International Geant4 School, Belgrad, Serbia, October 2016.

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- Geant4 tutorial, IFIN-HH Bucharest (Romania), November 2016.
2. MEDICIS-Promed Specialised Training on Radioisotope Production, 4-8 September 2017, Leuven, Belgia.
 3. MEDICIS-Promed Lemman School on Preclinical and Clinical Imaging with Radioisotopes, 12-16 March 2018, Lausanne, Geneva;
 4. Computer System Validation training, April 17-19, 2018, Copenhagen Danemarca
 5. Radiological protection in practices with ionizing radiation sources, level 1, Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH), 2020