

Andi Sebastian Cucoanes



Extreme Light Infrastructure-Nuclear Physics (ELI-NP),
'Horia Hulubei' National R&D Institute for Physics and
Nuclear Engineering (IFIN-HH)

WORK EXPERIENCE

- 2015 - present** **Research scientist (CS3)**
Extreme Light Infrastructure - Nuclear Physics (ELI-NP), 'Horia Hulubei' National Institute for Physics and Nuclear Engineering (IFIN-HH), Magurele, 30 Reactorului str. 077125, Romania
- Nuclear based techniques for investigation of laser and gamma interactions
 - Medical physics applications of lasers and gamma beams
- Business or sector:** Research based on gamma beams and power lasers
- 2011 - 2014** **Research scientist CNRS (CDD)**
Laboratoire SUBATECH, Group of Experimental Research on Data Reactors and Energy (ERDRE), Nantes, France
- Responsible for data analysis of nuclear physics experiments (Double Chooz, Nucifer, SoLid), involved in the R&D of detectors for nuclear and particle physics research
 - Co-adviser (with Prof. M. Fallot) of 3 undergraduate students for internships on data analysis of neutrino experiments
 - Assistant Professor of courses "Du capteur a l'instrument" and "Project d'investigation et d'integration" at École des Mines de Nantes (Prof. C. Rauch)
- Business or sector:** Research in nuclear and particle physics
- 2009 - 2011** **Postdoctoral fellow**
Commissariat a l'energie atomique et aux energies alternatives (CEA), Saclay, France
- Involved in the data analysis and detector R&D of nuclear physics experiments (Double Chooz, Nucifer)
 - Co-adviser (with Prof. D. Lhuillier) of 1 undergraduate students for internship on data analysis of neutrino experiments
- Business or sector:** Research in nuclear and particle physics
- 2006 - 2009** **PhD fellow**
Rheinisch-Westfälische Technische Hochschule (RWTH), III Physikalisches Institut, Aachen, Germany
- The development of the trigger system of the Double Chooz experiment, involved in R&D and data analysis of the Double Chooz experiment
 - Assistant Professor at Nuclear Physics Laboratory of RWTH Aachen.
- Business or sector:** Education and research in nuclear and particle physics
- 2002 - 2006** **Research Assistant**
National Institute for R&D in Physics and Nuclear Engineering, Magurele, Romania
- Involved in the development and R&D tests of the accelerator mass spectrometer facility
 - Involved in the R&D of particle physics experiments (CMS at CERN) at Istituto Nazionale di Fisica Nucleare (INFN) Pisa, Italy
- Business or sector:** Research in atomic physics and particle physics

EDUCATION AND TRAINING

- 2006-2009** **PhD in physics**
Rheinisch-Westfälische Technische Hochschule (RWTH), Aachen, Germany
 ▪ Research in particle physics, data analysis, instrumentation development
- 2002-2004** **Master in physics**
University of Bucharest
 ▪ Majors: Instrumentation in physics research, nuclear physics
- 1998-2002** **Bachelor in physics**
University of Bucharest
 ▪ Majors: Nuclear physics, particle physics, instrumentation for radioisotopes analysis

PERSONAL SKILLS

Mother tongue: Romanian

Other languages:

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	C2	C2	C2	C2	B2

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

**Organizational/
managerial skills**

- **Coordinator of the ELI-NP/IFIN-HH team in the framework of the project ELI-RO 24 TEDILAPLACE focused on plasma diagnostic in laser-matter interactions.**
- **Coordinator of the ELI-NP/IFIN-HH team in the framework of the project ELI-RO 09 CELLI focused on the development of biological methods for the analysis of cells irradiated with laser-based particle beams.**
- Co-organiser (with M. Estienne, M. Fallot and A. Porta) of the second workshop "The Status of Neutrino Flux Modelling", EMN, Nantes, (2015).

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient	Proficient	Proficient	Proficient	Proficient

- Publications** **For a complete list of publications, please consult my public profiles on:**
- Presentations** <https://www.researchgate.net/profile/Andi-Cucoanes>
- Projects** <https://inspirehep.net/authors/1219368>
- Conferences**
- Seminars**
- Honors and awards**
- Memberships**
- References** **Selected articles:**

A.S. Cucoanes et al., Simulation-based Evaluation of Radiation Effects at the Interface

Citations
Courses
Certifications

Between Tritiated Water and Hydrophobic Polymers Used in Detritiation Systems, Romanian Reports in Physics 77, 201 (2025)

G.Giubega,... **A.S.Cucoanes** ... *Preliminary results on nuclear isomer production via laser-driven bremsstrahlung irradiation at ELI-NP-1PW* Nucl. Phys. A 1062, 123157 (2025)

A.S. Cucoanes et al., *GPE – A Compact Gamma-ray Polarimeter with Energy Reconstruction Capability*, Romanian Journal of Physics 69, 401 (2024)

V. Guadilla ... **A.S.Cucoanes** ... *Total absorption γ -ray spectroscopy of the β decays of $^{96}\text{gs,mY}$* , Phys. Rev. C 106, 014306 (2022)

C.Postolache, G.Bubueanu, C.S.Tuta and **A.S. Cucoanes**, *Synthesis of Tritium Labelled Thymidine and Uridine*, Smart Energy and Sustainable Environment, Vol.25 1 (2022)

F. Teleanu, C. Tuță, **A.S. Cucoanes**, S. Vasilca, P.R. Vasos, *Magnetization Lifetimes Prediction and Measurements Using Long-Lived Spin States in Endogenous Molecules*, Molecules, 25(23), 5495, (2020)

K.A. Tanaka ... **A.S. Cucoanes** ... *Current status and highlights of the ELI-NP research program*, Matter and Radiation at Extremes 5, 024402 (2020)

A.S. Cucoanes et al., *Radiochromic film calibration at 9 MV accelerator of IFIN-HH*, Proc. Rom. Acad. A Vol. 20 1 (2019)

A.S. Cucoanes et al., *On the potential of laser driven isotope generation at ELI-NP for positron emission tomography*, SPIE Proceedings, Medical Applications of Laser-Generated Beams of Particles IV: Review of Progress and Strategies for the Future; 102390B (2017)

A.S. Cucoanes et. al. *Reactor Neutrino Flux Uncertainty Suppression on Multiple Detector Experiments*, arXiv:1501.00356 [hep-ex] (2015)

Y. Abe ... **A.S. Cucoanes** ... *Ortho-positronium observation in the Double Chooz Experiment*, Journal of High Energy Physics, Vol. 32 (2014)

A.S. Cucoanes, *The Nucifer Experiment*, Nuclear Data Sheets, Vol. 120, (2014)

Projects:

Coordinator of the ELI-NP/IFIN-HH team in the framework of the project ELI-RO 24 TEDILAPLACE focused on plasma diagnostic in laser-matter interactions.

Coordinator of the ELI-NP/IFIN-HH team in the framework of the project ELI-RO 09 CELLI focused on the development of biological methods for the analysis of cells irradiated with laser-based particle beams.

Selected conferences:

A.S. Cucoanes et al., *Opportunities at ELI-NP: Materials testing under the influence of high energy ionizing radiation*, Int. Conf. of Aerospace Sciences, Bucharest 2022

A.S. Cucoanes et al., *Characterization of tritiated heavy water using magnetic resonance spectroscopy*, Int. Conf. on Tritium Science and Technology, Bucharest, 2022

A.S. Cucoanes, *Medical Isotope Production at ELI-NP*, Rencontres du Vietnam: Int. Conf. on Medical Physics - Qui Nhon, Vietnam 2019

A.S. Cucoanes, *Reactor Induced Errors in Antineutrino Experiments*, invited talk at GDR neutrinos, Lyon, 2013

A.S. Cucoanes, *The Nucifer Experiment: Non Proliferation with Reactor Antineutrinos*, The 19th Particles and Nuclei International Conference (PANIC11) 2011

Publications
Presentations
Projects
Conferences
Seminars
Honors and awards
Memberships
References
Citations
Courses
Certifications

Awards, Memberships, Certifications:

2019 Level 2 Radioprotection Certificate emitted by CNCAN

2014 Prize: "Best e-Poster advertisement in the session Technology Foresight and Emerging Technologies II" at IAEA Safeguards Symposium, Vienna (2014)

2013 Passed the "Qualification aux fonctions de Maitre de conference" given by Conseil national des universités, France

2006 – 2009 PhD fellowship at Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen, Germany

2004 – 2005 Fellowship at Istituto Nazionale di Fisica Nucleare (INFN) Pisa, Italy

2003 Erasmus scholarship at Rijksuniversiteit (RUG) Groningen, Holland

Former member of the IGISOL, Double Chooz, Nucifer, SoLid, and CMS Collaborations