Petia Georgieva, DSc, PhD

Brief CV

Petia Georgieva is Professor of Machine Learning with habilitation in Computer Science (DSc) in the Department of Electronics Telecommunications and Informatics at the University of Aveiro, Portugal where she teaches Artificial Intelligence related courses (Machine Learning, Deep Learning, Artificial Neural Networks modelling). She is a researcher with the Institute of Electronics and Informatics Engineering of Aveiro (IEETA), Portugal, and a member of the Institute of Telecommunications-Aveiro.

Previously she had academic positions with the University of Porto (2001-2003, Portugal) and the Bulgarian Academy of Sciences, (1996-2001, Bulgaria). She has held research visiting positions with the University of Barcelona (2026, Dep. of Math and Computer Science), Rowan University (USA, 2016), Robotics Institute and Machine Learning Department in Carnegie Mellon University (CMU, 2019, 2012), School of Computing and Communications, University of Lancaster (UK, 2011).

P. Georgieva holds Master and PhD degrees in Control System Engineering from Technical University of Sofia, Bulgaria and PhD degree in Computer Science from Faculty of Engineering of University of Porto, Portugal in 2003.

Her research interests are in the area of machine and deep learning with strong application focus on brain computer interface, medical imaging, robotics, optical and wireless communications. She has participated in more than 35 international projects (in 15 of them as a PI/Co-PI) devoted to applying AI algorithms for real problems like medical diagnostics, wireless networks management, brain computer interfaces.

Her research is funded by European grants (European Commission, European Science Foundation), the Portuguese Foundation for Science and Technology FCT, PT2020/PT2030, PRR funding institutions, MSCA DN, and the industry (Bosch, AlticeLab, Nokia, Infinera, etc.).

P. Georgieva authored over 160 articles in international journals and peer-reviewed proceedings. She supervised 16 PhD students and more than 65 MSc students. Her research work was awarded with Best poster at the 3rd Statistics of Health Decision Making meeting, Portugal (2021) and Best paper at the 10th IEEE International Conference on Intelligent Systems, Bulgaria (2020).

Dr. Georgieva is a Senior member of IEEE and the International Neural Network Society (INNS) and Member of the Board of Governors of INNS (2023-2026). She was the head of Signal Processing Lab in the research centre IEETA (2009-2013); member of the Executive Committee of the European Neural Network Society (2014-2016); member of the IEEE Working Group on ICT (2016-2018); Member of Council of Contributors, Citizens for Bulgaria (C4BG). Since 2010 she has been an EU expert and evaluator for several research calls and running projects from FP7, H2020, Horizon Europe programs of the European Commission.

Dr. Georgieva is Associate Editor of Elsevier Neural Networks journal (Q1, IF=7.2) and Pattern Recognition journal (Q1, IF 9.1).

She has also been serving the scientific community as a member of the Programme/ Organising Committee of international conferences and symposia, including IJCNN (2019, 2025, 2027); Area Chair (WCCI 2026, IbPRIA 2026); General Program Chair of the 10th Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA 2022) ; Program Chair of the European Conference on Modelling and Simulation (ECMS, 2015), International Liaison Chair of the INNS Big Data Conferences (2016, Greece and 2015, San Francisco).

Dr. Georgieva has participated in several teaching innovation projects in the framework of Erasmus Programs with Technical University of Sofia (2014-2026, Bulgaria), Bulgarian Academy of Sciences (2021, Sofia, BG), Nepal Engineering College (2022, Katmandu), Universidad Andres Bello (2025, Santiago de Chile, Chile), Ilia State University (2026, Tbilisi, Georgia), Riga Technical University (2026, Riga, Latvia); UNSA - University of Sarajevo (2026, Sarajevo, Bosna and Herzegovina).

Dr. Georgieva gave **Keynote Talks:**

- Generative AI - Diffusion Models for Image Generation. IEEE International Conference Automatics, Robotics & Artificial Intelligence (ICARAI'26),13 June 2026, Sozopol, Bulgaria.
- Machine/Deep learning for 5G network management. South American Conference on Visible Light Communication (SACVLC) 2025, La Paz, Bolivia, 23/October, 2025.
- Machine learning methods for management of 5G networks. 9-11 Oct 2025, IEEE Int Conference Automatics and Informatics (ICAI'25), Varna, Bulgaria.
- AI-enabled mechanisms for control of wireless sensor networks. IEEE Int Conf Automatics, Robotics & Artificial Intelligence (ICARAI'25),13-15 June 2025, Sozopol, Bulgaria.
- Energy consumption optimization in residential buildings based on machine learning algorithms. 8th Workshop on Communication Networks and Power Systems (WCNPS'23),30/Nov-1/Dec, 2023, University of Brasilia, Brasil.
- Explainable Artificial Intelligence (AI) in Healthcare application. EAI GOODTECHS 2023 - 9th EAI Int Conf on Smart Objects and Technologies for Social Good, Oct 18-20, 2023, Leiria, Portugal.
- Machine Learning Algorithms for Brain Machine Interfaces. 22 EPIA on Artificial Intelligence, 5-8 Sept. 2023, Faial, Portugal.
- Explainable Artificial Intelligence in healthcare applications. IEEE Int Conf Automatics, Robotics & Artificial Intelligence (ICARAI'23),16-19 June 2023, Sozopol, Bulgaria.
- Artificial Intelligence – food for thought. Physics Week organized by the Portuguese association of Physics students. University of Aveiro. 29/May, 2023.
- Machine Learning and Deep Learning in Brain Computer Interfaces. Pontifícia Universidade Católica (PUC-SP), São Paulo, Brazil, Biomedical Engineering Week, 4/Oct, 2022.
- Machine learning in industry – from model-driven to data-driven approach, ICSMLE 2022 : International Conference on Statistics and Machine Learning in Electronics, 12-13 May 2022.
- Applications of Brain-Computer Interfaces. VII Week of Bioengineering 2022, Instituto Superior Técnico, University Lisboa, 1/April, 2022.
- Deep Learning in Brain Computer Interfaces. Technical University of Sofia, Bulgaria, 25/Feb 2022.

Invited talks:

- Exploring Diffusion Models for Image Generation. UPC Universitat Politècnica de Catalunya, 19/March, 2026.
- Experimental Analysis and Complexity Scaling of Denoising Diffusion Probabilistic Models for Image Synthesis. Computer Vision Center (CVC), Universidade Autónoma de Barcelona (UAB), 18/Fev, 2026.
- Deep Learning for medical image processing. Universidad Andres Bello (UNAB), Chile, 21/April 2025.
- Application of ML&DL for management of complex (i.e.5G) wireless sensor networks. EU-funded Doctoral Network MS Training School - Optical and WIreless sensors Networks for 6G scenarios (OWIN6G), Sept. 18th – 20th 2024, Czech Technical University in Prague, Czech Republic.

Professional Affiliations

- IEEE, Senior Member, SM No: 90274630, since 2010
- International Neural Network Society (INNS) SM No. 3615; since 2007.
- Member of the Board of Governors of INNS (2023-2026)
- IEEE Signal Processing Society 90274630
- European Neural Network Society (ENNS), Member No. 2258.
- ENNS Executive Committee Member (2014-2016)
- Portuguese association of pattern recognition (APRP), since 2019.
- FWO (Research Foundation – Flanders) Review College member, since 2025