PERSONAL INFORMATION

Enciu Alexandru

Affiliation: Instituts für Kernphysik (IKP) - TU Darmstadt
Tel.: [redacted]
E-mail: [redacted]
Date of birth: 21/02/1995
Nationality: R[redacted]

WORK EXPERIENCE

2022-present

PostDoc

Instituts für Kernphysik (IKP) - Technischen Universität Darmstadt

- CAD design of experimental setups for particle physics
- Developing remotly controlled laser system for TPC
- Developing computer vision system for measuring angle between micro-mirrors bundles
- PCB design using KiCAD and Eagle CAD
- Software design using Python, LabVIEW, C++ and Verilog for hardware control and DAQ

2019-2022

Assistant Researcher

Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH)

- CAD design of experimental setups for non-destructive analysis using ion beam and X-Ray for research
- Software Design using LabVIEW, Python, C++, C# for machine control, DAQ and data analysis
- Development of imaging techniques using ion beams and X-Ray Fluorescence (2D/3D PIXE mapping, 2D/3D XRF mapping)
- Operating 3MV Tandem Particle Accelerator
- Maintenance of ion sources of 3MV Tandem Particle Accelerator

2017-2022

Physicist

Sc. AccentPro2000 SRL website: https://www.accent.ro/

- CAD design of X-Ray Imagistics Systems for non-destructive testings for industry and security
- Software Design using LabVIEW, Python, C++, C# for machine control, DAQ and data analysis
- Development and improvement of tomographyc reconstruction algorithms and image processing techniques
- Operating mini and microfocus X-Ray generators
- Operating CNC miling machines and 3D Printers

2015-2017

Executive Director

Sc. SkyProfessionals SRL

- Company Administration

Public Presentation aimed at popularizing astronomy

Astronomical observations for research and popularisation purpose

Trade in astronomical telescopes and acessories

2014-2015 **Administrator**

Sc AstronomExperience SRL (full time)

Company Administration

Public Presentation aimed at popularizing astronomy

Astronomical observations for popularisation purpose

2011-2015 **Tehnician**

Planetarium and Astronomical Observatory from Constanta

Operating astronomical telescopes and planetarium

Public Presentation aimed at popularizing astronomy

Meintenance of astronomical telescopes and ZKP2 Carl Zeiss Jena planetarium

Astronomical observations for research and popularisation purpose

EDUCATION AND TRAINING

2019-present **PhD Student**

PhD student in Physics at Faculty of Applied Science Of University „Politehnica" Bucharest

Non-destructive testing using nuclear and atomic analysis methods (PIXE, PIGE, RBS, XRF, Radiography and Tomography)

2017-2019 **Master degree in Nuclear and Atomic Physics, Elementary Particle, Astrophysics and Aplications**

Faculty of Physics of University of Bucharest

Non-destructive testing using X-ray (Radiography, Tomography, XRD, XRF)

Data analysis methods and programming in LabVIEW, Python, C++, MATLAB, Mathematica, R

Statistics

2014-2017 **Bachelor degree in Physics**

Faculty of Physics of University of Bucharest

Courses of Nuclear, Atomic, Quantum, Statistics, Thermodynamics, Dynamics And General Physics

Mathematics

Programming in Python, Matlab, Mathematica, C++

Data analysis with OriginLab

2010-2014 **High School degree in natures science**

High School „Traian" Constanta

Corses of Physics, Chemistry and Biology

Astronomy and Astrophysics

PERSONAL SKILLS Programming and data analysis using LabView, Python, C++, Lattice Diamond Software, Arduino, Rasberry Pi, Lattice FPGA

SolidWorks, Autodesk Inventor CAD Designer

Designer of X-ray Imagistics systems for industry and security purpose

CNC machine operation

Astronomy and Astrophysics

Mother tongue(s) Romanian

Other language(s)

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

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

Digital competence

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

Levels: Basic user - Independent user - Proficient user

programming using LabVIEW, Python, C++, C#, Matlab

good command of CAD software (SolidWorks, Autodesk Inventor, Fusion 360)

good command of photo analysis software (Image J)

good command of office suite (word processor, spread sheet, presentation software)

Driving licence B

Publications
Projects
Conferences

New setup for basic radiobiology studies using a 3 MV TandetronTM: Design and developments, Mihai Straticiuc, Mihaela Bacalum, Calin Mircea Rusu, Radu Andrei, Ion Burducea, Ioan Cenusa, Constantin Cenusa, Irina Dinescu, Simona Dirleci, Alexandru Enciu, Decebal Iancu, Radu Vasilache, Mina Raileanu, Mihai Radu, NIM-B, https://doi.org/10.1016/j.nimb.2022.08.001

Joint research activities at the 3 MV Tandetron™ from IFIN-HH, G. Veli¸saa , R. F. Andrei, I. Burducea, A. Enciu, D. Iancu, D. A. Mirea, A. Spiridon, M. Straticiuc, Eur. Phys. J. Plus (2021) 136:1171, https://doi.org/10.1140/epjp/s13360-021-02156-7

A novel 3D sampling method of geological rock-core using X-ray fluorescence, Alexandru Enciu, U.P.B. Sci. Bull., Series A, Vol. 85, Iss. 1, 2022 ISSN 1223-7027

Preliminary results on neutrons TOF experiment using the Neutron Array, C. Bordeanu, D.V. Mosu, M.A. Famiano, V. Fugaru, C. Tuta a, N. Florea, I. Harca,C. Borcea, N. Carjan, M. Straticiuc, I. Burducea, A. Apostol, D. Iancu, A. Radu, A. Enciu, D.T. Moisa, NIM-B, https://doi.org/10.1016/j.nimb.2022.03.012

Development of dedicated Non-destructive equipment for ballistic plates in-line control - NUROL Teknoloji A.S. PROJECT

Development of a dedicated portable laguagge scanner for Romanian Intelligence Service – SRI

PROJECT

X-CAP Automatic Digital X-Ray Radiography System For Inspection of Small Parts – QUALICAPS PROJECT

Development of a charge particle detector for beam monitoring for FAIR – ROCRYDET PROJECT

Security applications development at ELI-NP: detecting concealed thretening materials by using Nuclear Resonance Fluorescence and 2D/3D tomography with gamma beams/ ELI_THREAT_DETECT PROJECT

Support action for gamma beam industrial imaging applications development at ELI-NP/ELITOMO

Pasive imagistic system with milimeter wave for persons with aplications in security – BODY SCAN PROJECT

Improving unconventional X-ray imaging techniques to investigate the effects of biological tissue irradiation with monitored gamma radiation doses - BIOIMAGING PROJECT

New advanced technologies for surfaces deposition by using high-power lasers for increasing the materials reliability and performances – PRELAM PROJECT

Enabling X-ray CT based industry 4.0 process chains by training next generation research experts – XCTING PROJECT

Support Actions for Industrial Imaging Applications Development at ELI-NP Gamma Beam Mihai Iovea1, Calin A. Ur2,3, Violeta Iancu2, Edward Hermann1, Gabriel Suliman2, Gabriel Turturica2,3, Alfio Pappalardo2, Gabriela Mateiasi1, Marian Neagu1, Florin Valeriu Cotorobai1, Elena Angheluta1, Bogdan Stefanescu1, Alexandru Enciu1; 2nd International Conference on Nuclear Photonics June 2018-Brasov, Abstract, p195(2018)