Curriculum Vitae

Personal information

Surname(s) / First name(s)	**Poulkov Vladimir**
Address(es)	
Telephone(s)	
Fax(es)	
E-mail(s)	
Nationality	Bulgarian
Date of birth	
Gender	M

Work experience

EDUCATION & RESEARCH

Dates	10.2020 – Present
Occupation or position held	**Member of the National Accreditation Council**
Main activities and responsibilities	Education and Research
Name and address of employer	**National Evaluation and Accreditation Agency of Bulgaria** 125 "Tsarigradsko Shose" Blvd., bl. 5, Sofia 1113, Bulgaria, https://neaa.government.bg/en
Dates	04.2019 – Present
Occupation or position held	**Chairman of the Management Board**
Main activities and responsibilities	Education and Research
Name and address of employer	**Research and Development and Innovation Consortium - Sofia Tech Park** Sofia Tech Park 111, Tsarigradsko Shosse Blvd., 1000 Sofia, Bulgaria, www. sofiatech.bg
Dates	12.2015 – Present
Occupation or position held	**Professor**
Main activities and responsibilities	Education and Research
Name and address of employer	**Technical University of Sofia**, Faculty of Telecommunications, Department of Telecommunications 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, www.tu-sofia.bg
Dates	12.2007 – 11.2015
Occupation or position held	**Dean of Faculty**
Main activities and responsibilities	Education and Research
Name and address of employer	**Technical University of Sofia**, Faculty of Telecommunications, Department of Telecommunications 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, www.tu-sofia.bg

Dates	01.01.2004 – 30.11.2007
Occupation or position held	**Deputy Dean of Faculty**
Main activities and responsibilities	Education and Research
Name and address of employer	**Technical University of Sofia**, Faculty of Telecommunications, Department of Telecommunications 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, www.tu-sofia.bg
Dates	2000 – 2004
Occupation or position held	**Associate Professor**
Main activities and responsibilities	Education and Research
Name and address of employer	**Technical University of Sofia**, Faculty of Telecommunications, Department of Telecommunications 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, www.tu-sofia.bg
Dates	1990 – 2000
Occupation or position held	**Assistant Professor**
Main activities and responsibilities	Research and Education
Name and address of employer	**Technical University of Sofia**, Faculty of Telecommunications, Department of Telecommunications 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, www.tu-sofia.bg
Dates	1986 – 1990
Occupation or position held	**PhD Student**
Main activities and responsibilities	PhD research
Name and address of employer	**Technical University of Sofia** 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, www.tu-sofia.bg
Dates	1981 – 1986
Occupation or position held	**Research Associate**
Main activities and responsibilities	Research and development in the field of telecommunication
Name and address of employer	**Telecommunication Industry Institute** 2 Kukush str., 1000 Sofia, Bulgaria

BUSINESS & INDUSTRY

Dates	11.2016 – 12.2020
Occupation or position held	**Vice - Chairman of the General Assembly**
Main activities	Standardization
Name and address of employer	**European Telecommunications Standardization Institute**, www.etsi.org
Dates	2008 – Present
Occupation or position held	**Chairman**
Main activities	Clustering activities of Bulgarian SMEs
Name and address of employer	**Cluster for Digital Transformation and Innovation** Tsarigradsko Shosse Blvd., № 111, Sofia Tech Park, Incubator Building, Floor 2, apart. 28 Sofia, Bulgaria, https://dticluster.org/
Dates	1996 – 2018
Occupation or position held	**Founder and CEO**
Main activities	Production of access control systems
Name and address of employer	**BalkanBIt Ltd.** Kilment Ohridski Blvd. 1A, 1797 Sofia, Bulgaria, https://balkanbit.com/

Education

Dates	1976 – 1981
Title of qualification awarded	**Master of Science**
Principal subjects/Occupational skills	Telecommunications
Name and type of organisation providing education and training	Technical University of Sofia 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, www.tu-sofia.bg

Personal skills and competences

MOTHER TONGUE(S) **Bulgarian**

OTHER LANGUAGE(S)

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C2 Master user	C2 Master user	C2 Master user	C2 Master user	C2 Master user
German	C1 Proficient user	C1 Proficient user	B2 Advanced user	B2 Advanced user	B1 Intermediate user
Spanish	C1 Proficient user	C1 Proficient user	B1 Intermediate user	B1 Intermediate user	B1 Intermediate user
Russian	C1 Proficient user	C1 Proficient user	B1 Intermediate user	B1 Intermediate user	B1 Intermediate user

Additional information

ORGANIZATIONAL / MANAGEMENT SKILLS

- "Fellow" of the European Alliance for Innovation; "Senior Member" of IEEE; member of the Editorial boards of the International Springer Journal "Wireless Personal Communications"; member of the Technical Program Committees of many internationally recognized technical and scientific conferences.
- Successful management and realization of numerous industrial and engineering projects related to the development of the telecommunication transmission and access network infrastructure in Bulgaria, working with companies such as Ericsson, German Telecom and the major Bulgarian fixed and mobile operators.
- Leader of many national and international R&D and educational projects. Author of more than 160 scientific publications listed in SCOPUS and WoS databases.
- Thematic Area Leader in "Resource Optimal Embedded ICT" at "Center for Teleinfrastructure" (CTIF), Aalborg University, Denmark (2012 to 2016).
- Founder and Chairman of the Cluster for Digital Transformation and Innovation (ex name Bulgarian Cluster Telecommunications; 2008 to Present), a cluster whose members are leading telecom SMEs in Bulgaria, with portfolio covering big range of ICT services.
- Founder and head of the "Electromagnetic Compatibility of Communications Systems" R&D laboratory (2010 to Present) at the Technical University - an accredited "National Body for Control and Measurement of EM Fields" according the standard ISO/IEC 17020:2005.
- Founder and head of the "Intelligent Communications Infrastructure Laboratory" at Sofia Tech Park (First Science and Technology Park in Bulgaria) (2016 to Present)
- Founder and head of the "Teleinfrastructure" R&D laboratory at the Technical University of Sofia (2015 to Present).
- Founder and manager of Balkanbit Ltd (1996 to 2019) a Bulgarian company involved in the production of access systems and telecommunications engineering. Managing this company up to 2018, this SME is recognized in the Bulgarian market as a leading manufacturer and supplier of access control systems and offering various telecommunications engineering services.

TEACHING COURSES AT THE TECHNICAL UNIVERSITY OF SOFIA

a) Bachelor courses

1. Fundamentals of Information Transmission Theory
2. Broadband Transmission Networks
3. Fundamentals of Telecommunication Engineering

b) Master courses

4. Coding Theory in Telecommunications
5. Access Networks

SELECTED INTERNATIONAL PROJECTS MANAGED (LAST 5 YEARS)

1. CENTRAL. Capacity building and ExchaNge towards attaining Technological Research and modernizing Academic Learning. Grant Agreement Number: 598914-EPP-1-2018-1-DK-EPPKA2-CBHE-JP. ERASMUS + EAC/A05/2017: CBHE. 2019-2022
2. MOTOR5G. Mobility and Training for beyond 5G Ecosystems. MSCA-ITN-ETN: ENG. Project No. 861219. . EU(H2020-MSCA-ITN-2019). 2019-2023
3. C2Future. C2Clusters of the City of the Future. COSME. EU project 951188. 2020 -2023.
4. RECOMBINE. Research Collaboration and Mobility for Beyond 5G Future Wireless Networks. H2020-MSCA-RISE-2019. Project No. 872857. 2019-2025.
5. HOLOTWIN. Twinning for Enhancing Capacity and Research Excellence in Holographic Telepresence Systems as a Catalyst of Digitalization. Project D01-285/06.10.2020. Ministry of Education and Science of Bulgaria. 2020-2023.
6. METACITIES. MetaCities Excellence Hub in South-Eastern Europe. HORIZON-WIDERA-2022-ACCESS-04-01. Project No. 101087257 2023 – 2026.

SELECTED PUBLICATIONS (LAST 3 YEARS)

Journal Articles and Book Chapters

1. Poulkov, V. The Wireless Access for Future Smart Cities as a Large Scale Complex Cyber Physical System. *Wireless Personal Communications* 118, 1971–1985 (2021). https://doi.org/10.1007/s11277-019-06343-9
2. Karale, A.; Lazarova, M.; Koleva, P.; Poulkov, V. MEOD: Memory-Efficient Outlier Detection on Streaming Data. *Symmetry* 2021, *13*, 458. https://doi.org/10.3390/sym13030458
3. A. Ivanov, K. Tonchev, V. Poulkov and A. Manolova, "Probabilistic Spectrum Sensing Based on Feature Detection for 6G Cognitive Radio: A Survey," in *IEEE Access*, vol. 9, pp. 116994-117026, 2021, doi: 10.1109/ACCESS.2021.3106235.
4. Bandopadhaya, S.; Samal, S.R.; Poulkov, V. Machine Learning Enabled Performance Prediction Model for Massive-MIMO HetNet System. Sensors 2021, 21, 800. https://doi.org/10.3390/s21030800
5. Valkova-Jarvis, Z.; Poulkov, V.; Stoynov, V.; Mihaylova, D.; Iliev, G. A Method for the Design of Bicomplex Orthogonal DSP Algorithms for Applications in Intelligent Radio Access Networks. Symmetry 2022, 14, 613. https://doi.org/10.3390/sym14030613.
6. G. Kougioumtzidis, V. Poulkov, Z. D. Zaharis and P. I. Lazaridis, "A Survey on Multimedia Services QoE Assessment and Machine Learning-Based Prediction," in *IEEE Access*, vol. 10, pp. 19507-19538, 2022, doi: 10.1109/ACCESS.2022.3149592.
7. Ivanov A., Tonchev K., Poulkov V., Manolova A., Neshov N. Graph-Based Resource Allocation for Integrated Space and Terrestrial Communications. Sensors ,2022. 22 (15), 5778. DOI:10.3390/s22155778.
8. Pattnaik S.K., Samal S.R., Bandopadhaya S., Swain K., Choudhury S., Das J.K., Mihovska A., Poulkov V. Future Wireless Communication Technology towards 6G IoT: An Application-Based Analysis of IoT in Real-Time Location Monitoring of Employees Inside Underground Mines by Using BLE. Sensors 2022, 22 (9), 3438. DOI: 10.3390/s22093438.
9. Ivanov A., Muhammad B., Tonchev K., Mihovska A., Poulkov V. UAV-Based Volumetric Measurements toward Radio Environment Map Construction and Analysis. (2022) Sensors, 22 (24). DOI: 10.3390/s22249705.
10. Petkova R., Poulkov V., Challenges in Implementing Low-Latency Holographic-Type Communication Systems. (2022) Sensors, 22 (24), art. no. 9617. DOI: 10.3390/s22249617.
11. Vlahov A., Ekova D., Poulkov V., Cooklev T. Virtualized, Open and Intelligent: The Evolution of the Radio Access Network. (2022) 6G Enabling Technologies: New Dimensions to Wireless Communication. Book Chapter pp. 181 – 214. River Publishers.

12. Ivanov A., Koshnicharova D., Tonchev K., Poulkov V. Localization in cellular and heterogeneous networks for 5g and beyond: A review. (2023) Journal of Mobile Multimedia, 19 (1), pp. 47 – 72. DOI: 10.13052/jmm1550-4646.1913.
13. Dash, A.; Bandopadhay, S.; Samal, S.R.; Poulkov, V. AI-Enabled IoT Framework for Leakage Detection and Its Consequence Prediction during External Transportation of LPG. *Sensors* 2023, *23*, 6473. https://doi.org/10.3390/s23146473
14. Stoynov V., Poulkov V., Valkova-Jarvis Z., Iliev G., Koleva P. Ultra-Dense Networks: Taxonomy and Key Performance Indicators. (2023) Symmetry, 15 (1), DOI: 10.3390/sym15010002.
15. Ivanov, A.; Tonchev, K.; Poulkov, V.; Manolova, A.; Vlahov, A. Limited Sampling Spatial Interpolation Evaluation for 3D Radio Environment Mapping. *Sensors* 2023, *23*, 9110. https://doi.org/10.3390/s23229110
16. Bozhilov, I.; Petkova, R.; Tonchev, K.; Manolova, A.; Poulkov, V. HOLOTWIN: A Modular and Interoperable Approach to Holographic Telepresence System Development. *Sensors* 2023, *23*, 8692. https://doi.org/10.3390/s23218692
17. G. Kougioumtzidis, A. Vlahov, V. K. Poulkov, P. I. Lazaridis and Z. D. Zaharis, "Deep Learning-Aided QoE Prediction for Virtual Reality Applications Over Open Radio Access Networks," in *IEEE Access*, vol. 11, pp. 143514-143529, 2023, doi: 10.1109/ACCESS.2023.3343846.
18. S. N. Syed *et al.*, "Deep Neural Networks for Spectrum Sensing: A Review," in *IEEE Access*, vol. 11, pp. 89591-89615, 2023, doi: 10.1109/ACCESS.2023.3305388.
19. A. Ivanov, K. Tonchev, V. Poulkov and A. Manolova, 2024. Deep Learning for Reduced Sampling Spatial 3D REM Reconstruction.
20. IEEE Open Journal of the Communications Society, DOI: 10.1109/OJCOMS.2024.3386635.G. Kougioumtzidis, A. Vlahov, V. K. Poulkov, P. I. Lazaridis and Z. D. Zaharis, "QoE Prediction for Gaming Video Streaming in O-RAN Using Convolutional Neural Networks," in IEEE Open Journal of the Communications Society, vol. 5, pp. 1167-1181, 2024, doi: 10.1109/OJCOMS.2024.3362275

Conference Papers

1. A. Vlahov, V. Poulkov and A. Mihovska, "Analysis of Open RAN Performance Indicators Related to Holographic Telepresence Communications," *2021 24th International Symposium on Wireless Personal Multimedia Communications (WPMC)*, 2021, pp. 1-5, doi: 10.1109/WPMC52694.2021.9700477.
2. G. Kougioumtzidis, V. Poulkov, Z. Zaharis and P. Lazaridis, "Machine Learning for QoE Management in Future Wireless Networks," *2021 XXXIVth General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS)*, 2021, pp. 1-4, doi: 10.23919/URSIGASS51995.2021.9560226.
3. D. Koshnichrova, A. Mihovska, P. Koleva and V. Poulkov, "Context-Aware Communication Networks With Users in the Loop-A Short Survey," *2022 IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)*, 2022, pp. 147-152, doi: 10.1109/BlackSeaCom54372.2022.9858213.
4. I. Mallioras, Z. D. Zaharis, P. I. Lazaridis, V. Poulkov, N. V. Kantartzis and T. V. Yioultsis, "An Adaptive Beamforming Approach Applied to Planar Antenna Arrays Using Neural Networks," *2022 IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)*, 2022, pp. 293-297, doi: 10.1109/BlackSeaCom54372.2022.9858302.
5. G. Kougioumtzidis, V. Poulkov, Z. D. Zaharis and P. I. Lazaridis, "Intelligent and QoE-aware Open Radio Access Networks," *2022 3rd URSI Atlantic and Asia Pacific Radio Science Meeting (AT-AP-RASC)*, 2022, pp. 1-4, doi: 10.23919/AT-AP-RASC54737.2022.9814435.
6. Kougioumzidis G., Vlahov A., Poulkov V., Zaharis Z., Lazaridis P. QoE-Oriented Open Radio Access Networks for Virtual Reality Applications. (2022) International Symposium on Wireless Personal Multimedia Communications. WPMC 2022 - October. pp. 491 – 496., DOI: 10.1109/WPMC55625.2022.10014946.
7. Tonchev K., Neshov N., Ivanov A., Manolova A., Poulkov V. Automatic Modulation Classification using Graph Convolutional Neural Networks for Time-frequency Representation. (2022) International Symposium on Wireless Personal Multimedia Communications, WPMC, 2022 - October, pp. 75 – 79. DOI: 10.1109/WPMC55625.2022.10014833.
8. A. Ivanov, B. Muhammad, K. Tonchev, A. Mihovska, and V. Poulkov, 2022, October. Challenges for volumetric measurements toward radio environment map construction for UAV communications. In 2022 25th International Symposium on Wireless Personal Multimedia Communications (WPMC) (pp. 250-255). IEEE.

9. K. Tonchev, A. Ivanov, N. Neshov, A. Manolova, and V. Poulkov, 2022, October. Learning Graph Convolutional Neural Networks to Predict Radio Environment Maps. In 2022 25th International Symposium on Wireless Personal Multimedia Communications (WPMC) (pp. 392-395). IEEE.
10. N. Christoff, K. Tonchev, N. Neshov, A. Manolova and V. Poulkov, "Audio-Driven 3D Talking Face for Realistic Holographic Mixed-Reality Telepresence," *2023 IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)*, Istanbul, Turkiye, 2023, pp. 220-225, doi: 10.1109/BlackSeaCom58138.2023.10299781.
11. A. Ivanov, K. Tonchev, V. Poulkov, A. Manolova, and A. Vlahov, 2023, November. Interpolation Accuracy Evaluation for 3D Radio Environment Maps Construction. In 2023 26th International Symposium on Wireless Personal Multimedia Communications (WPMC) (pp. 1-7). IEEE.

June 2024 **V. Poulkov .....** .....