CURRICULUM VITAE

Personal information

Name, Surname:	Popescu Dragos Constantin		
Date of birth:	12.09.1991	Sex:	Male
Nationality:	Romanian		
Researcher unique identifiers:	ORCID: **0000-0002-1249-6889** ResearcherID: **K-3743-2015**		
URL for personal website:	https://acse.pub.ro/index.php/personal/dragos-popescu/		

Education

Year	Faculty/department - University/institution - Country
2020 (dissertation defended)	Ph.D. • Faculty of Automatic Control and Computers, University Politehnica of Bucharest. • Title: "*Contributions regarding the operational optimization of complex research infrastructures*" • Doctoral advisor: Acad. Ioan Dumitrache • Grade: Summa cum laude
2015	Master Faculty of Automatic Control and Computers, University Politehnica of Bucharest.

Positions

Year	Job title – Employer - Country
2015 - present	University POLITEHNICA of Bucharest, Romania • 2021 – present: Assistant Professor • 2015 – 2021: Teaching Assistant
2015 - present	Extreme Light Infrastructure (ELI-NP) & Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH), Romania • 2020 – present: Research Engineer • 2015 – 2020: PhD Research Assistant
2022 - 2023	NCBR – National Center for Brain Research, ICIA – Research Institute for Artificial Intelligence „Mihai Drăgănescu" of the Romanian Academy, Romania • Postdoc research fellow

Project management experience

Year	Project title – Role – Funder – Budget – link to project webpage
2023 - present	• Optimal detection of nonlinear dynamics in time series for behavioral analysis of EEG signals • Project Director • University POLITEHNICA of Bucharest • 10k EUR

Other relevant professional experiences

Year	Description - Role
2024 - present	Journal of Control Engineering and Applied Informatics (CEAI) – member of the editorial board

2022 - present	Member of SRAIT (Romanian Society of Automation and Technical Informatics) and IFAC (International Federation of Automatic Control)

Most relevant publications

1. **D. C. Popescu**, and I. Dumitrache. *Knowledge representation and reasoning using interconnected uncertain rules for describing workflows in complex systems*. **Information Fusion** 93, 412-428 (2023)., ***IF: 18.6***.
2. W. Yao, A. Fazzini, S. N. Chen, K. Burdonov, P. Antici, J. Béard, S. Bolaños, A. Ciardi, R. Diab, E. D. Filippov, S. Kisyov, V. Lelasseux, M. Miceli, Q. Moreno, V. Nastasa, S. Orlando, S. Pikuz, **D. C. Popescu**, G. Revet, X. Ribeyre, E. d'Humières & J. Fuchs. *Laboratory evidence for proton energization by collisionless shock surfing*. **Nature Physics** 17, 1177–1182 (2021). ISSN: 1745-2473.**,** ***IF: 19.684***.
3. **Dragos Constantin Popescu**, and Ioan Dumitrache. *Software Platform Based on the hLARM Formalism for Modeling Complex Systems*. **Romanian Journal of Information Science and Technology** (ROMJIST). 27(1), 2024, pp. 65-80. ***IF: 3.5.***
4. Yao W., Fazzini A., Chen S. N., Burdonov K., Antici P., Béard J., Bolaños S., Ciardi A., Diab R., Filippov E. D., Kisyov S., Lelasseux V., Miceli M., Moreno Q., Nastasa V., Orlando S., Pikuz S., **Popescu D. C.**, Revet G., Ribeyre X., d'Humières E., Fuchs J.. *Detailed characterization of a laboratory magnetized supercritical collisionless shock and of the associated proton energization*. **Matter and Radiation at Extremes**, 2022, 7(1): 014402.**,** ***IF: 5.1***.
5. I. Dumitrache, S. I. Caramihai, **D. C. Popescu**, M. A. Moisescu, I. S. Sacala. *Neuro-inspired Framework for Cognitive Manufacturing Control*. In International **Journal of Computers Communications & Control**. 16. 6 (2021). ISSN: 1841-9844.**,** ***IF: 2.7***.
6. Ioan Dumitrache and **Dragos C. Popescu**. *Evolutionary networks with generalized neurons applied in battery SoC estimation*. In Romanian **Journal of Information Science and Technology**, 19(1-2):98–115, 2016. ISSN: 1453-8245.**,** ***IF: 3.5***.
7. A. Mateescu, I.S. Stefan, **D. C. Popescu**, I. S. Sacala and S. Raileanu. *Learning control laws in simulated environments for motion gestures of humanoid robots*. 2023 24rd International Conference on Control Systems and Computer Science (CSCS), Bucharest, Romania, 2023, pp. 344-349. ***SCOPUS: 2-s2.0-85170279887.***
8. **Dragos Constantin Popescu** and Mihail Octavian Cernaianu. *Method and System for Automatic Positioning of Elements for Congurations of Experiments with High-Power Lasers*. Pat. No. RO 132327 B1. Library Catalog: ESpacenet. Oct. 2019.

Narrative CV

Dragos Popescu was involved in the development of various research results regarding complex dynamical systems modeling, autonomous and intelligent control systems, scientific data analysis and Machine Learning. Among these, the most important achievements are the development of a new Machine Learning modeling algorithm for complex systems, for which a new logical-probabilistic algebra was formalized [1, 3]. He also focused his research activities on the development of High Energy Physics data analysis using Machine Learning techniques, involving signal and image analysis [4, 5]. In addition, he developed an automatic alignment system for High Power Lasers experiments based on GPU Computer Vision [7].

His current research interest include:

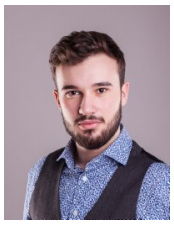
- The development of Machine Learning algorithms for analyzing EEG signals and fMRI images with the goal of understanding the dynamics of the brain: how the low level dynamics (neuron bursts, firing synchronization, micro – macro states) is evolving to high level cortical mechanisms.
- The analysis of the structure of the brain as a network of dynamical systems in order to understand how the topology, the behavior of the nodes and the dynamics of the interactions achieve autonomy, redundancy, stability and state evolution.

- Big Data approach to identify and analyze the impact of relevant factors that influence the cognitive impairment / aging.
- Formal modeling of the behavior of brain mechanisms and cognitive functions (ex. visual, sensorimotor, perception, reasoning, memory, learning, etc.).

In this context, he was involved in a one year long Postdoc research fellowship within the National Center for Brain Research of the Romanian Academy. Here, he studied the factors (environmental, emotional, and technological) that impact the quality of EEG signals acquisition and worked on the development of EEG signal analysis algorithms for assistive robots control [2]. He is awarded a Research Grant where he develops EEG analysis algorithms based on nonlinear sparse regressions, first results being currently submitted for publication.

From a professional perspective, he is currently Assistant Professor (Lecturer) with the Department of Automatic Control and Systems Engineering, Faculty of Automatic Control and Computers, University POLITEHNICA of Bucharest. His teaching topics include: dynamical system modeling, PID control design, numerical optimization based control, Kalman filters and dynamical state estimators, relational and Fuzzy modeling, Neural Networks and hybrid intelligent control techniques.

He is also Research Engineer with the Extreme Light Infrastructure – Nuclear Physics research institute where he is responsible with the development of control systems for laser-driven experiments and Machine Learning / Artificial Intelligence augmented data analysis and simulations (GPU-based Particle-in-Cell and Hydrodynamic simulations of laser-plasma interactions).



Dragos Constantin Popescu

Politehnica University of Bucharest
Intelligent and Complex Control Systems

	Toate	Din 2019
Referințe bibliografice	86	85
h-index	6	6
i10-index	5	5

1 articol indisponibile

3 articole disponibile

Pe baza cerințelor privind finanțarea

TITLU	CITAT DE	ANUL
Software Platform Based on the hLARM Formalism for Modeling Complex Systems DC Popescu, I Dumitrache SCIENCE AND TECHNOLOGY 27 (1), 65-80		2024
Learning control laws in simulated environments for motion gestures of humanoid robots A Mateescu, IL Stefan, DC Popescu, IS Sacala, S Raileanu 2023 24th International Conference on Control Systems and Computer Science …		2023
Knowledge representation and reasoning using interconnected uncertain rules for describing workflows in complex systems DC Popescu, I Dumitrache Information Fusion 93, 412-428	10	2023
Detailed characterization of a laboratory magnetized supercritical collisionless shock and of the associated proton energization W Yao, A Fazzini, SN Chen, K Burdonov, P Antici, J Béard, S Bolaños, ... Matter and Radiation at Extremes 7 (1)	13	2022
Neuro-inspired Framework for Cognitive Manufacturing Control I Dumitrache, SI Caramihai, DC Popescu, MA Moisescu, IS Sacala International Journal of Computers Communications & Control 16 (6), 4519	21	2021
Laboratory evidence for proton energization by collisionless shock surfing W Yao, A Fazzini, SN Chen, K Burdonov, P Antici, J Béard, S Bolaños, ... Nature Physics 17 (10), 1177-1182	15	2021
Relational Modeling Framework for Complex Systems DC Popescu, I Dumitrache UPB Scientific Bulletin, Series C: Electrical Engineering and Computer …	2	2021
High precision positioning with multi-camera setups: adaptive kalman fusion algorithm for fiducial markers DC Popescu, I Dumitrache, SI Caramihai, MO Cernaianu Sensors 20 (9), 2746	2	2020

TITLU	CITAT DE	ANUL
Future Enterprise as an intelligent cyber-physical system I Dumitrache, SI Caramihai, IS Sacala, MA Moisescu, DC Popescu IFAC-PapersOnLine 53 (2), 10873-10878	8	2020
Plug-and-play Self-configuration and Integration in Swarm Robotics I Marica, DC Popescu, M Patrascu 2018 17th RoEduNet Conference: Networking in Education and Research …	1	2018
Automatic rough alignment for key components in laser driven experiments using fiducial markers DC Popescu, MO Cernaianu, I Dumitrache Journal of Physics: Conference Series 1079 (1), 012013	1	2018
An assessment on the accuracy of high precision 3D positioning using planar fiducial markers DC Popescu, MO Cernaianu, P Ghenuche, I Dumitrache 2017 21st International Conference on System Theory, Control and Computing …	12	2017
Development of a data acquisition and command board for the control of a didactic 3D crane system C Stoican, DC Popescu, M Patrascu 2016 15th RoEduNet Conference: Networking in Education and Research, 1-6		2016
Evolutionary networks with generalized neurons applied in battery SoC estimation I Dumitrache, DC Popescu SCIENCE AND TECHNOLOGY 19 (1-2), 98-115	1	2016
Cyber Physical System approach in smart city design A POPESCU, DC POPESCU, AI UNGUREANU		