

Informații personale



Lector Universitar Facultatea de Fizică, Universitatea Babeș-Bolyai, Cluj Napoca, Romania

Afiliere:

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Experiență profesională

Data	Mai 2024 - Prezent
Poziția	Prodecan, Facultatea de Fizică
Data	26 Feb 2018 – Prezent
Poziția	Lector Universitar
Angajator	Facultatea de Fizică, Universitatea Babeș-Bolyai
Data	22 Noiembrie 2011 – 22 Noiembrie 2018
Poziția	Senior Scientist (promoted to Scientist from Junior Scientist in 2017, promoted to Senior Scientist in 2018)
Angajator	Joint Institute for Nuclear Research – Bogoliubov Laboratory for Theoretical Physics, Dubna, Russian Federation

Educație

Liceu	2003 – 2007 “Grup Școlar Sanitar”, Bistrița, Bistrița – Năsăud county, Romania
Studii universitare	2007 – 2011 Facultatea de Fizică, Universitatea Babeș – Bolyai, Cluj – Napoca, Cluj, Romania, promoția Iunie 2011. 2011-2013 Facultatea de Fizică, Universitatea Babeș – Bolyai, Cluj – Napoca, Cluj, Romania, promoția Iulie 2013 2013- 2017, Student Doctorand, Universitatea Babeș – Bolyai
Cea mai mare calificare obținută	Doctor în Fizică (titlul lucrării: “ <i>Cluster approach to fission</i> ”, 28.Apr.2017, cu calificativul Summa Cum Laude.) Link: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjG8d3eu8uDAxX3IP0HHXkyCP8QFnoECBEQAQ&url=https://teze.doctorat.ubbcluj.ro/doctorat/teza/fisier/3867&usq=AOvVaw0fw_bHHdOusCygB0kxdhww&opi=89978449

**Premii
obținute**

- **Premiul Academiei Române “Stefan Procopiu”** pentru grupul de lucrări “The study of nuclear fission reactions, the theoretical description of experimental observables, and their comparison with measured data” publicat în 2018
- **1st place** of the 2016 **JINR Prize** with the project “Cluster approach for describing nuclear fission”, authors: H. Pașca, G. Adamian, A. Andreev, N. Antonenko, R. Jolos, A. Nasirov, T. Shneidman.
- 1st place in the Poster Competition for Young Scientists at Programme Advisory Committee for Nuclear Physics of JINR in 2016.
- Received the JINR AYSS 2017 Grant (Grant No. 17-302-08).
- Received the BLTP JINR **V.G. Soloviev** scholarship for 2018.

Competențe

Limba maternă	Limba Română
Limbi străine	Engleză (proficient), Germană (basic), Rusă (basic), Franceză (basic)
Competențe organizatorice	Președintele Societății Române de Fizică - Filiala Cluj Președintele Comisiei Electorale, Facultatea de Fizică Prodecan, Facultatea de Fizică
Competențe tehnice	Detectori de radiații
Competențe IT	Python (excelent), Mathematica (excelent), C++(excelent), etc.

**Proiecte
conduse**

PD-2019 (Director de proiect), UEFISCDI	„Reactii de fisiune induse cu ioni grei” - cod proiect PN-III-P1-1.1-PD-2019-0304, suma 232.702,00 RON.
Proiecte cu JINR Dubna, (Responsabil de proiect), finanțare în cadru colaborării României la JINR DUBNA	2019 - Grant de cercetare in cadrul proiectului “Fission of Highly Excited Nuclei” cod proiect 01-3-1136-2019/2023 (Ordinul 396 / 27.05.2019, pozitia 23) 5800USD 2019 - Finantare an I “Fission of Highly Excited Nuclei” 01-3-1136-2019/2023 (Ordinul 397 / 27.05.2019, pozitia 25) 3200 USD 2020 - Finantare an II “Fission of Highly Excited Nuclei”(Ordinul 269/ 20.05.2020, pozitia 25) 3200USD 2020 - Finantare an II in Romania (Ordinul 269/ 20.05.2020, pozitia 25) “Fission of Highly Excited Nuclei 01-3-1136-2019/2023 3500 USD 2020 - “Improving the effectiveness of radiation therapy for cancer treatment”, cod proiect 04-9-1077-2009/2020 - 3500USD

Publicații științifice

„Extraction of the potential energy in mass asymmetry coordinate from experimental mass distributions of Fm isotopes”, Author(s): Schuller, E. (Schuller, Evelyn); Pașca, H. (Pasca, Horia), Nuclear Physics A, (2026), DOI: 10.1016/j.nuclphysa.2026.123334

„Alpha clusterization as a reason for the narrow symmetric mass distribution in spontaneous fission of ^{258}Fm ”, Author(s): Pasca, H (Pasca, H.); Adamian, GG (Adamian, G. G.); Antonenko, NV (Antonenko, N.,V.), Physics Letters B 870, (2025)

„Manifestation of ternary clusterization in binary spontaneous fission of ^{252}Cf ”, Author(s): Pasca, H (Pasca, H.); Adamian, GG (Adamian, G. G.); Antonenko, NV (Antonenko, N.,V.), Physics Letters B 864:139444, DOI: 10.1016/j.physletb.2025.139444

„Excitation-energy dependence of fission-fragment neutron multiplicity in the improved scission-point model”, Author(s): Pasca, H (Pasca, H.); Andreev, AV (Andreev, A., V); Adamian, GG (Adamian, G. G.); Antonenko, NV (Antonenko, N., V), Physical Review C 109(4), DOI: 10.1103/PhysRevC.109.044601

„Fission within dinuclear system approach”, Author(s): Pasca, H (Pasca, H.); Andreev, AV (Andreev, A., V); Adamian, GG (Adamian, G. G.); Antonenko, NV (Antonenko, N., V), International Journal of Modern Physics E, 2023, 32(10), 2340005 DOI: 10.1142/S0218301323400050

„Influence of the transition from symmetric to asymmetric fission mode on the average total kinetic energy and neutron multiplicity”, Author(s): Pasca, H (Pasca, H.); Andreev, AV (Andreev, A., V); Adamian, GG (Adamian, G. G.); Antonenko, NV (Antonenko, N., V), Physical Review C 108(1) (2023), DOI: 10.1103/PhysRevC.108.014613

„Excitation-energy dependence of the fission-fragment neutron-excess ratio”, Author(s): Pasca, H (Pasca, H.); Andreev, AV (Andreev, A., V); Adamian, GG (Adamian, G. G.); Antonenko, NV (Antonenko, N., V), Physical Review C 107(2) (2023), DOI: 10.1103/PhysRevC.107.024603

„Simultaneous description of charge, mass, total kinetic energy, and neutron multiplicity distributions in fission of Th and U isotopes”, Author(s): Pasca, H (Pasca, H.); Andreev, AV (Andreev, A., V); Adamian, GG (Adamian, G. G.); Antonenko, NV (Antonenko, N., V), Physical Review C, Volume: 104, Issue: 1, Article Number: 014604, DOI: 10.1103/PhysRevC.104.014604, Published: JUL 6 2021

„Examination of coexistence of symmetric mass and asymmetric charge distributions of fission fragments”, Author(s): Pasca, H; Andreev, AV; Adamian, GG; Antonenko, NV, Physical Review C 101, 064604, DOI: 10.1103/PhysRevC.101.064604, Published: JUN 3 2020

„Change of the shape of mass and charge distributions in fission of Cf isotopes with excitation energy”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, Physical Review C 99, 064611 (2019), DOI: 10.1103/PhysRevC.99.064611

„Influence of the entrance channel on spins of complex fragments in binary reactions”, Pașca H., Kalendarov S.A., Adamian G.G., Antonenko N.V., Nuclear Physics A 980, (2018), DOI: 10.1016/j.nuclphysa.2018.10.060

„Charge/mass yields in the fission of highly excited heavy actinides”, Pașca H., Andreev A.V., Adamian G.G., Antonenko N.V., EPJ Web of Conferences, 194, (2018), DOI: 10.1051/epjconf/201819406004

„Toward an understanding of the anomaly in charge yield of Mo and Sn fragments in the fission reaction $^{238}\text{U}(n,f)$ ”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, D. Lacroix, *Physical Review C* 98, 014624 (2018), DOI: 10.1103/PhysRevC.98.014624

„Suggestion for examination of a role of multi-chance fission”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, *The European Physical Journal A* 54: 104 (2018), DOI: 10.1140/epja/i2018-12545-y

„Induced fission modes of Fermium and Nobelium isotopes”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, *Nuclear Physics A*, Volume 977, p. 1–13 (2018), DOI: 10.1016/j.nuclphysa.2018.05.008

„Charge distributions of fission fragments of low- and high-energy fission of Fm, No, and Rf isotopes”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, *Physical Review C* 97, 034621 (2018), DOI: 10.1103/PhysRevC.97.034621

„Role of the excitation energy of the compound nucleus in binary decay processes”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, *EPJ Web of Conferences* 169:00015 (2018), DOI: 10.1051/epjconf/201816900015

„Transitions between symmetric and asymmetric modes in the region of heavy actinides”, Horia Pașca, A. Andreev, G. G. Adamian, N. V. Antonenko, *Nuclear Physics A* 969 (2017), DOI: 10.1016/j.nuclphysa.2017.10.001

„Spins of complex fragments in binary reactions within a dinuclear system model”, Pașca, H.; Kalandarov, Sh. A.; Adamian, G. G.; Antonenko, N. V., *Physical Review C* 96, 044611 (2017), DOI: 10.1103/PhysRevC.96.044611

„Physical origin of the transition from symmetric to asymmetric fission fragment charge distribution”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, *AIP Conference Proceedings* 1852, 080007 (2017), DOI: 10.1063/1.4984881

„Physical Origin of the Transition from Symmetric to Asymmetric Fission Fragment Charge Distribution”, Horia Pașca, A. Andreev, G. G. Adamian, N. V. Antonenko, *Acta Physica Polonica B* 48(3):431 (2017), DOI: 10.5506/APhysPolB.48.431

„Unexpected asymmetry of the charge distribution in the fission of $^{222,224}\text{Th}$ at high excitation energies”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, *Physical Review C* 94, 064614 (2016), DOI: 10.1103/PhysRevC.94.064614

„Extraction of potential energy in charge asymmetry coordinate from experimental fission data”, H. Pașca, A.V. Andreev, G.G. Adamian, N.V. Antonenko, *The European Physical Journal A* 52, 369 (2016), DOI: 10.1140/epja/i2016-16369-5

„Possible origin of transition from symmetric to asymmetric fission”, H. Pașca et al., *Physics Letters B* 760 (2016) 800–806, DOI: 10.1016/j.physletb.2016.07.074

„Energy dependence of mass, charge, isotopic, and energy distributions in neutron-induced fission of ^{235}U and ^{239}Pu ”, H. Pașca et al., *Physical Review C* 93, 054602 (2016), DOI: 10.1103/PhysRevC.93.054602

„Energy dependence of fission observables”, H. Pașca, *EPJ Web of Conferences* 107, 07003 (2016), DOI: 10.1051/epjconf/201610707003

„Effect of the combined use of proton radiation and AraC on morphological changes and apoptosis in the liver of rats”, Author(s): Ignat, Elena; Severiukhin, Y.; (...); Pașca, H., *European Biophysics Journal*, (2021), WOS:000671622300462 (meeting abstract)

Participări la conferințe internaționale

- 2024 International Conference «50 Years of Cold Fusion», 19-24 Nov, Yerevan Armenia, "Manifestation of clustering in fission of heavy nuclei" (Oral presentation)
- 2018 Nuclear Structure and Related Topics (NSRT18, 3-6 June), Burgas, Bulgaria, "Charge-mass yields in the fission of highly excited heavy actinides" (Oral presentation);
- 2017 JINR/BLTP – SKLTP/CAS Joint Workshop on Physics of Strong Interacting Systems (26 November – 1 December 2017) Shenzhen University in China, "Multiple transitions between symmetric and asymmetric fission modes" (Oral presentation);
- Helmholtz International Summer School "NUCLEAR THEORY AND ASTROPHYSICAL APPLICATIONS", Dubna, Russian Federation, (10-22 July 2017), "Spin Distribution Of Fission Fragments In Binary Decay Reactions" (Oral presentation);
- Helmholtz International Summer School "NUCLEAR THEORY AND ASTROPHYSICAL APPLICATIONS", Dubna, Russian Federation, (10-22 July 2017), "Influence Of Compound Nucleus Excitation On Mass And Charge Distributions Of Fission Fragments " (Oral presentation);
- THEORY-4 Scientific Workshop on Nuclear Fission dynamics and the Emission of Prompt Neutrons and Gamma Rays, Varna, Bulgaria (20-22 June 2017), "The role of excitation energy of the compound nucleus in binary decay processes" (Oral presentation);
- International Seminar on Interactions of Neutrons with Nuclei (ISINN25), Dubna, Russian Federation, (22-26 May 2017): "Spins of complex fragments in binary reactions and in fission" (Oral presentation);
- 40th ASRC International Workshop "Experimental and Theoretical Advances in Fission and Heavy Nuclei" , Japan Atomic Energy Agency (JAEA), Tokai, Japan (12-13 December 2016); "Energy dependence of the shape of the fission fragment charge distribution" (Oral presentation);
- Zakopane Conference on Nuclear Physics Extremes of the Nuclear Landscape, Zakopane, Poland, (August 28 September 4 2016) "Physical origin of the transition from symmetric to asymmetric fission fragment charge distribution" (Authors: H.Pasca, A.V. Andreev, G.G. Adamian, N. V. Antonenko)(Oral presentation by dr. G.G. Adamian);
- Carpathian Summer School of Physics (26 June- 09 July 2016), Sinaia, Romania: „Physical origins of the transition from symmetric to asymmetric fission fragment charge distribution" (Oral presentation);

Seminarii susținute

- BLTP-KLTP Joint Workshop on Physics of Strong Interaction (28 June - 03 July 2016), Dubna, Russian Federation: "Physical origin of transition from symmetric to asymmetric fission" (Oral presentation);
- 119th Session of the Scientific Council of the Programme Advisory Committee for Nuclear Physics of JINR (18-19 February 2016), Dubna, Russian Federation: "Energy dependence of mass, charge, isotopic distributions and TKE in neutron-induced fission of ^{235}U and ^{239}Pu " (Oral presentation);
- Programme Advisory Committee for Nuclear Physics of JINR (29-10 January 2016), Dubna, Russian Federation: "Energy dependence of mass, charge, isotopic distributions and TKE in neutron induced fission of ^{235}U and ^{239}Pu " (Poster);
- 9th International Physics Conference of the Balkan Physical Union – BPU9 (24-27 August 2015), Istanbul, Turkey: "Spin distribution of binary decay products" (Oral presentation);
- Nuclear Structure and Related Topics – NSRT15 (14-18 July 2015), Dubna, Russian Federation: "Energy dependence of fission observables" (Oral presentation);
- SKLTP-BLTP JINR Joint Workshop on Physics of Strongly Interacting Systems (14-19 July 2014), Dubna, Russian Federation: "Angular momentum distribution of binary reaction products" (Oral presentation);
- 17th of October 2016, Bogolyubov Laboratory of Theoretical Physics, JINR, Russian Federation, title "Cluster approach for describing nuclear fission" ;
- 31st of March 2017, Faculty of Physics, "Babes-Bolyai University", Romania, "Cluster approach to fission";
- 28th of July 2017, Bogolyubov Laboratory of Theoretical Physics, JINR, Russian Federation, Lecture for the young scientist of FSU countries, "The DNS approach to fission";
- 8th of October 2017, Institut de Physique Nucleaire, Orsay, France "Transitions between symmetric and asymmetric fission modes in the region of light and heavy actinides";