PERSONAL INFORMATION

GRECU Alexandru Tudor

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💬 Skype –

Sex Male | Date of birth dd/mm/1979 | Nationality Romanian

POSITION WITHIN THE PROJECT

Scientific Researcher level III

WORK EXPERIENCE

January 2013 – present

Scientific Researcher level III

Horia Hulubei National R&D Institute for Physics and Nuclear Engineering, 30 Reactorului, RO-077125, Bucharest-Măgurele, Romania (http://www.nipne.ro)

- Nonlinear mathematical physics; numerical simulation of discrete nonlinear systems
- High energy physics; Software development for Monte Carlo (MC) event generators in the LHCb software framework; Tuning/validation of MC generators
- Liaison between LHCb collaboration and HepData, and the Professor/RIVET collaboration (since Jan. 2015)
- Server and workstation administration; Software development for the private computing cluster of the LHCb-Romania working group

Research and development

June 2011 – January 2013

Scientific Researcher

Horia Hulubei National R&D Institute for Physics and Nuclear Engineering, 30 Reactorului, RO-077125, Bucharest-Măgurele, Romania (http://www.nipne.ro)

- Nonlinear mathematical physics; numerical simulation of discrete nonlinear systems
- High energy physics; Software development for Monte Carlo (MC) event generators in the LHCb software framework; Tuning/validation of MC generators
- Server and workstation administration; Software development for the private computing cluster of the LHCb-Romania working group

Research and development

December 2003 – June 2011

Assistent Scientific Researcher

Horia Hulubei National R&D Institute for Physics and Nuclear Engineering, 30 Reactorului, RO-077125, Bucharest-Măgurele, Romania (http://www.nipne.ro)

- Study of nonlinear physics phenomena; numerical simulation of discrete nonlinear systems
- since June 2007 I'm member of the LHCb collaboration at CERN, Geneva – development of first web application used by LHCb to organize and manage the detector control shifts (2008-2010); elementary particle physics; tuning and validation of MC event generators
- Web software development
- Server and workstation administration

Research and development

EDUCATION AND TRAINING

October 2007 – May 2011	**PhD in Physics**	Level 8

University of Bucharest, Bucharest, Romania

- Study of collective nonlinear phenomena in plasma physics; Statistical methods in applied nuclear physics; Astrophysics; The standard model of the elementary particles and its extensions

October 2003 – March 2005	**Masters of Science (physics)**	Level 7

University of Bucharest, Bucharest, Romania

- Condensed matter physics; conduction models in high resistivity materials; numerical simulations of conduction phenomena; organic polymer and liquid crystal physics

October 1998 – June 2003   **Physics Engineer (Physics licentiate)**

University of Bucharest, Bucharest, Romania

- Introduction to operator and vectorial algebra, complex calculus, mathematical physics; Physics of thermodynamic, optic, electromagnetic phenomena; electrodynamics and relativity theory; analytical mechanics; quantum physics; atomic physics; condensed matter physics; nuclear and high energy physics

PERSONAL SKILLS

Mother tongue(s)   Romanian

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
English				
C1	C2	C1	C1	C2
Italian				
B1	B2	B1	B1	B1

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

Communication skills
- good communication skills gained by attending various physics conferences and their social programme, during work stages in European scientific research centres (CERN) or while fulfilling scientific tasks as member of the LHCb international collaboration at CERN, Geneva

Organisational / managerial skills
- good organisational skills gained through personal experience as technical editor of the physics journal „Romanian Journal of Physics" (www.nipne.ro/rjp), occasionally as invited editor of numbers of the afore-mentioned journal and since January 2015 as co-convener of the softQCD sub-working group part of the QEE (QCD, Electroweak and Exotica physics) physics working group from the LHCb collaboration at CERN, Geneva

Job-related skills
- good command of quality control processes involved in micro-production of high-end technology dedicated to elementary particle physics experiments (gained during two work stages în 2005-2006 at INFN Sezione di Roma, contributing to the construction of a sector of the electromagnetic calorimeter for the CMS detector at LHC, CERN)

Digital competence

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

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid

Other computer skills
- good command of office suite (word processor, spread sheet, presentation software) Open/LibreOffice and Microsoft Office
- good command of photo editing software and professional DTP (LaTeX) gained as technical editor of a physics journal
- proficient programmer using languages Visual Basic, C/C++, Python, PHP, Javascript and fast learner of new programming languages; skills are gained during specific scientific research and DTP activities

Other skills
- Inorganic chemistry; electrical engineering; design/implementation of Ethernet networks; astrophysics

ADDITIONAL INFORMATION

Publications (latest most relevant 5 publications)

1. R. Aaij, A. Grecu et al. (LHCb Collab.)
   „Measurement of the prompt-production cross-section ratio sigma(chi_c2)/sigma(chi_c1) in pPb collisions at root s(NN)=8.16 TeV", Phys. Rev. C 103 (2021) 064905
2. R. Aaij, A. Grecu et al. (LHCb Collab.)
   „Measurement of psi (2S) production cross-sections in proton-proton collisions at root s=7 and 13 TeV", Eur. Phys. J. C 80 (2020) 185
3. R. Aaij, A. Grecu et al. (LHCb Collab.)
   „Measurement of b hadron fractions in 13 TeV pp collisions",
   Phys. Rev. D 100 (2019) 031102
4. R. Aaij, A. Grecu et al. (LHCb Collab.)
   „Measurements of prompt charm production cross-sections in pp collisions at root s=13 TeV", JHEP 03 (2016) 159
5. Ana Elena Dumitriu, A. T. Grecu
   „RIVET Plug-in for $Z0 \rightarrow e+ e-$ Production Cross-section Measurement in pp Collisions at root s = 7 TeV", Rom. Journ. Phys. 60 (2015) 415-428

Presentations
- "Impact of LHCb results on the tuning of Monte Carlo generators", A. Grecu, QCD@LHC2016, Zuerich, Switzerland, August 22-26, 2016
- "Soft QCD Measurements at LHCb", A. T. Grecu (on behalf of LHCb Collab.) 20th International Conference on Particles and Nuclei (PANIC 14), Hamburg, Germany, August 25 – 29, 2014
- „Statistical Approach of Modulational Instability for Cylindrical and Spherical NLS Equations", A. T. Grecu, S. De Nicola, R. Fedele, D. Grecu, A. Visinescu 7th General Conference of the Balkan Physics Union (BPU-7), Alexandroupolis, Greece, September 9-13, 2009

Conferences (co-organizer)
- „2nd National Conference on Theoretical Physics", Universitatea Ovidius Constanța, Romania, August 26-29, 2004

Date: 10.10.2023

SR III,
Alexandru Tudor GRECU