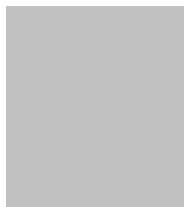


INFORMAȚII PERSONALE **Ionel Lazanu****Universitatea din Bucuresti**

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ionel.lazanu@g.unibuc.ro, , ionel.lazanu@cern.chSexul M | [Data nașterii](#) 24/05/1957 | [Naționalitatea](#) RomanaEXPERIENȚA
PROFESIONALĂ

- Din 2003 pana in prezent** **Profesor (in prezent emerit) si CSI la UB**
Universitatea din Bucuresti, Facultatea de Fizica
Str. Atomistilor 105, Magurele, Romania

Predare si cercetare (experiment si fenomenologie) in Fizica Nucleara si a Particulelor, Cosmologie, Astroparticule
- Din 1997 pana in 2003** **Conferentiar**
Universitatea din Bucuresti, Facultatea de Fizica
Str. Atomistilor 105, Magurele, Romania

Predare si cercetare (experiment si fenomenologie) in Fizica Nucleara si a Particulelor, Cosmologie
- Din 1995 pana in 1997** **Lector**
Universitatea din Bucuresti, Facultatea de Fizica
Str. Atomistilor 105, Magurele, Romania

Predare si cercetare (experiment si fenomenologie) in Fizica Nucleara si a Particulelor, Cosmologie
- Din 1993 pana in 1995** **Asistent**
Universitatea din Bucuresti, Facultatea de Fizica
Str. Atomistilor 105, Magurele, Romania

Predare si cercetare (experiment si fenomenologie) in Fizica Nucleara si a Particulelor, Cosmologie
- Din 1993 pana in 1995** **Fizician si cercetator**
Institutul National CD pentru Fizica si Inginerie Nucleara "Horia Hulubei", Str. Atomistilor 407, Magurele, Romania

Cercetare in Fizica Atomica si Nucleara (1990-1992 –IUCN Dubna)
- Din 1981 pana in 1984** **Profesor invatamant preuniversitar**
Ilfov
Profesor de Fizica

EDUCAȚIE ȘI
FORMAREDin 1990 pana in 1993 **Doctor in Fizica**

Universitatea din Bucuresti, Facultatea de Fizica

- Doctorat in Fizica radiatiilor. Titlul tezei: *Absorbția pionilor in He-3*
- Conducator: Prof. Alexandru Mihul

Din 1980 pana in 1981 **Masterat in Stiinte**

Universitatea din Bucuresti, Facultatea de Fizica

- Fizica Atomica, Nucleara si a Particulelor Elementare

Din 1976 pana in 1980 **Licenta in Fizica**

Universitatea din Bucuresti, Facultatea de Fizica

- Fizica

COMPETENȚE
PERSONALE

Limba(i) maternă(e) Romana

Alte limbi străine cunoscute

	INTELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversație	Discurs oral	
Engleza	Utilizator independent	Utilizator independent	Utilizator independent	Utilizator independent	Utilizator independent
Franceza	Utilizator independent	Utilizator independent	Utilizator independent	Utilizator independent	Utilizator independent

Competențe
organizaționale/manageriale

Ales Seful Catedrei de Fizica Atomica si Nucleara (2008-2011)

Membru (ales) al Consiliului Facultatii de Fizica (2000-2011 si 2015 – 2022)

Membru al Societatii Romane de Fizica

Secretarul Sectiunii Fizica Nucleara, Particule Elementare, Astrofizica, Cosmologie (2009-2013)

Membru al Societatii Europene de Fizica

Competențe dobândite la locul
de muncă

Domenii de interes stiintific: interactia radiatiei cu materia si procese de detectie; fizica particulelor si cosmologie; fizica neutrinilor

- Colaborari internationale: **WA-105 Collaboration** (membru, Proiect CERN, (aprobat); **LAGUNA-LBNO** (membru, FP-7 proiect, 2011-2014), **LAGUNA** (membru, FP-7 proiect, 2008-2011), **CBM** (Compressed Baryonic Matter) experiment la FAIR (dupa 2005), **CERN-RD50** (Radiation hard semiconductor devices for very high luminosity colliders, after 2002); *Bucharest*



– **Dubna – Torino** (interactia pionilor cu nucleeele usoare folosind camera cu streamer, membru, 1985 - 1992).

INFORMATII SUPLIMENTARE

Publicații

- Peste 140 publicatii stiintifice, comunicari, lectii invitate, dintre care peste 60 publicatii stiintifice in reviste ISI; participare la peste 40 conferinte.

Evaluator proiecte cercetare internationale

- *Fundação para a Ciência e a Tecnologia, I.P.* (FCT) Portugal, 2014
- *Fundação para a Ciência e a Tecnologia, I.P.* (FCT) Portugal, 2012
- **FP7 Odysseus, 2013**

ANEXE

- Lista de publicatii
- Lista proiecte de cercetare director de proiect sau responsabil partener

Carti

Ionel Lazanu, Sorina Lazanu, Chapter 7: Silicon Detectors for High Energy Physics: Physical Models and Predictions for Degradation in Radiation Fields; **pp. 261-305**, in Trends in Experimental High Energy Physics, Editors: Stevens, Jacob R., Nova Publishers NY., 2005, ISBN: 1-59454-350-X

Publicatii educationale

Ionel Lazanu, Introducere in fizica acceleratoarelor de particule (Note de curs), Ed. Univ. din Bucuresti, ISBN-973-575-185-2, 1997, 118 pagini

Ionel Lazanu, Spectroscopia hadronilor (note de curs), Ed. Univ. din Bucuresti, ISBN-973-575-282-4, 1998, 145 pagini

Ionel Lazanu, Cosmologie si particule elementare, Ed. Univ. din Bucuresti, ISBN-973-575-364-2, 1999, 165 pagini

Ionel Lazanu, Alexandru Mihul, Particule elementare (partea I) Ed. Univ. din Bucuresti, ISBN-973-575-528-9, 2001, 222 pagini

Ionel Lazanu, Particule elementare – probleme rezolvate, Ed. Univ. din Bucuresti, ISBN-973-575-677-3, 2002, 201 pagini

Lista de publicatii (ultimii 5 ani)

DUNE Phase II: Scientific Opportunities, Detector Concepts, Technological Solutions

DUNE Collaboration•Adam Abed Abud(CERN) et al. (Aug 22, 2024)

e-Print: 2408.12725 [physics.ins-det]

First Measurement of the Total Inelastic Cross-Section of Positively-Charged Kaons on Argon at Energies Between 5.0 and 7.5 GeV

DUNE Collaboration•Adam Abed Abud(CERN) et al. (Aug 1, 2024)

e-Print: 2408.00582 [hep-ex]

Supernova Pointing Capabilities of DUNE

DUNE Collaboration•Adam Abed Abud(CERN) et al. (Jul 14, 2024)

e-Print: 2407.10339 [hep-ex]

A new possible way to detect Axion Anti-quark Nuggets

Ionel Lazanu, Mihaela Parvu

Symmetry -Basel; "The Dark Universe: The Harbinger of a Major Discovery", [arXiv:2407.04330](https://arxiv.org/abs/2407.04330)

White paper on (α , n) neutron yield calculations

D. Cano-Ott, S. Cebrián, M. Gromov, M. Harańczyk, A. Kish, H. Kluck, V. A. Kudryavtsev, I. Lazanu, V. Lozza, G. Luzón, E. Mendoza, M. Parvu, V. Pesudo, A. Pocar, R. Santorelli, M. Selvi, S. Westerdale, G. Zuzel, arXiv:2405.07952

Performance of a modular ton-scale pixel-readout liquid argon time projection chamber
DUNE Collaboration, Adam Abed Abud e-Print: 2403.03212 [physics.ins-det]

Exploring the detection of AQNs in large liquid detectors
Ionel Lazanu, Mihaela Parvu, *JCAP* **05 (2024) 014**, e-Print: 2402.07312 [hep-ph]

Doping Liquid Argon with Xenon in ProtoDUNE Single-Phase: Effects on Scintillation Light
DUNE Collaboration, Adam Abed Abud, e-Print: 2402.01568 [physics.ins-det]

The DUNE Far Detector Vertical Drift Technology, Technical Design Report
DUNE Collaboration, e-Print: 2312.03130 [hep-ex]

Impact of cross-section uncertainties on supernova neutrino spectral parameter fitting in the Deep Underground Neutrino Experiment
DUNE Collaboration, *Phys.Rev.D* **107 (2023) 11, 112012**, e-Print: 2303.17007 [hep-ex]

Large low background kTon-scale liquid argon time projection chambers
T. Bezerra, *J.Phys.G* **50 (2023) 6, 060502**, e-Print: 2301.11878 [hep-ex]

Highly-parallelized simulation of a pixelated LArTPC on a GPU
DUNE Collaboration, *JINST* **18 (2023) 04, P04034**, e-Print: 2212.09807 [physics.comp-ph]

Identification and reconstruction of low-energy electrons in the ProtoDUNE-SP detector
DUNE Collaboration, *Phys.Rev.D* **107 (2023) 9, 092012**, e-Print: 2211.01166 [hep-ex]

Reconstruction of interactions in the ProtoDUNE-SP detector with Pandora
DUNE Collaboration, *Eur.Phys.J.C* **83 (2023) 7, 618**, e-Print: 2206.14521 [hep-ex]

DUNE Offline Computing Conceptual Design Report
DUNE Collaboration, e-Print: 2210.15665 [physics.data-an]

Separation of track- and shower-like energy deposits in ProtoDUNE-SP using a convolutional neural network
DUNE Collaboration, *Eur.Phys.J.C* **82 (2022) 10, 903**, e-Print: 2203.17053 [physics.ins-det]

Scintillation light detection in the 6-m drift-length ProtoDUNE Dual Phase liquid argon TPC
DUNE Collaboration, *Eur.Phys.J.C* **82 (2022) 7, 618**, e-Print: 2203.16134 [physics.ins-det]

Low Background kTon-Scale Liquid Argon Time Projection Chambers
A. Avasthi, et. al., Snowmass 2021, e-Print: 2203.08821 [physics.ins-det]

Snowmass Neutrino Frontier: DUNE Physics Summary
DUNE Collaboration, Snowmass 2021, e-Print: 2203.06100 [hep-ex]

A Gaseous Argon-Based Near Detector to Enhance the Physics Capabilities of DUNE
DUNE Collaboration, Snowmass 2021, e-Print: 2203.06281 [hep-ex]

Low-Energy Physics in Neutrino LArTPCs,
Snowmass 2021, e-Print: 2203.00740 [physics.ins-det]

Low exposure long-baseline neutrino oscillation sensitivity of the DUNE experiment
DUNE Collaboration, *Phys.Rev.D* **105 (2022) 7, 072006**, e-Print: 2109.01304 [hep-ex]

Design, construction and operation of the ProtoDUNE-SP Liquid Argon TPC
DUNE Collaboration, *JINST* **17 (2022) 01, P01005**, e-Print: 2108.01902 [physics.ins-det]

Searching for solar KDAR with DUNE

DUNE Collaboration, *JCAP* **10** (2021) **065**, e-Print: 2107.09109 [hep-ex]

Can strangelets be detected in a large LAr neutrino detector?

Mihaela Parvu, Ionel Lazanu, *JCAP* **11** (2021) **040**, e-Print: 2107.05257 [physics.ins-det]

Radioactive background for ProtoDUNE detector

Mihaela Parvu, Ionel Lazanu, *JCAP* **08** (2021) **042**, e-Print: 2104.10604 [physics.ins-det]

Performance study of a $3\times 1\times 1$ m³ dual phase liquid Argon Time Projection Chamber exposed to cosmic rays
WA105 Collaboration B. Aimard, *JINST* **16** (2021) **08**, **P08063**, e-Print: 2104.08227 [physics.ins-det]

Deep Underground Neutrino Experiment (DUNE) Near Detector Conceptual Design Report

DUNE Collaboration, *Instruments* **5** (2021) **4**, **31**, e-Print: 2103.13910 [physics.ins-det]

Experiment Simulation Configurations Approximating DUNE TDR

DUNE Collaboration, e-Print: 2103.04797 [hep-ex]

Study of scintillation light collection, production and propagation in a 4 tonne dual-phase LArTPC

B. Aimard, *JINST* **16** (2021) **03**, **P03007**, e-Print: 2010.08370 [physics.ins-det]

Prospects for beyond the Standard Model physics searches at the Deep Underground Neutrino Experiment

DUNE Collaboration, *Eur.Phys.J.C* **81** (2021) **4**, **322**, e-Print: 2008.12769 [hep-ex]

Supernova neutrino burst detection with the Deep Underground Neutrino Experiment

DUNE Collaboration

B. Abi et al. *Eur.Phys.J.C* **81** (2021) **5**, **423**, e-Print: 2008.06647 [hep-ex]

First results on ProtoDUNE-SP liquid argon time projection chamber performance from a beam test at the CERN Neutrino Platform

DUNE Collaboration, *JINST* **15** (2020) **12**, **P12004**, e-Print: 2007.06722 [physics.ins-det]

Neutrino interaction classification with a convolutional neural network in the DUNE far detector

DUNE Collaboration, *Phys.Rev.D* **102** (2020) **9**, **092003**, e-Print: 2006.15052 [physics.ins-det]

Long-baseline neutrino oscillation physics potential of the DUNE experiment

DUNE Collaboration, *Eur.Phys.J.C* **80** (2020) **10**, **978**, e-Print: 2006.16043 [hep-ex]

About detecting very low mass black holes in LAr detectors

Ionel Lazanu, Sorina Lazanu, Mihaela Pârnu, *JCAP* **10** (2020) **046**, e-Print: 2006.09974 [hep-ph]

Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume III: DUNE Far Detector Technical Coordination

DUNE Collaboration, *JINST* **15** (2020) **08**, **T08009**, e-Print: 2002.03008 [physics.ins-det]

Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume I Introduction to DUNE

DUNE Collaboration, *JINST* **15** (2020) **08**, **T0800**, e-Print: 2002.02967 [physics.ins-det]

Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume II: DUNE Physics

DUNE Collaboration, e-Print: 2002.03005 [hep-ex]

Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume IV: Far Detector Single-phase Technology

DUNE Collaboration, *JINST* **15** (2020) **08**, **T08010**, e-Print: 2002.03010 [physics.ins-det]

Muon induced radioactivity in the next generation of neutrino experiments
Parvu Mihaela, Ana Chiriacescu, Ionel Lazanu, Alexandru Jipa, Oana Ristea
AIP Conf.Proc. 2075 (2019) 1, 090010
Contribution to: BPU-10

The DUNE Far Detector Interim Design Report Volume 1: Physics, Technology and Strategies
DUNE Collaboration, e-Print: 1807.10334 [physics.ins-det]

The DUNE Far Detector Interim Design Report, Volume 2: Single-Phase Module
DUNE Collaboration, e-Print: 1807.10327 [physics.ins-det]

The DUNE Far Detector Interim Design Report, Volume 3: Dual-Phase Module
DUNE Collaboration, e-Print: 1807.10340 [physics.ins-det]

A 4 tonne demonstrator for large-scale dual-phase liquid argon time projection chambers,
JINST 13 (2018) 11, P11003, e-Print: 1806.03317 [physics.ins-det]

Lista de proiecte de cercetare ca Director de Proiect sau Responsabil Partener

- CERN-RO; HighAD2MR (2023-2024)
- RO-DUNE-2 (2020-2024)
- RO_DUNE (modul 5.2 RO_CERN) 2019-2020
- NEPHYLAro (modul 5.2 RO_CERN) 2017.
- Dubna contract 2015 (Anex to JINR Order no. 34/23-01-2015, poz. 72, contract 03-4-1104-2011/2016).
- Dubna contract 68/2014.
- Detection systems for cosmic radiation using new technologies (DETCOS) PNCDI II, Partnership 82-104/2008.
- GRID techniques in astrophysics with applications to modelling and processing space data, (GRAPH), PNCDI II, Partnership UB 82-077/2008.
- Advanced studies for obtaining semiconductor detectors able to operate in intense hadron and lepton fields, with energies up to hundreds of TeV, PNCDI I/ CERES 69/2004.
- Modelling and engineering of defects in semiconductors, for obtaining radiation hard detectors for applications in the physics of particles and heavy ions produced in accelerators or by astrophysical sources, and industrial applications, PNCDI I/ MATNANTECH 219 (404)/2004, UB 219(404)/2004.
- Kinetics of defects induced in semiconductors by irradiation with particles and ions of intermediate and high energies, PNCDI I /CERES 17/2001.

Alte proiecte

- LAGUNA (proiect FP 7: Grant Agreement No. 212343): Design of a pan European infrastructure for Large Apparatus for Grand Unification and Neutrino Astrophysics; 2008-2011.
- LAGUNA-LBNO (proiect FP 7): Design of a pan-European Infrastructure for Large Apparatus studying Grand Unification, Neutrino Astrophysics and Long Baseline Neutrino Oscillations; 2011-2014.

Coordonator programe de studiu

- Interactii atomice, nucleare, particule elementare, astrofizica si aplicatii, IANPEAA (master, 2008-2013).
- Fizica atomului, nucleului, particule elementare, astrofizica si aplicatii FANPEAA (master, since academic year 2013-2014)
- Fizica (2016-2017)



7/08/2024