

"1 DECEMBRIE 1918" UNIVERSITY OF ALBA IULIA

Faculty of Computer Science and Engineering

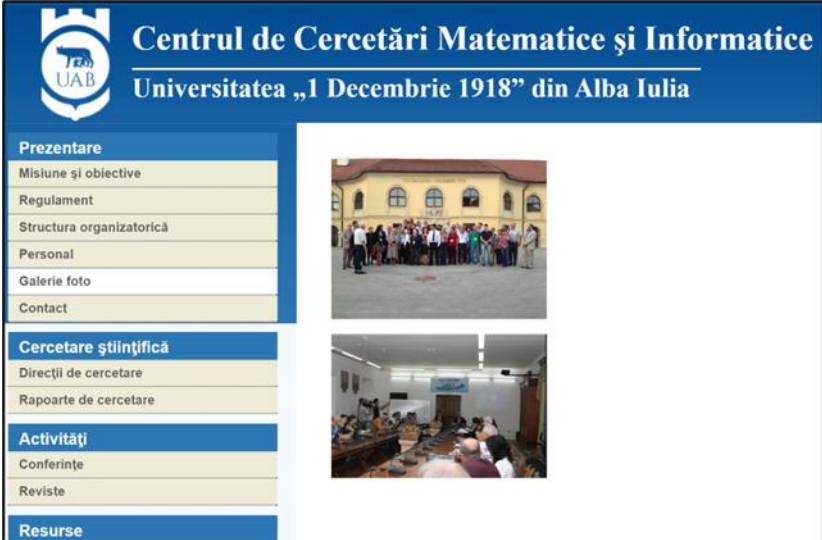
Department of Computer Science, Mathematics, and Electronics

**Self-Evaluation Report
Research Center in Mathematics and Computer Science
2025**

February - 2026

1 Presentation of the Research Center

1.1	Name and Abbreviation
	Research Center in Mathematics and Computer Science, CCMI
1.2	Research Structure Within the Department
	Department of Computer Science, Mathematics, and Engineering
1.3	Founding Act (resolution, decision, order, etc.)
	Type of Document: Senate Resolution
	Issuing Body:
	UAB Senate
	Date of Issue:
	2002
	Subsequent Amendments
	1.07.2016
1.4	Organization and Operation Regulation
	-
1.5	Center Coordinator, e-mail
	Coordinator: Prof. PhD.Habil. Breaz Marcela Nicoleta, nbreaz@uab.ro
1.6	Adress
	Unirii Str., no. 15-17, code 510009, Alba Iulia
1.7	Tel, Fax, webpage, E-mail
	https://www.uab.ro/centre/20-centrucmi, nbreaz@uab.ro
1.8	Subordination
	Department of Computer Science, Mathematics, and Electronics, Faculty of Computer Science and Engineering, "1 Decembrie 1918" University of Alba Iulia
1.9	Logo
	
1.10	Brief Description of the Center
	The Research Center in Mathematics and Computer Science operates within the Department of Computer Science, Mathematics, and Electronics, under the Faculty of Computer Science and Engineering at the "1 Decembrie 1918" University of Alba Iulia. This research unit was established as a result of continuous efforts to foster a dialogue between two major fields—Mathematics and Computer Science—at the level of its representatives, who are members of a joint department. The aim was to consolidate their diverse research interests around the core idea of modeling real-world phenomena from various domains, using mathematical frameworks assisted by computing tools. Since its start, several research themes have emerged in the areas of Geometric Function Theory, Regression Modeling, and Artificial Intelligence, respectively. CCMI relies on the research endeavors of 16 members and has two specialized laboratories at its disposal: the Applied Mathematics

	Laboratory and the Numerical Methods Laboratory (recently designated as the Artificial Intelligence Laboratory).
1.11	Mission of the Research Center, Research, Development, and Innovation Directions The mission of CCMI is to conduct activities within the scope of fundamental and applied research in the fields of Mathematics and Computer Science, oriented towards the development of science, education, economy, services, and community relations. The scientific endeavors and achieved results converge toward themes aligned with the needs of science and society within the realm of applied and interdisciplinary research. The primary research directions pursued are: Data Mining and Intelligent Agents; Geometric Function Theory (specifically univalent functions and integral operators); Dynamical Systems; Natural Computing (nature-inspired computational models and applications in optimization problems); and Machine Learning.
1.12	Methods for Capitalizing on Research, Development, and Innovation Results and Their Level of Recognition Research results are disseminated at specialized international conferences and published in peer-reviewed ISI (Web of Science) or BDI (International Databases) indexed journals. Additionally, CCMI members manage the BDI-indexed journal <i>Acta Universitatis Apulensis</i>, which publishes papers from international authors as well as works developed as a result of the research activities carried out within the center (http://auajournal.uab.ro/).
1.13	Domains and Categories Accompanied by Keywords (multiple options can be selected for research domains according to EERTIS – Domain Category– Domain Category https://eertis.eu/search-rf 6.1. Centralised Computing Facilities (Computer) 7.4. Cross-disciplinary Centres in Mathematics (Mathematics) https://eertis.eu/errf-2400-000a-3978 EERTIS Public Profile
1.14	Additional Keywords Mathematical modeling, geometric function theory, artificial intelligence
1.15	Infrastructure Category According to EERTIS – RI Category https://eertis.eu/search-rf IOSIN
1.16	Data Management Policy CCMI members assume full responsibility for the data they manage.
1.17	A Maximum of 10 Photographs (max. 2 MB each) May Be Attached
	

2. Domain

2.1	Research Field according to UNESCO Classification (https://unesdoc.unesco.org/ark:/48223/pf0000082946) 12 Mathematics • 1203 Computer Science (1203.04 Artificial Intelligence, 1203.11 Computer Software) • 1201 Analysis and Functional Analysis (1202.09 Functions of a Complex Variable, 1202.20 Partial Differential Equations, 1202.04 Calculus of Variations) • 1204 Geometry (1204.04 Differential Geometry) • 1209 Statistics (1209.14 Techniques of Statistical Prediction, 1209.03 Data Analysis)
2.2	Research Field according to CAEN Classification (https://caen.ro/) CAEN M, CAEN Code 7219 - Research and experimental development on other natural sciences and engineering
2.3	Research Themes Developed Within the Center • Theoretical research in the fields of complex analysis, mathematical statistics, differential geometry, and numerical methods • Integral operators on spaces of univalent functions • Extensions of spline regression models • Mathematical modeling of economic phenomena and the design of computer systems implementing these models

	• Studies in the field of artificial intelligence • Evolutionary optimization • Digital reconstruction: The reconstruction of the Apulum Roman Castrum • Studies for the development of support systems for distance learning via Intranet and Internet • Modeling and simulation of elements and phenomena specific to regenerative technologies • Monitoring, analysis, and optimization of energy consumption in industrial perimeters • Development of a prototype for the alternator-battery assembly for variable voltages and hybrid vehicles
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3. Human Resources

3.1	Last and first name	Position	E-mail address	Google Scholar Academic Account
	Breaz Valer Daniel	Full Professor PhD	dbreaz@uab.ro	https://scholar.google.com/citations?user=sVg87NMAAAAJ&hl=ro&oi=ao
	Breaz Marcela Nicoleta	Full Professor PhD	nbreaz@uab.ro	https://scholar.google.com/citations?user=ckrEQIsAAAAAJ&hl=ro&oi=ao
	Popa Ioan Lucian	Full Professor PhD	lucian.popa@uab.ro	https://scholar.google.com/citations?user=I5HQ_n4AAAAAJ&hl=ro&oi=ao
	Baciu Adriana	Associate Professor PhD	adriana.birlutiu@uab.ro	https://scholar.google.com/citations?user=yKdS_6AAAAAJ&hl=ro&oi=ao
	Căbulea Lucia	Associate Professor PhD	cabuleal@uab.ro	https://scholar.google.com/citations?user=rEcnYiIAAAAAAJ&hl=ro
	Rotar Corina	Associate Professor PhD	crotar@uab.ro	https://scholar.google.com/citations?user=95f2X0MAAAAJ&hl=ro&oi=ao
	Aldea Mihaela	Lecturer PhD	maldea@uab.ro	https://scholar.google.com/citations?user=4NpbHn4AAAAAJ&hl=ro&oi=ao
	Cucu Ciprian	Lecturer PhD	ccucu@uab.ro	https://scholar.google.com/citations?user=UDwTgVgAAAAAJ&hl=ro&oi=ao
	Domșa Ovidiu	Lecturer PhD	ovidiu@uab.ro	https://scholar.google.com/citations?hl=ro&user=uz6V4CMAAAAJ
	Muntean Maria	Lecturer PhD	mmuntean@uab.ro	https://scholar.google.com/citations?hl=ro&user=s-0QzQAAAAJ
	Wainberg Dorin	Lecturer PhD	dwainberg@uab.ro	https://scholar.google.com/citations?hl=ro&user=rFfAahQAAAAJ
	Naghy Onița Daniela	Teaching Assistant PhD	daniela.onita@uab.ro	https://scholar.google.com/citations?hl=ro&user=h8ZsdZ4AAAAJ
	Căpâlnaș Matei	Teaching Assistant, PhD Student	capilnas.matei@uab.ro	https://scholar.google.com/citations?user=BDNdR-EAAAAAJ&hl=ro
	Albescu Oana	Teaching Assistant, PhD Student	oana.albescu@uab.ro	https://scholar.google.com/citations?user=M_b0hx8AAAAAJ&hl=ro
	Cristea Daniela	Teaching Assistant, PhD Student	daniela.cristea@uab.ro	https://scholar.google.com/citations?hl=ro&user=jx9x1tkAAAAJ

3.2 Structure of the Research Center: Teams, groups, laboratories correlated with the departments' research programs.

The Research Center in Mathematics and Computer Science is structured into two research teams: the Mathematics Team and the Computer Science Team, respectively.

Mathematics Team Membership: Breaz Valer Daniel, Breaz Marcela Nicoleta, Popa Ioan Lucian, Căbulea Lucia, Aldea Mihaela, Wainberg Dorin, Albescu Oana

Computer Science Team Membership: Rotar Corina, Baci Adiana, Cucu Ciprian, Domșa Ovidiu, Muntean Maria, Onița Daniela, Cristea Daniela, Căpâlnaș Matei

The laboratories correlated with the research programs of the DIME Department are specified in Section 8.1.

3.3 Data on human resources professional development.

4. Performance Criteria

4.1 Scientific papers published in ISI-indexed specialized journals.

No.	Year of Publication	Author(s)	Number of Authors from the Research Center	Paper Title	Journal Name	ISSN	Journal Ranking (e.g., Q1, Q2, Arts & Humanities)
1.	2025	Ali, Ekram E., Rabha M. El-Ashwah, Nicoleta Breaz , and Abeer M. Albalahi	1	"Some Properties of Meromorphic Functions Defined by the Hurwitz–Lerch Zeta Function"	Mathematics 13, no. 21: 3430, 2025, https://doi.org/10.3390/math13213430 , WOS:001612818800001	ISSN 2473-6988	ISI paper (Clarivate, QJIF-JCR 2025 category rank: Q1: Mathematics)
2.	2025	W.Y. Kota, Rabha El-Ashwah, Nicoleta Breaz	1	Hadamard product on subclasses of meromorphic functions involving q -difference operator	Special Issue: Advances in Geometric Function Theory with Analytic Function Spaces, https://doi.org/10.1155/jofs/9959888 , Wiley Journal of Function Spaces, Volume 2025, Article ID 9959888, 7 pages, WOS:001515762500001	ISSN 2314-8896	ISI paper (Clarivate, QJIF-JCR 2025 category rank: Q1: Mathematics)
3.	2025	Zafar Mahmood, Khadija Rafique, Assmaa Abd-Elmonem, Nagat AA Suoliman, Ioan-Lucian Popa, Abhinav Kumar	1	Numerical and AI-based simulation of entropy generation in MHD Jeffery tetra nanofluid flow over an inclined cylinder for energy engineering applications	¹⁾ Journal Engineering Applications of Computational Fluid Mechanics, 2025		ISI
4.	2025	Muhammad Ishfaq Khan, Beenish, Kamran, Leila Jamel, Souhail	1	Analytical and dynamical insights into the truncated M-fractional Akbota equation	¹⁾ Boundary Value Problems, 2025		ISI

		Mohammed Bouzgarrou, Ioan-Lucian Popa					
5.	2025	Bakhtawar Pervaiz, Akbar Zada, Afef Kallekh, Sana Ben Moussa, Ioan-Lucian Popa	1	Qualitative analysis of an abstract neutral integro-differential equation with state-dependent argument	2) Qualitative Theory of Dynamical Systems, 2025		ISI
6.	2025	Zainab Bibi, Umar Ishtiaq, Tayyab Kamran, Mohammad Akram, Ioan-Lucian Popa	1	On new controlled fuzzy metric space and related fixed point results	Journal of Inequalities and Applications, 2025		ISI
7.	2025	Tanveer Qayyum, Tariq Shah, Ilyas Khan, Ioan-Lucian Popa	1	A design of multiple color image encryption scheme based on finite algebraic structures	Scientific Reports, 2025		ISI
8.	2025	Shahzeb Khan, Zafar Mahmood, Ioan-Lucian Popa, Shengjun Liu, Hongjuan Liu, Mushtaq Ahmad Ansari	1	Modelling of Ternary-Hybrid Nanofluid over Non-linear Radiative Inclined Cylinder under Soret-Dufour with Bioconvection and Double Stratification Phenomena using Neural Network	Journal Materials Today Communications, Pages 114418, 2025		ISI
9.	2025	Khadija Rafique, Zafar Mahmood, Assmaa Abd-Elmonem, Nagat AA Suoliman, Ioan-Lucian Popa, Abhinav Kumar	1	Numerical investigation of MHD stratified flow over an inclined cylinder with Brownian motion, thermophoresis and waste discharge concentration effects	Journal Scientific Reports, Volume 15 Issue 1, Pages 41504, 2025		ISI
10	2025	Muzaffar Bashir Arain, Khuda Bux Amur, Seham Sh Tantawy, Alhanouf Alburaikan, Hamiden Abd El-Wahed Khalifa, Umar	1	A locally adaptive regularization of a hybrid variational model for color image diffusion via integration of diffusion with normalized data	3) Journal Scientific Reports, 2025		ISI

		Ishtiaq, Ioan-Lucian Popa					
11.	2025	Haroon Ahmad, Umar Ishtiaq, Mohammad Akram, Ioan-Lucian Popa	1	A novel approach to coincidence point results via proximal contractions with application	4) Journal Scientific Reports, 2025		ISI
12.	2025	Ikhtesham Ullah, Muhammad Sajjad Ali Khan, Fawad Hussain, Madad Khan, Ioan-Lucian Popa	1	A Robust Decision-Making Framework for Recruitment Optimization via Hybrid Dombi–Archimedean Operators in Complex q-Rung Orthopair Fuzzy Sets	European Journal of Pure and Applied Mathematics, 2025		ISI
13.	2025	Babar Sultan, Amjad Hussain, Mehvish Sultan, Ioan-Lucian Popa	1	Some New Boundedness Results for Variable Marcinkiewicz Fractional Integral Operator on Herz-Morrey-Hardy Spaces	European Journal of Pure and Applied Mathematics, 2025		ISI
14.	2025	Vediyappan Govindan, Busayamas Pimpunchat, Mohammad Javad Ebadi, Ioan-Lucian Popa	1	Fuzzy Fractal-Fractional Derivative-Based Modelling and Analysis of Monkeypox Transmission	European Journal of Pure and Applied Mathematics, 2025		ISI
15.	2025	Ghada Ali Basendwah, Mehvish Sultan, Babar Sultan, Ioan-Lucian Popa	1	On the Boundedness of the Intrinsic Square Function on Continual Herz Spaces with Variable Exponents	Journal European Journal of Pure and Applied Mathematics, Volume 18, Issue 4, Pages 6641-6641, 2025		ISI
16.	2025	K Ahmad, U Ishtiaq, M Akram, IL Popa	1	Mathematical Visualization of Fractal-Based Batik Designs	5) European Journal of Pure and Applied Mathematics 18 (4), 6896-6896		ISI
17.	2025	B Sultan, A Hussain, M Sultan, IL Popa	1	Boundedness of the Sublinear Operators on Anisotropic Herz-slice Spaces	European Journal of Pure and Applied Mathematics 18 (4), 6519-6519		ISI
18.	2025	M Shahbaz, T Kamran, M Imtiaz, U	1	An Exploration of Compactness and Separation Axioms in	European Journal of Pure and Applied		ISI

		Ishtiaq, M Akram, IL Popa		Generalized Primal Topological Spaces	Mathematics 18 (4), 6375-6375, 2025		
19.	2025	J Ali, AN Al- Kenani, IL Popa	1	Decision algorithm with complex q-rung orthopair fuzzy power partitioned maclaurin symmetric mean operators for leather and footwear supplier evaluation	Complex & Intelligent Systems 11 (11), 1- 28, 2025		ISI
20.	2025	MNK Tanoli, K Rafique, Z Mahmood, NSE Abdalla, IL Popa, A Kumar	1	Einstein aggregation operators for multicriteria group decision making in uncertain environments using cubic picture fuzzy sets	Scientific Reports 15 (1), 36545, 2025		ISI
21.	2025	M Bilal, L Chaoqian, IL Popa	1	Fuzzy soft tensor based group decision making approach with application to heterogeneous wireless network evaluation	6) Scientific reports 15 (1), 36462,2025		ISI
22.	2025	J Ali, IL Popa	1	Dombi Power Aggregation-Based Decision Framework for Smart City Initiative Prioritization under t- Arbicular Fuzzy Environment	Computer Modeling in Engineering & Sciences (CMES) 144 (4), 2025		ISI
23.	2025	M Asif, IL Popa, EAA Ismail, FA Awwad, U Ishtiaq	1	Insights from Atangana-Baleanu fractional derivatives modeling of influenza epidemics and sensitivity analysis	Scientific Reports 15 (1), 34887,2025		ISI
24.	2025	M Abbas, A Zada, IL Popa, A Kallekh	1	Stability and exponential lag- synchronization of a class of neural network with state dependent and distributed delays over a time scale	Neural Processing Letters 57 (5), 1-24, 2025		ISI
25.	2025	M Farhan, T Hussain, Kamran, IL Popa, JF Gomez	1	Some anisotropic and perfect fluid plane symmetric solutions of Einstein's field	Open Physics 23 (1), 20250206, 2025		ISI

		Aguilar, ZA Khan, Z Ali		equations using killing symmetries			
26.	2025	AH Ganie, GA Basendwah, B Sultan, NM Aloraini, IL Popa	1	Trace theorems on Herz-Morrey spaces with applications to Sobolev type inequalities	Boundary Value Problems 2025 (1), 133, 2025		ISI
27.	2025	I Ullah, MSA Khan, F Hussain, M Khan, IL Popa	1	Innovative Aczel Alsina Group Overlap Functions for AI- Based Criminal Justice Policy Selection under Intuitionistic Fuzzy Set	7) Computer Modeling in Engineering & Sciences (CMES) 144 (2), 2025		ISI
28.	2025	K Rafique, Z Mahmood, IL Popa, T Anwar, A Kumar	1	Double diffusive convection in non- newtonian fluid flow with quadratic radiation and variable viscosity: Heat generation effects in lower stagnation point of solid sphere	8) Results in Engineering 27, 106820, 2025		ISI
29.	2025	S Abbas, S Saleem, M Fatima, IL Popa, M Nazar, GR Elnaggar, R Jan	1	Slip and thermal effects on MHD fractional Jeffrey nanofluid flow	9) Journal of Radiation Research and Applied Sciences 18 (3), 101688, 2025		ISI
30.	2025	M Bilal, SU Rehman, YM Alawaideh, IL Popa, BM Al- khamiseh	1	On the study of multiple wave profiles and hybrid phenomena to the newly developed multi-component Gross-Pitaevskii system and stability analysis	10) Ain Shams Engineering Journal 16 (9), 103510, 2025		ISI
31.	2025	S Abbas, GR Elnaggar, A Shafique, IL Popa, S Saleem, M Ramzan	1	Enhanced heat transfer in nanofluid flow via prabhakar fractional models for solar thermal systems	Journal of Radiation Research and Applied Sciences 18 (3), 101641, 2025		ISI
32.	2025	S Jubair, SR Bhutto, IL Popa,	1	Mathematical simulation of radiative nanofluid flow and heat	11) Journal of Radiation Research and		ISI

		U Ishtiaq, MIH Siddiqui		transfer past a stretching surface: A parametric study	Applied Sciences 18 (3), 101620, 2025		
33.	2025	ZU Nisa, U Ishtiaq, T Kamran, M Akram, IL Popa	1	Analysis of Fast Convergent Iterative Scheme with Fractal Generation	Fractal and Fractional 9 (9), 575, 2025		ISI
34.	2025	R Khan, IL Popa, EAA Ismail, FA Awwad, U Ishtiaq	1	Deterministic and fractional-order modeling of measles dynamics with harmonic mean incidence rate and quarantine impact	12) Scientific Reports 15 (1), 30597, 2025		ISI
35.	2025	M Asif, N Akhtar, F Khan, F Bilal, IL Popa	1	Numerical Treatment of Hyperbolic-Type Problems with Single and Double Interfaces via Meshless Method	13) Axioms 14 (8), 621, 2025		ISI
36.	2025	J Ali, A N. Al-Kenani, IL Popa	1	Circular q-rung orthopair fuzzy modeling using Schweizer-Sklar weighted aggregation for water purification strategy selection	Scientific Reports 15 (1), 27851, 2025		ISI
37.	2025	K Shams Ul Haq, M Asif, M Faheem, IL Popa	1	Capturing discontinuities with precision: A numerical exploration of 3D telegraph interface models via multi-resolution technique	Mathematics 13 (15), 2391, 2025		ISI
38.	2025	MB Mesmouli, IL Popa, TS Hassan	1	Nonoscillatory Solutions for m-th-Order Nonlinear Neutral Differential Equations with General Delays: Fixed-Point Approach and Application	Mathematics 13 (15), 2362, 2025		ISI
39.	2025	TS Hassan, WM Hasan, IL Popa, MB Mesmouli, A Ali, HM Rezk	1	Perspectives on Dynamic Hardy–Littlewood Inequalities in Time Scale Analysis	Mathematics 13 (13), 2176, 2025		ISI

40.	2025	DA Mitu, W Yang, A Ali, T Mahapatra, G Ali, IL Popa	1	Matching Concepts of m-Polar Fuzzy Incidence Graphs	Symmetry 17 (7), 1160, 2025		ISI
41.	2025	A Ali, W Yang, G Ali, IL Popa, DA Mitu	1	Kinds of Matchings Extending to Hamiltonian Cycles in Hypercube Networks	Symmetry 17 (7), 995, 2025		ISI
42.	2025	M Khan, MY Khan, G Ali, IL Popa	1	Investigation of General Sombor Index for Optimal Values in Bicyclic Graphs, Trees, and Unicyclic Graphs Using Well-Known Transformations	14) Symmetry 17 (6), 968, 2025		ISI
43.	2025	I Ullah, MSA Khan, Kamran, F Hussain, M Khan, IL Popa, H Elmannai	1	Aczel–Alsina Shapley Choquet Integral Operators for Multi-Criteria Decision Making in Complex Intuitionistic Fuzzy Environments	15) Symmetry 17 (6), 868, 2025		ISI
44.	2025	MB Mesmouli, IL Popa, TS Hassan	1	Existence and Stability Analysis of Nonlinear Systems with Hadamard Fractional Derivatives	Mathematics 13 (11), 1869, 2025		ISI
45.	2025	G AlNemer, GA Basendwah, B Sultan, IL Popa	1	Some New Sobolev-Type Theorems for the Rough Riesz Potential Operator on Grand Variable Herz Spaces	Mathematics 13 (11), 1873, 2025		ISI
46.	2025	J Shah, MU Rehman, IL Popa, EAA Ismail, FA Awwad, M Alqurashi	1	Radiation effects on heat and mass transfer in porous media using Casson nanofluids: Fractional model with nanoparticles in vegetable oil	Journal of Radiation Research and Applied Sciences 18 (2), 101505, 2025		ISI
47.	2025	B Ali, U Ishtiaq, IL Popa, HAEW Khalifa, A Kumar, MIH Siddiqui	1	Numerical Modelling and Deep learning-based analysis of unsteady micropolar nanofluid flow with heat radiation over a riga plate	Journal of Radiation Research and Applied Sciences 18 (2), 101512, 2025		ISI
48.	2025	H Khan, IL Popa, EAA Ismail, FA	1	Radiation-influenced electromagnetohydr odynamic flow of	Journal of Radiation Research and Applied		ISI

		Awwad, M Alqurashi, A Kumar, U Ishtiaq		time-fractional casson fluid with heat and mass transfer over a permeable vertical riga plate	Sciences 18 (2), 101494, 2025		
49.	2025	M Asif, IL Popa, EAA Ismail, FA Awwad, M Alqurashi, U Ishtiaq	1	Fractional-order mathematical modeling of toxoplasmosis transmission dynamics with harmonic mean-type incidence rate	16) Scientific Reports 15 (1), 18096, 2025		ISI
50.	2025	A Ashraf, AUR Virk, U Ishtiaq, ASM Elwahsh, IL Popa	1	Design of Morlet wavelet neural networks integrated with sequential quadratic programming to analyze the dynamics of Ebola virus disease	17) Results in Engineering, 105396, 2025		ISI
51.	2025	V Drăgan, IL Popa, IG Ivanov	1	A linear quadratic tracking problem for impulsive controlled stochastic systems: The infinite horizon time case	Mathematical Methods in the Applied Sciences 48 (7), 7238-7258, 2025		ISI
52.	2025	RU Khan, IL Popa	1	The Existence and Stability of Integral Fractional Differential Equations	18) Fractal and Fractional 9 (5), 295, 2025		ISI
53.	2025	N Mustafa, JU Rahman, U Ishtiaq, IL Popa	1	Artificial Neural Network-Based Approach for Dynamic Analysis and Modeling of Marburg Virus Epidemics for Health Care	Symmetry 17 (4), 578, 2025		ISI
54.	2025	MB Mesmouli, A Ardjouni, IL Popa, H Saber, FH Damag, YA Madani	1	Qualitative Properties of Nonlinear Neutral Transmission Line Models and Their Applications	19) Axioms 14 (4), 269, 2025		ISI
55.	2025	W Ming, A Rasool, U Ishtiaq, S Shahzadi, M Garayev, IL Popa	1	Optimizing Decision- Making Using Domination Theory in Product Bipolar Fuzzy Graphs	20) Symmetry 17 (4), 479, 2025		ISI

56.	2025	I Khan, M Shaheryar, FU Din, U Ishtiaq, IL Popa	1	Fixed-Point Results in Fuzzy S-Metric Space with Applications to Fractals and Satellite Web Coupling Problem	Fractal and Fractional 9 (3), 164, 2025		ISI
57.	2025	S Khan, MW Akram, U Ishtiaq, M Garayev, IL Popa	1	Edge-Irregular Reflexive Strength of Non-Planar Graphs	Symmetry 17 (3), 386, 2025		ISI
58.	2025	M Shahbaz, T Kamran, U Ishtiaq, M Imtiaz, IL Popa, FM Maiz	1	Some Categories of Compactness and Connectedness in Generalized Topological Spaces	Axioms 14 (2), 141, 2025		ISI
59.	2025	RU Khan, M Samreen, G Ali, IL Popa	1	New Results on the Stability and Existence of Langevin Fractional Differential Equations with Boundary Conditions	Fractal and Fractional 9 (2), 127, 2025		ISI
60.	2025	TS Hassan, BM El-Matary, IL Popa, MB Mesmouli, I Odinaev, Y Jawarneh	1	Iterative Kneser-Type Criteria for Oscillation of Half-Linear Second-Order Advanced Dynamic Equations	Mathematics 13 (4), 635, 2025		ISI
61.		I Khan, A Zada, IL Popa, A Kallekh	1	Analysis of an Abstract Delayed Fractional Integro-Differential System via the α -Resolvent Operator	Axioms (2075-1680) 14 (2), 2025		ISI
62.	2025	B Pervaiz, A Zada, S Ben Moussa, IL Popa	1	Controllability of switched integro-neutral fractional delay systems over arbitrary time domain	21) Mathematical Methods in the Applied Sciences 48 (2), 1530-1562, 2025		ISI
63.	2025	M Nasir, FU Din, U Ishtiaq, LDR Kočinac, IL Popa	1	Exploring fixed-point results using random Sehgal contraction in symmetric random cone metric spaces with applications	Symmetry 17 (2), 198, 2025		ISI
64.	2025	U Ishtiaq, F Jahangeer, M Garayev, IL Popa	1	Existence and Uniqueness Results for Fuzzy Bipolar Metric Spaces	22) Symmetry 17 (2), 180, 2025		ISI

65.	2025	K Ahmad, U Ishtiaq, G Murtaza, IL Popa, FM Maiz	1	On Product Neutrosophic Fractal Spaces and α -Density Theory with Arbitrarily Small and Controlled Error	Fractal and Fractional 9 (2), 59, 2025		ISI
66.	2025	U Ishtiaq, F Jahangeer, M Garayev, IL Popa	1	Existence and uniqueness of a solution of a boundary value problem used in chemical sciences via a fixed point approach	Symmetry 17 (1), 127, 2025		ISI
67.	2025	MY Khan, G Ali, IL Popa	1	Optimization in Symmetric Trees, Unicyclic Graphs, and Bicyclic Graphs with Help of Mappings Using Second Form of Generalized Power-Sum Connectivity Index	23) Symmetry 17 (1), 122, 2025		ISI
68.	2025	B Pervaiz, A Zada, A Kallekh, SB Moussa, IL Popa	1	Qualitative analysis of an abstract neutral integro-differential equation with state-dependent argument	24) Qualitative theory of dynamical systems 24 (6), 21, 2025		ISI
69.	2025	TS Hassan, E Akin, BM El-Matary, IL Popa, MB Mesmouli, I Odinaev, A Ali	1	Enhanced Kneser-type oscillation criteria for second-order functional quasilinear dynamic equations on time scales	25) AIMS Press 10 (10), 23789, 2025		ISI
70.	2025	MB Mesmouli, N Touafek, IL Popa, A Moumen, TS Hassan	1	On the global behavior and the periodicity of the solutions of a - dimensional system of difference equations	AIMS Mathematics 10 (8), 17940-17953, 2025		ISI
71.	2025	G AlNemer, GA Basendwah, M Sultan, IL Popa	1	Generalizations of Herz-Morrey spaces and boundedness of the Calderón-Zygmund operators	Aims Mathematics 10 (8), 17403-17422, 2025		ISI
72.	2025	J Xu, Y Cui, KH Khalid, A Zada,	1	Existence and stability analysis for a coupled system of -	Mathematical Modelling and		ISI

		IL Popa, A Kallekh		fractional implicit jerk Caputo derivatives with - Erdélyi-Kober fractional integral conditions	Control 5 (3), 258-279, 2025		
73.	2025	Kamran, Farman Ali Shah, Kallekh Afef, J. F. Gómez-Aguilar, Salma Aljawi, Ioan-Lucian Popa	1	Analysis of a Laplace Spectral Method for Time-Fractional Advection-Diffusion Equations Incorporating the Atangana-Baleanu Derivative	Comput Model Eng Sci 143 (3), 2025		ISI
74.	2025	J Ali, IL Popa	1	TODIM method with unknown weights under t-arbicular fuzzy environment for optimal gate security system selection	AIMS Mathematics 10 (6), 13941-13973, 2025		ISI
75.	2025	MP Ineh, U Ishtiaq, JE Ante, M Garayev, IL Popa, S Arabia	1	A robust uniform practical stability approach for Caputo fractional hybrid systems	Aims Mathematics 10 (3), 7001-7021, 2025		ISI
76.	2025	U Ishtiaq, M Din, Y Rohen, KA Alnowibet, IL Popa	1	Certain Fixed-Point Results for (e, ψ, Φ) -Enriched Weak Contractions via Theoretic Order with Applications	Axioms 14 (2), 135, 2025		ISI
77.	2025	N Razi, A Bano, U Ishtiaq, T Kamran, M Garayev, IL Popa	1	Probing Malware Propagation Model with Variable Infection Rates Under Integer, Fractional, and Fractal–Fractional Orders	Fractal and Fractional 9 (2), 90, 2025		ISI
78.	2025	L Alam, A Semaničová-Feňovčíková, IL Popa	1	Graceful Local Antimagic Labeling of Graphs: A Pattern Analysis Using Python	Symmetry 17 (1), 108, 2025		ISI
79.	2025	MK Khan, MSA Khan, Kamran, IL Popa	1	Intuitionistic Hesitant Fuzzy Rough Aggregation Operator-Based EDAS Method and Its Application to Multi-Criteria Decision-Making Problems	26) Axioms 14 (1), 21, 2025		ISI

80.	2025	Daniela Onita, Matei-Vasile Căpîlnaş, Adriana Baci	3	Distinguishing Human-and AI- Generated Image Descriptions Using CLIP Similarity and Transformer-Based Classification	Mathematics MDPI		ISI
81.	2025	O. Albescu, L. E. Biriş, T. Ceaşu, I.-L. Popa	1	Lyapunov Type Criteria for Tempered Exponential Dichotomy of Random Semi- Dynamical Systems.	Journal Name Computational and Applied Mathematics		ISI
82.	2025	Daniela-Maria Cristea, Ioan Sima, László- Barna Iantovics,	1	Optimization of Multiple Logistic Regression Algorithm for Complex Gastroenterological Image Analysis	Frontiers in Medicine, section Gastroenterology		ISI
83.	2025	Daniela-Maria Cristea, Onita Daniela, László- Barna Iantovics,	2	Biomimetic Transfer Learning-based Complex Gastrointestinal Polyp Classification	Biomimetics		ISI
84.	2025	Ioan Sima, Daniela-Maria Cristea, Virginia Niculescu, László-Barna Iantovics,	1	ACGA a Novel Biomimetic Hybrid Optimisation Algorithm based on a HP Protein Visualizer: An Interpretable Web-Based Tool for 3D Protein Folding based on the Hydrophobic-Polar Model	Biomimetics		ISI
85.	2025	Ioan Sima, Daniela-Maria Cristea, Elisabeta- Mihaela Ciorte, László- Barna Iantovics,	1	cRAMI 4.0 an Improved Reference Architectural Model for Industrie 4.0 (RAMI 4.0) based on a Three-dimensional Cubic Lattice Model	Annales Mathematicae et Informaticae		ISI
86.	2025	Muntean, M.V.; Hirceaga, A.F.; Capilnas, M.V.	2	Feature Selection Using Intelligent Agents for Time Improvement in Medical Diagnosis Systems	Electronics 2025, 14, 4419		ISI

4.2 Patents

No.	Patent Award Date (day/month/year)	Author(s)	Patent Title	Issuing Institution / Authority
1				
Total Patents				

5. Publications

5.1 Papers published in specialized journals without an ISI ranking (journals indexed in International Databases (BDI) and non-BDI indexed journals are quantified)

No.	Year of Publication	Author(s)	Number of Authors from the Research Center	Paper Title	Journal Name	ISSN / E- ISSN	Database Indexing / Ranking (e.g., BDI Name, Non-BDI)
1.	2025	Mehvish Sultan, Babar Sultan, Ioan- Lucian Popa	1	On the Boundedness of Hardy Operators on λ -Central Amalgam-Morrey Spaces	Journal International Journal of Analysis and Applications, 2025		BDI
2.	2025	Z Mahmood, K Rafique, IL Popa, A Kumar, MA Ansari	1	Rheological and irreversibility analysis of ternary nanofluid flow over an inclined radiative MHD cylinder with porous media and couple stress	Applied Rheology 35 (1), 20250050, 2025		BDI
3.	2025	M Sultan, B Sultan, IL Popa	1	On the Boundedness of Hausdorff Operators in Block Space with Variable Exponent	27) International Journal of Analysis and Applications 23, 226-226,2025		BDI
4.	2025	G AlNemer, GA Basendwah, M Sultan, IL Popa	1	Boundedness of the Higher Order Commutators of Marcinkiewicz Integral Operator on Grand Variable Herz- Morrey Spaces	International Journal of Analysis and Applications 23, 205- 205, 2025		BDI
5.	2025	H Ahmad, A Riaz, M Akram, U Ishtiaq, IL Popa	1	A contractive approach in generalized suprametric spaces with applications to fractional boundary value and	Results in Physics, 108384, 2025		BDI

				epidemiological problems			
6.	2025	RU Khan, IL Popa	1	Some novel existence and stability results for a nonlinear implicit fractional differential equation with non-local boundary conditions	Partial Differential Equations in Applied Mathematics 13, 101132, 2025		BDI
7.	2025	M Asif, T Kamran, U Ishtiaq, IL Popa	1	Feng-Liu's Type Fixed Point Theorem in Modular Function Spaces	Contemp. Math., 225		BDI
8.	2025	ZU Nisa, T Kamran, U Ishtiaq, IL Popa, M Akram	1	Fractal Analysis via Extended Fibonacci-Mann Iteration	Contemp. Math., 225		BDI
9.	2025	J Ali, A Khan, IL Popa	1	Choquet integral-based GRA method with linguistic interval-valued q-Rung orthopair fuzzy sets	J. Math. Comput. Sci. 40, 368-404, 2025		BDI
10.	2025	Bărbuță-Mișu, N., Hada, T., Iuga I. and Wainberg, D.,	1	Macroeconomic implications of population evidence from EU countries: developing countries versus ex-communist countries.	European Journal of Accounting, Finance & Business, Vol. 13, No. 2/2025, ISSN: 2344 - 102X, DOI: 10.4316/EJAFB.2025.13206		ERIH+ https://erihplus.hkdir.no/journal?id=489281

5.2 Books published by national and international publishing houses (works published by national and international publishing houses with or without CNCS recognition are quantified)

No .	Year of Publication	Author(s)	Number of Authors from the Research Center	Work Title	Publishing House Name	ISBN	Publishing House Category (<i>national/international , with CNCS recognition/without CNCS recognition</i>)
1	2025	V Drăgan, S Aberkane, IL Popa	1	Jump Matrix Riccati Differential Equations, Robust Control of Jump Linear Stochastic Systems: Applications to Sampled-Data Control	Springer		International

2	2025	Ciprian BACIU Mușata Dacia BOCOȘ Ana Cristina BACIU Cristea Daniela-Maria	1	Documentare și surse de documentare. Dicționar de termeni Volumul I: A–H	PRESA UNIVERSITARĂ CLUJEANĂ		National
3	2025	Ciprian BACIU Mușata Dacia BOCOȘ Ana Cristina BACIU Cristea Daniela-Maria	1	Documentare și surse de documentare. Dicționar de termeni Volumul II: Î–Z	PRESA UNIVERSITARĂ CLUJEANĂ		National

5.3 Studies, chapters in edited volumes published by national and international publishing houses (works published by national and international publishing houses with or without CNCS recognition are quantified)

No.	Year of Publication	Author(s)	Number of Authors from the Research Center	Study/Chapter Title, Pages	Edited Volume Title	Publishing House Name	ISBN	Publishing House Category (national/international, with CNCS recognition/without CNCS recognition)
1								
Total								

5.4 Scientific papers presented at international conferences with a program committee

No.	Year of Presentation	Author(s) of the Presented Paper	Number of Authors from the Research Center	Paper Title	Conference Name	Link to the Conference (where applicable)
1						
Total						

6. Professional Prestige

6.1	Membership (including reviewer status) in the editorial boards of journals (ISI-indexed or included in international databases) or in the editorial boards of international publishing houses	Total
	Breaz Valer Daniel, Breaz Marcela Nicoleta Nicoleta, Popa Ioan Lucian, Baciuc Adriana, Wainberg Dorin – members in Editorial Board la Acta Universitatis Apulensis, Secția Mathematics-Informatics (BDI ZBL, MathReviews, EBSCO); Breaz Valer Daniel – member in editorial board of International e-Journal of Abstract and Applied Engineering Mathematics, Journal of Inequalities and Applications, Advances in Applied Mathematical Analysis, India, Far-East Journal of Mathematics, India, International Journal of Inequalities and Applications, India, International Journal of Open Problems in Computer Science and Mathematics, International Journal of Nonlinear Analysis and Applications, Iran, Theory and Applications of Mathematics & Computer Science, Arad, Romania, International Journal of Classical and Modern Geometries, India, International Journal of Geometry, Axioms,	

	Analele Științifice ale Universității „Ovidius” Constanța, Seria Matematică, South Pacific Journal of Pure and Applied Mathematics, Papua New Guinea, Advances in Mathematics: Scientific Journal, Macedonia, Computational Methods for Differential Equations, Iran, Bulletin of the Allahbad Mathematical Society, India, Journal of Inequalities and Applications, SUA; Breaz Marcela Nicoleta – special issue editor, Current Topics in Geometric Function Theory, special issue, Mathematics, MDPI, Popa Ioan Lucian – associated editor of American Journal of Mathematical Analysis, International Journal of Multidisciplinary Research and Analysis, SCIREA Journal of Mathematics; Baciuc Adriana – member in Program Committee (including reviewer) for IEEE Internet of Things Journal, Processes MDPI, Measurement Elsevier	
6.2	Membership in the editorial boards of nationally recognized journals – Category B	
6.3	International awards obtained through a selection process;	
6.4	National awards of the Romanian Academy	
6.5	PhD supervisors who are members of the research center Prof.univ.dr. Breaz Valer Daniel, Prof.univ.dr. Popa Ioan Lucian	
6.6	Number of PhD holders who are members of the research center Full Professor PhD Breaz Valer Daniel, Full Professor PhD Breaz Marcela Nicoleta, Full Professor PhD Popa Ioan Lucian, Associate Professor PhD. Baciuc Adriana, Associate Professor PhD, Căbulea Lucia, Associate Professor PhD Rotar Corina, Lecturer PhD Aldea Mihaela, Lecturer PhD Cucu Ciprian, Lecturer PhD Domșa Ovidiu, Lecturer PhD Muntean Maria, Lecturer PhD Wainberg Dorin, Teaching Assistant PhD Onița Daniela	

7. Income generated from research contracts

7.1	Number and value of international research contracts funded by public funds	Value RON
	Contract No. and Date / Contract Title or Topic / Implementation Period / Contract Manager or Research Center Members Involved in the Contract	
	Total	

7.2	Number and value of international research contracts funded by private funds	Value RON
	Contract No. and Date / Contract Title or Topic / Implementation Period / Contract Manager or Research Center Members Involved in the Contract	
	Total	

7.3	Number and value of national research contracts funded by public funds	Value RON
	Contract No. and Date / Contract Title or Topic / Implementation Period / Contract Manager or Research Center Members Involved in the Contract	
	Total	

7.4	Number and value of national research contracts funded by private funds	Value RON
	Contract No. and Date / Contract Title or Topic / Implementation Period / Contract Manager or Research Center Members Involved in the Contract	
	Total	

7.5	Number and value of contracts funded by other sources	Value RON
	Contract No. and Date / Contract Title or Topic / Implementation Period / Contract Manager or Research Center Members Involved in the Contract	

1	Strengthening the internationalization strategy of the "1 Decembrie 1918" University of Alba Iulia through innovative support initiatives, 2025 (Consolidarea strategiei de internaționalizare a Universității „1 Decembrie 1918” din Alba Iulia prin inițiative inovatoare de sprijin, 2025 (Lucian Popa, Nicoleta Breaz), CNFIS-FDI-2025-F-0467)	442585 RON
2	Active measures for developing students' skills, integrating and monitoring the labor market insertion of graduates, and strengthening the relationship with the ALUMNI community (Măsuri active de dezvoltare a competențelor studenților, integrarea și monitorizarea inserției absolvenților pe piața muncii și consolidarea relației cu comunitatea ALUMNI, CNFIS 0531 (Maria Muntean))	286.471 RON
3	Enhancing Graduates' Employability Tracking In Moldova (Enhancing Graduates' Employability Tracking In Moldova – Upgrade, Erasmus UPGRADE Nr. 101129166 (Maria Muntean))	44.786 EURO
4	Skills for employment and workplace learning (Competențe pentru ocupare și învățare la locul de muncă, PEO 317794 (Maria Muntean, Lucian Popa))	4752718,90 RON
	Total	

8. Research and Development Infrastructure. This section will briefly describe:

8.1 Existing research and development laboratories registered on the EERTIS platform, including their corresponding links;

The Research Center in Mathematics and Computer Science primarily conducts its research activities within two laboratories of the Faculty of Computer Science and Engineering, which are also listed on the EERTIS platform. , <https://eertis.eu/errf-2400-000a-3978>

• **Laboratory of Applied Mathematics (LMA – Laborator de Matematici Aplicate, Building D, 1st floor)**

The laboratory equipment is described in Section 8.3. The computers in the laboratory are equipped with software useful for integral and differential calculus, graphical representation of curves and surfaces, as well as data analysis and processing (Matlab, Office, Octave). The space is intended for both educational activities and the center's research activities, particularly focusing on mathematical modeling and geometric function theory.

• **Laboratory of Numerical Methods (LMN – Laborator de Metode Numerice, Building C, ground floor)**

The laboratory equipment is described in Section 8.3. Software tools useful in the field of artificial intelligence are available in this laboratory. The space hosts both educational activities and research activities concerning the use of evolutionary computing and machine learning to model phenomena across various domains.

8.2 List of services provided within the laboratories (where applicable);
Not applicable.

8.3 List of available equipment.

The Research Center in Mathematics and Computer Science does not possess its own equipment but utilizes the equipment available in the laboratories of the Faculty of Computer Science and Engineering, primarily those in the LMA (Applied Mathematics Laboratory) and LMN (Numerical Methods Laboratory) labs. The equipment available in these laboratories is as follows:

- **The LMN Laboratory** is equipped with 1 graphics workstation, 10 workstations, 16 monitors, 5 laptops, Internet network connectivity, an interactive screen, an audio-video system, a video projector, a projection screen, and a magnetic whiteboard.
- **The LMA Laboratory** is equipped with 15 workstations, Internet network connectivity, an interactive screen, an audio-video system, a video projector, and a magnetic whiteboard.

Report prepared by

Center Coordinator

Full Prof. PhD. Habil. Breaz Marcela Nicoleta

Date

5.02.2026