

# Curriculum Vitae



## Personal information

Surname(s) / First name(s)

**Poulkov Vladimir**

Address(es)

8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, Technical University of Sofia, Faculty of Telecommunications, Department of Communication Networks

Telephone(s)

+359 2 965 2256; +359 888 374 950

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E-mail(s)

[vkp@tu-sofia.bg](mailto:vkp@tu-sofia.bg); [poulkov@gmail.com](mailto:poulkov@gmail.com)

Nationality

Bulgarian

Date of birth

16.06.1956

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**

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 111, Tsarigradsko Shosse Blvd., 1000 Sofia, Bulgaria, [www.sofiatech.bg](http://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](http://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](http://www.tu-sofia.bg)

<p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p>	<p>01.01.2004 – 30.11.2007</p> <p><b>Deputy Dean of Faculty</b></p> <p>Education and Research</p> <p><b>Technical University of Sofia</b>, Faculty of Telecommunications, Department of Telecommunications 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, <a href="http://www.tu-sofia.bg">www.tu-sofia.bg</a></p>
<p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p>	<p>2000 – 2004</p> <p><b>Associate Professor</b></p> <p>Education and Research</p> <p><b>Technical University of Sofia</b>, Faculty of Telecommunications, Department of Telecommunications 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, <a href="http://www.tu-sofia.bg">www.tu-sofia.bg</a></p>
<p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p>	<p>1990 – 2000</p> <p><b>Assistant Professor</b></p> <p>Research and Education</p> <p><b>Technical University of Sofia</b>, Faculty of Telecommunications, Department of Telecommunications 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, <a href="http://www.tu-sofia.bg">www.tu-sofia.bg</a></p>
<p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p>	<p>1986 – 1990</p> <p><b>PhD Student</b></p> <p>PhD research</p> <p><b>Technical University of Sofia</b> 8 Kliment Ohridski Blvd., 1756 Sofia, Bulgaria, <a href="http://www.tu-sofia.bg">www.tu-sofia.bg</a></p>
<p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p>	<p>1981 – 1986</p> <p><b>Research Associate</b></p> <p>Research and development in the field of telecommunication</p> <p><b>Telecommunication Industry Institute</b> 2 Kukush str., 1000 Sofia, Bulgaria</p>
<b>BUSINESS &amp; INDUSTRY</b>	
<p>Dates</p> <p>Occupation or position held</p> <p>Main activities</p> <p>Name and address of employer</p>	<p>11.2016 – 12.2020</p> <p><b>Vice - Chairman of the General Assembly</b></p> <p>Standardization</p> <p><b>European Telecommunications Standardization Institute</b>, <a href="http://www.etsi.org">www.etsi.org</a></p>
<p>Dates</p> <p>Occupation or position held</p> <p>Main activities</p> <p>Name and address of employer</p>	<p>2008 – Present</p> <p><b>Chairman</b></p> <p>Clustering activities of Bulgarian SMEs</p> <p><b>Cluster for Digital Transformation and Innovation</b> Tsarigradsko Shosse Blvd., № 111, Sofia Tech Park, Incubator Building, Floor 2, apart. 28 Sofia, Bulgaria, <a href="https://dticluster.org/">https://dticluster.org/</a></p>
<p>Dates</p> <p>Occupation or position held</p> <p>Main activities</p> <p>Name and address of employer</p>	<p>1996 – 2018</p> <p><b>Founder and CEO</b></p> <p>Production of door phone systems</p> <p><b>Balkanbit Ltd.</b> Kilment Ohridski Blvd. 1A, 1797 Sofia, Bulgaria, <a href="https://balkanbit.com/">https://balkanbit.com/</a></p>

## Education

Dates	1976 – 1981
Title of qualification awarded	<b>Master of Science</b>
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, <a href="http://www.tu-sofia.bg">www.tu-sofia.bg</a>

## Personal skills and competences

MOTHER TONGUE(S)

OTHER LANGUAGE(S)

English

German

Spanish

Russian

### Bulgarian

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C2 Master user	C2 Master user	C2 Master user	C2 Master user	C2 Master user
C1 Proficient user	C1 Proficient user	B2 Advanced user	B2 Advanced user	B1 Intermediate user
C1 Proficient user	C1 Proficient user	B1 Intermediate user	B1 Intermediate user	B1 Intermediate user
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 140 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. Information Transmission Theory (in Bulgarian)
2. Fundamentals of Information Transmission Theory (in English)
3. Transport Telecommunication Systems (in Bulgarian)
4. Broadband Transmission Networks (in English)
5. Fundamentals of Telecommunication Engineering (in English)

b) **Master courses**

6. Coding Theory in Telecommunications (in Bulgarian)
7. Access Networks (in Bulgarian)

SELECTED INTERNATIONAL PROJECTS  
MANAGED  
(LAST 5 YEARS)

1. MOVE (Moving the Future). COSME COS-CLUSTER-2014-3-03. Cluster Go International. Project No.690067. 2016- 2017. EU (EASME).
2. 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. 2019-2022 ERASMUS + EAC/A05/2017: CBHE
3. MOTOR5G. Mobility and Training for beyond 5G Ecosystems. MSCA-ITN-ETN: ENG. Project No. 861219. 2019-2023. EU(H2020-MSCA-ITN-2019).
4. C2Future. C2Clusters of the City of the Future. Program COSME. EU project 951188.
5. RECOMBINE. Research Collaboration and Mobility for Beyond 5G Future Wireless Networks. H2020-MSCA-RISE-2019. Project No. 872857. 2019-2023.
6. HOLOTWIN. Twinning for Enhancing Capacity and Research Excellence in Holographic Telepresence Systems as a Catalyst of Digitalization. Project D01-285/06.10.2020) financed by the Ministry of Education and Science of Bulgaria.

SELECTED PUBLICATIONS  
(LAST 5 YEARS)

**Journal Articles and Book Chapters**

1. A. Ivanov, A. Mihovska, K. Tonchev, V. Poulkov, "Real-time adaptive spectrum sensing for cyclostationary and energy detectors", *IEEE Aerospace and Electronic Systems Magazine*, vol. 33, no. 5-6, pp. 20-33, May-June **2018**, DOI: 10.1109/MAES.2018.170098
2. T. Cooklev, V. Poulkov, D. Bennett, K. Tonchev, "Enabling RF data analytics services and applications via cloudification", *IEEE Aerospace and Electronic Systems Magazine*, vol. 33, no. 5-6, pp. 44-55, **2018**, DOI: 10.1109/MAES.2018.170108.
3. Vladimir Poulkov. "Wireless Access in Future Smart Cities and Data Driven Business Opportunities", in *Towards Future Technologies for Business Ecosystem Innovation*. R. Prasad, L. P. Ligthart, Ed. River Publishers, **2018**. Ch.2, pp. 21-40, ISBN: 978-87-93609-77-8.
4. P. Koleva, V. Poulkov, "Heuristic Access Points Grouping for Mobility Driven User-Centric Ultra Dense Networks", *Wireless Personal Comm.*, 2020, DOI: 10.1007/s11277-020-07234-0
5. 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>
6. 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>
7. 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.
8. 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>
9. Valkova-Jarvis, Z.; Poulkov, V.; Stoyanov, 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>.

10. 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.
11. 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.
12. 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.

### Conference Papers

13. M. Pamukov, V. Poulkov, V. Shterev, "Negative Selection and Neural Network based Algorithm for Intrusion Detection in IoT", in Proceedings of International Conference on Telecommunications and Signal Processing (TSP), Athens, Greece, 4-6 July **2018**, pp. 636-640, DOI: 10.1109/TSP.2018.8441338.
14. N. Dandanov, S.R. Samal, S. Bandopadhaya, V. Poulkov, K. Tonchev, P. Koleva, "Comparison of Wireless Channels for Antenna Tilt Based Coverage and Capacity Optimization", in Proceedings of Global Wireless Summit (GWS), Chiang Rai, Thailand, Thailand, 25-28 November **2018**, pp. 119-123, DOI: 10.1109/GWS.2018.8686597.
15. P. Semov, P. Koleva, V. Poulkov, "Adaptive resource scheduling based on neural network and mobile traffic prediction", in Proceedings of International Conference on Telecommunications and Signal Processing (TSP), Budapest, Hungary, 1-3 July **2019**, pp. 585-588, DOI: 10.1109/TSP.2019.8769088.
16. V. Stoynov, Z. Valkova-Jarvis, D. Mihaylova, G. Iliev, V. Poulkov, A. Mihovska, "Mixed Waveform Numerology for Performance Enhancement in High Mobility Wireless Networks", in Proceedings of International Symposium on Wireless Personal Multimedia Communications (WPMC), Lisbon, Portugal, 24-27 November **2019**, DOI: 10.1109/WPMC48795.2019.9096085.
17. P. Semov, P. Koleva, K. Tonchev, V. Poulkov, T. Cooklev, "Evolution of Mobile Networks and C-RAN on the Road beyond 5G", in Proceedings of International Conference on Telecommunications and Signal Processing (TSP), Milan, Italy, 7-9 July **2020**, pp. 392-398, DOI: 10.1109/TSP49548.2020.9163513.
18. 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.
19. 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.
20. 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.
21. I. Mallioras, Z. D. Zaharis, P. I. Lazaridis, V. Poulkov, N. V. Kantartzis and T. V. Yioultis, "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.
22. 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.

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V. Poulkov .