



Ștefan-Alexandru Ghinescu

Date of birth: 16/05/1995 | **Nationality:** Romanian | **Phone number:** (+40) 728003175 (Mobile) | **Email address:** stefan.ghinescu@nipne.ro | **Address:** Str. Atomistilor, nr. 409, 077125, Măgurele, Romania (Work)

● WORK EXPERIENCE

2017 – CURRENT Magurele, Romania

ACS NATIONAL INSTITUTE FOR PHYSICS AND NUCLEAR ENGINEERING "HORIA-HULUIBEI" (IFIN-HH)

- Developing and maintaining the the Digitization software of the HASC subdetector in the NA62 experiment at CERN.
- Maintaining and improving the reconstruction software for the HASC subdetector.
- Development of a model for the electric signal generated by silicon fotomultipliers (SiPM) used in the HASC subdetector.
- Maintaining and improving the Data Quality software dedicated to the HASC subdetector.
- Participation and contributions to various Working Group meetings in the NA62 collaboration.
- Study of the ALP->gg process in the Exotics working group of the NA62 collaboration.
- Study of the Dark Scalar sensistivity of NA62 in the Exotics working group.
- Software coordinator of the NA62 experiment (since 08.2023)
- MC Validation coordinator of the NA62 experiment (since 10.2022)

2016 – 2017 Măgurele, Romania

PHYSICIST NATIONAL INSTITUTE FOR PHYSICS AND NUCLEAR ENGINEERING "HORIA-HULUIBEI" (IFIN-HH)

- Developing and maintaining the the Digitization software of the HASC subdetector in the NA62 experiment at CERN.
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- Maintaining and improving the Data Quality software dedicated to the HASC subdetector.
- Participation and contributions to various Working Group meetings in the NA62 collaboration.

2015 – 2016 Măgurele, Romania

TEHNICIAN NATIONAL INSTITUTE FOR PHYSICS AND NUCLEAR ENGINEERING "HORIA-HULUIBEI" (IFIN-HH)

- Maintaining and improving the reconstruction software for the HASC subdetector.
- Developing the Data Quality software dedicated to the HASC subdetector.

2017 – CURRENT Magurele, Romania

ACS UNESCO CAT. II INTERNATIONAL CENTRE FOR ADVANCED TRAINING AND RESEARCH IN PHYSICS (CIFRA)

- Study of the very rare double beta decay process
- Development, maintenance and improvement of various algorithms and programs used in the study of beta and double beta decay
- Study of Standard Model extensions through the double beta decay proces

09/2018 – CURRENT Bucuresti, Romania

UNIVERSITY TEACHING ASSISTANT UNIVERSITATEA BUCURESTI

Seminars for the **Thermodynamics and Statistical Physics** discipline

● EDUCATION AND TRAINING

01/10/2018 – 14/10/2023 Măgurele, Romania

PHD IN PHYSICS Faculty of Physics, University of Bucharest

Address 077125, Măgurele, Romania

2015 – 2018 Măgurele, Romania

MASTER OF SCIENCE Faculty of physics, University of Bucharest

- Teorie Cuantică de Câmp
- Electrodinamică Cuantică
- Fizica Particulelor Elementare
- Metode Computaționale în mai multe limbaje de programare(C++, Python, Mathematica)

Address 077125, Măgurele, Romania

2012 – 2016 Măgurele, Romania

BACHELOR OF SCIENCE Faculty of Physics, University of Bucharest

Address 077125, Măgurele, Romania

● LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

Mathematica | C C++ C | Python - advanced level | Latex - advanced level | GEANT 4 - advanced level | ROOT - advanced level | Fortran - Advanced level

● ADDITIONAL INFORMATION

PUBLICATIONS

[Probing Lorentz violation in \$2\nu\beta\beta\$ using single electron spectra and angular correlations](#) – 2021

[Lorentz violation effects in \$2\nu\beta\beta\$ decay](#) – 2020

[Coupled-channels analysis of the \$\alpha\$ decay in strong electromagnetic fields](#) – 2020

[Geiger-Nuttall Law for Nuclei in Strong Electromagnetic Fields](#) – 2017

[A biased MC for muon production for beam-dump experiments](#) – 2021

[Investigation of the Lorentz invariance violation in two-neutrino double-beta decay](#) – 2022

[Two-proton emission systematics](#) – 2022

[Semiclassical propagator approach for emission processes from deformed nuclei](#) – 2021

[Search for Lepton Number and Flavor Violation in \$K^+\$ and \$\pi^0\$ Decays](#) – 2021

[Measurement of the very rare \$K^+\(\rightarrow\pi^+\nu\nu\)\$ decay](#) – 2021

[Search for a feebly interacting particle X in the decay \$K^+ \rightarrow \pi X^+\$](#) - 2021

[Search for \$\pi^0\$ decays to invisible particles](#) - 2021

[An investigation of the very rare \$K^+ \rightarrow \pi^+ \nu \bar{\nu}\$ decay](#) - 2020

[Search for heavy neutral lepton production in \$K^+\$ decays to positrons](#) - 2020

[Searches for lepton number violating \$K^+\$ decays](#) - 2019

[Search for production of an invisible dark photon in \$\pi^0\$ decays](#) - 2019

[First search for \$K^+\$ to \$\pi^+ \nu \nu \bar{\nu}\$ using the decay-in-flight technique](#) - 2019

[Search for heavy neutral lepton production in \$K^+\$ decays](#) - 2018

[Semimicroscopic model of two-proton emission](#) - 2022

[Self-consistent calculations for atomic electron capture](#) - 2023

[Searches for lepton number violating \$K^+\$ to \$\pi^- \(\pi^0\) e^+ e^+\$ decays](#) - 2022

[Performance of the NA62 trigger system](#) - 2022

[A measurement of the \$K^+\$ to \$\pi^+ \mu^+ \mu^-\$ decay](#) - 2022

[A search for the \$K^+\$ to \$\mu^- \nu e^+ e^+\$ decay](#) - 2022

[Search for dark photon decay to \$\mu^+ \mu^-\$ at NA62](#) - 2023

[A measurement of the \$K^+\$ to \$\pi^0 e^+ \nu \gamma\$ decay](#) - 2023

[Search for the \$K^+\$ decays into the \$\pi^+ e^+ e^- e^-\$ final state](#) - 2023
