

PERSONAL INFORMATION



Emanuel-Dumitru PUSCHITA

Technical University of Cluj-Napoca, 26-28 G. Baritiu Street, Cluj-Napoca, 400028, Romania
 National Institute for Research and Development of Isotopic and Molecular Technologies, 67-103 Donat Street, 400293, Cluj-Napoca, Romania

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Web of Science (WOS) ResearcherID: <https://publons.com/researcher/AAA-9976-2019/>

Sex M | Date of birth [REDACTED] | Nationality Romanian

CURRENT POSITIONS

- Professor, Department of Communications, Faculty of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca (TUC-N) | <http://www.utcluj.ro/>
- Scientific Researcher I, Center for Research and Advanced Technologies for Alternative Energies (CETATEA), National Institute for Research and Development of Isotopic and Molecular Technologies (INCDTIM), 67-103 Donat Street, 400293, Cluj-Napoca, Romania | <http://en.itim-cj.ro/>

EDUCATION AND TRAINING

- 2017, Jun. **Habilitation Thesis in Electronics, Telecommunication and Information Technology**
 Affiliated to IOSUD of the Technical University of Cluj-Napoca, 28 Memorandumului Street, Cluj-Napoca, 400114, Romania
 ▪ Habilitation thesis: Quality of Service Provisioning and Resource Management in Radio Access Communication Networks
- 2003, Oct. - 2009, Jul. **Doctor in Electronics Engineering and Telecommunications, CUM LAUDE distinction**
 Technical University of Cluj-Napoca, 28 Daicoviciu Street, Cluj-Napoca, 400020, Romania
 ▪ Ph.D. thesis: "Contributions to the Quality of Services Implementation in the Telecommunication Networks"
- 1997, Oct. - 2003, Jul. **Telecommunications Engineer**
 Technical University of Cluj-Napoca, 28 Daicoviciu Street, Cluj-Napoca, 400020, Romania
 Faculty of Electronics and Telecommunications, Digital Networks in Telecommunications
 ▪ Diploma thesis: Study and performance evaluation of SIP

PROFESSIONAL EXPERIENCE

- 2020, Oct. - present **Full Professor**
 Technical University of Cluj-Napoca, Communications Department, 28 Memorandumului Street, Cluj-Napoca, 400114, Romania
Teaching activities (post-graduate):
 - Courses (Romanian language): Cellular Radiocommunications (B.Sc.), Mobile and Fixed Communications Systems (B.Sc.), Radio Networks Planning (M.Sc.)
 - Courses (English language): Cellular Radiocommunications (B.Sc.)
 - Laboratories and Projects (Romanian language): Cellular Radiocommunications (B.Sc.), Mobile and Fixed Communications Systems (B.Sc.), Wireless Systems (M.Sc.), Radio Networks Planning (M.Sc.)**Scientific activities (Researcher):**
 - Books / Book Chapters published by renowned publishers: 2 / 2
 - ISI-WOS Journal Articles & ISI-WOS Proceedings Papers: 68
 - Papers indexed by notable international databases (SCOPUS, IEEEExplore, ACM, SpringerLink): 55
 - Project Leader of research projects won in national competitions: 3
 - Project Member of research projects won in national & international competitions: +20
 - Project Leader of research projects with industry (SIEMENS PSE and NOKIA Romania): 4
- 2003, Mar. - 2014, Sept. **Associate Professor (2014, Oct. – 2020, Sept.), Assistant Professor/Lecturer (2011, Oct. - 2014, Sept.); Assistant (2005, Mar. - 2011, Sept.); Teaching Assistant (2003, Mar. - 2005, Feb.)**
 Technical University of Cluj-Napoca, 28 Memorandumului Street, Cluj-Napoca, 400114, Romania
Teaching and research activities

2003, Jan. - 2003, Feb.

System Engineer

Technical University of Cluj-Napoca, 28 Memorandumului Street, 400114, Romania

- Managing the computer network of the Faculty of Architecture and Urban Planning

TRAINING AND CERTIFICATIONS

- 2020 **Technologies, Systems and Applications for eActivities Postgraduate Program**
Department for Continuing Education, Distance Learning and Reduced Frequency, TUC-N, RO
- Educational Technologies and ITC Tools for Higher Education Certificate
- 2011 **QualNet Developer & EXata Emulator**
Scalable Networks Technologies
- Certificate of completion of QualNet Developer simulator and EXata emulator training course, Fulton, MD, SUA
- 2010 **Project Manager**
National Council for Adults Professional Training (NCAPT), Certification and evaluation centre SC Romarketing SRL Oradea, Romania
- NCAPT project manager certification
- 2010 **Trainer**
National Council for Adults Professional Training (NCAPT), Certification and evaluation centre SC Romarketing SRL Oradea, Romania
- NCAPT project manager certification
- 2008 **Cisco Unified Wireless Networking**
Cisco Technologies
- Certificate of completion of the authorized Cisco Unified Wireless Networking course, Washington D.C., SUA
- 2007 **Certified Wireless Networking Administrator**
Certified Wireless Networking Program (CWNP) Program
- Certificate of completion of the Certified Wireless Networking Administrator (CWNA) course, Cluj-Napoca, Romania
- 2007 **Psycho-pedagogical Training course**
Teaching Staff Training Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania
Certificate of completion

NATIONAL / INTERNATIONAL AWARDS

- 2020 **Special Prize Award**
IEEE International Workshop on Antenna Technology (iWAT 2020)
- for "The highest number of contributions to the Sixteenth iWAT Conference", Bucharest, Romania
- 2018 **Certificate of Outstanding Contribution in Reviewing Award**
Computer Networks (Elsevier Journal)
- in "Recognition of the contributions made to the quality of the Computer Networks (Elsevier Journal)"
- 2018 **Romanian Space Agency (ROSA) Award**
ROSA, Member of IntraSAT-Tech Research Centre, Technical University of Cluj-Napoca, Romania
- for "Remarkable contributions to the development of space activities in Romania"
- 2016 **Best Paper Award**
IEEE, WISEE2016
- Paper "Implementation of an UWB-based Module Designed for Wireless Intra-Spacecraft Communications"
- 2011 **Best Paper Award**
IARIA, AFIN2011
- Paper "QoS Support in UMTS Networks: Performance Evaluation and Perspectives towards an Autonomic Resource Management"
- 2007 **"Dan Roman" Excellence Award**
Academic Forum of the Technical University of Cluj-Napoca
- for "Young Researchers"
- 2006 **Best Paper Award**
IARIA, ICWMC2006
- Paper "Intra-System Mobility Evaluation for Different Wireless Technologies"

PERSONAL SKILLS

Mother tongue Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	B2	B2

Certificates of linguistic competence acknowledged by Department of Modern Languages and Communication,
Technical University of Cluj-Napoca

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Practical skills

- Using professional simulation and emulation tools for planning and analysis of radio networks (QualNet and Exata)
- Using professional software tools for design, planning, evaluation and management of wireless networks (Air Magnet)
- Operating professional test and measurement instrumentation (Rohde & Schwarz spectrum, vector, and protocol analyzer)
- Using industrial aerospace professional instrumentation (STAR-Dundee products implementing SpaceWire protocol)

Digital skills

- Microsoft 365 (Word, Excel, Visio, PowerPoint, Teams)
- Adobe Acrobat Professional

ADDITIONAL INFORMATION

Scientific papers (10 of 77 most representative ISI-WOS Journal Articles, ISI-WOS Proceedings Papers and notable international databases (IDB) indexed scientific papers)

1. Jecan, E., Pop, C., Ratiu, O., **Puschita, E.** *Predictive Energy-Aware Routing Solution for Industrial IoT Evaluated on a WSN Hardware Platform*. Sensors 2022, 22, 2107. (IF = 3.576, Q1)
<https://doi.org/10.3390/s22062107>
2. **Puschita, E.**, Ratiu, O., Drobczyk, M., Panagiotopoulos, N., Kirei, B., Vos, S., Ratiu, V., Gärtner, T., Pastrav, A., Palade, T., *A UWB Solution for Wireless Intra-Spacecraft Transmissions of Sensor and SpaceWire Data*, International Journal of Satellite Communications and Networking, vol. 38, no. 1, Jan./Feb. 2020, pp. 41-61, doi: 10.1002/sat.1307. (IF=1.633, Q2).
<https://doi.org/10.1002/sat.1307>
3. Padrah, Z., Pastrav, A., Palade, T., Ratiu, O., **Puschita, E.**, Development and Validation of an ISA100.11a Simulation Model for Accurate Industrial WSN Planning and Deployment. Sensors, 2021, 21, 3600, WOS: 000660682900001. (IF=3.576, Q1).
<https://doi.org/10.3390/s21113600>
4. Popescu, D., Jacquet, P., Mans, B., Dumitru, R., Pastrav, A., **Puschita, E.**, *Information Dissemination Speed in Delay Tolerant Urban Vehicular Networks in a Hyperfractal Setting*, IEEE/ACM Transactions on Networking, vol. 27, no. 5, Oct. 2019, pp. 1901-1914, doi: 10.1109/TNET.2019.2936636, WOS: 000502059800010. (IF=3.597, Q1).
<https://doi.org/10.1109/TNET.2019.2936636>
5. **Puschita, E.**, Constantinescu, A., Colda, R., Vermesan, I., Moldovan, A., Palade, T., *Challenges for a broadband service strategy in rural areas: A Romanian case study*, Telecommunications Policy, vol. 38, no. 2, Mar. 2014, pp. 147–156. doi: 10.1016/j.telpol.2013.08.001, WOS: 000335875800003. (IF=2.000, Q2).
<https://doi.org/10.1016/j.telpol.2013.08.001>
6. **Puschita, E.**, Palade, T., Colda, R., Vermesan, I., Moldovan, A., *Radio Resource Adaptive Adjustment in Future Wireless Systems Based on Application Demands*, International Journal of Computers Communications & Control, vol. 8, no.1, Nov. 2012, pp. 111-126, doi: 10.15837/ijccc.2013.1.175, WOS: 000312043600013 (IF=1.585, Q3).
<https://doi.org/10.15837/ijccc.2013.1.175>
7. **Puschita, E.**, Kantor, P., Manuliac, G., Palade, T., Bito, J., *Enabling Frame-Based Adaptive Video Transmission in a Multilink Environment*, Advances in Electrical and Computer Engineering, vol. 12, no. 2, 2012, pp. 9-14. doi: 10.4316/AECE.2012.02002, WOS: 000305608000002. (IF=0.650, Q4).
<http://www.aece.ro/abstractplus.php?year=2012&number=2&article=2>
8. Jecan, E., Pop, C., Padrah, Z., Ratiu, O., **Puschita, E.**, *A dual-standard solution for industrial Wireless Sensor Network deployment: Experimental testbed and performance evaluation*, 14th IEEE International Workshop on Factory Communication Systems (WFCS), Imperia, Italy, 2018, pp. 1-9. doi: 10.1109/WFCS.2018.8402360, WOS: 000490863500024.
<https://doi.org/10.1109/WFCS.2018.8402360>

9. Ratiu, O., Rusu, A., Pastrav, A., Palade, T., **Puschita, E.**, *Implementation of an UWB-based Module Designed for Wireless Intra-Spacecraft Communications*, IEEE International Conference on Wireless for Space and Extreme Environments (WiSEE 2016), Aachen, Germany, 2016, pp. 146-151. Doi: 10.1109/WiSEE.2016.7877320, WOS: 000405562000027. <https://doi.org/10.1109/WiSEE.2016.7877320> (IEEE WiSEE 2016 Best Paper Award)
10. Buta, R., Codau, C., Pastrav, A., Palade, T., Hedesiu, H., Balauta, B., **Puschita, E.**, *Experimental Evaluation of AoA Algorithms using NI USRP Software Defined Radios*, 17th RoEduNet Conference: Networking in Education and Research (RoEduNet), Cluj-Napoca, Romania, 2018, pp. 1-6. doi: 10.1109/ROEDUNET.2018.8514133, WOS: 000517570500011. <https://doi.org/10.1109/ROEDUNET.2018.8514133>

Research projects (5 of 20 most representative national and international projects)

1. **Puschita, E.** (project coordinator), grant UEFISCDI PED 424/2020: High-Throughput Wireless-SpaceWire Bridge for Intra-Satellite Transmissions. Project value: 600.000 lei. Implementation period: 2020 – 2022.
2. **Puschita, E.** (project coordinator), grant CNCIS PD 184/2010: *Design and validation of an innovative QoS paradigm based on cognitive self-management of resources for a future unified network architecture*. Project value: 138.907,62 lei. Implementation period: 2010 - 2012.
3. **Puschita, E.** (project coordinator), grant CNCIS TD 520/2007: *Design and evaluation of an inter-domain QoS mechanism in a hybrid access wireless IP architecture using mobile agents*. Project value: 90.000 lei. Implementation period: 2007 - 2008.
4. Abramowicz, H. (project coordinator, Ericsson AB Sweden), Dobrota, V. (TUCN coordinator), **Puschita, E.** (TUCN member), FP7 ICT-2007-1-216041 Project: *Architecture and design for the future Internet – 4WARD*. Implementation period: 2008 - 2010.
5. Rațiu, O., (project coordinator, Control Data Systems - CDS), Palade, T. (TUCN coordinator), **Puschita, E.** (TUCN member), ESA (European Space Agency) Project: *Wireless Communication Bus for Satellite Applications (WiSAT)*, Contract No. 4000110663/14/NL/CBi. Project value (for TUCN): 130.466,66 lei / 30.000 EUR. Implementation period : 2014 - 2015.

Books / Book chapters (scientific)

1. **Puschita, E.**, Pastrav, A., Semenciuc, E., Palade, T., *Calitatea serviciilor în rețele de telecomunicații cu acces radio, ed. a 2-a revizuită și completată (in Romanian)*, Cluj-Napoca, U.T. PRESS Publishing House, ISBN 978-606-737-189-5, 320 pagini, 2016.
2. **Puschita, E.**, *Calitatea serviciilor în rețele de telecomunicații cu acces radio (in Romanian)*, Cluj-Napoca, U.T. PRESS Publishing House, ISBN 978-973-662-861-0, 232 pages, 2013.
3. Nicolaescu, S-V. (coordinator), Bogdan, I., Palade, T., Jurian, M., **Puschita, E.**, et all, *Rețele wireless de acces – Alocarea dinamică și autoorganizarea resurselor (in Romanian)*, PRINTECH Publishing House, ISBN 978-606-521-562-7, 403 pages, 2010.
4. Nicolaescu, S-V. (coordinator), Bogdan, I., Palade, T., Jurian, M., **Puschita, E.** et all, *Rețele virtuale dispersate (in Romanian)*, PRINTECH Publishing House, ISBN 978-606-521-707-2, 192 pag., 2011.

Books / Book chapters (teaching)

1. **Puschita, E.**, Palade, T., Moldovan, A., Colda, R., Vermesan, I., *Radiocomunicații Celulare: canalul radio, antene, proiectarea sistemelor. Manual de laborator (in Romanian)*, U.T. PRESS Publishing House, ISBN 978-973-662-496-4, 170 pages, 2009.
2. Crisan, N., Cremene, L., **Palade, T.**, Puschita, E., *Microunde – Aplicatii, Volumul I (in Romanian)*, U.T. PRESS Publishing House, ISBN 978-973-662-377-6, 120 pages, 2008.
3. Palade, T., Moldovan, A., **Puschita, E.**, Vermesan, I., *Microunde – Aplicatii. Volumul II: Masuratori, antene, sisteme (in Romanian)*, U.T. PRESS Publishing House, ISBN 978-973-662-509-1, 142 pages, 2010.
4. Palade, T., Vermeșan, I., Colda, R., Moldovan, A., **Puschita, E.**, *Radiocomunicații: îndrumător de laborator (in Romanian)*, U.T. Press Publishing House, ISBN 978-973-662-684-5, 126 pages, 2012.
5. Pastrav, A., Palade, T., **Puschita, E.**, Dolea, P., Dascal, V., *Intrebari si probleme din tehnica microundelor*, U.T. PRESS Publishing House, ISBN 978-606-737-250-2, 114 pagini, 2017.

Recognition and impact

Reviewer for ISI Journals (Q1/Q2):

- Telecommunications Policy (Q2) (2014 - prezent);
- Computer Networks (Q2) (2016 - prezent);
- Mobile Networks and Applications (Q2) (2015 - prezent);
- Review of the Air Force Academy (2016 - prezent)
- Sensors (Q1) (2017 - prezent)
- Applied Science (Q2) (2019 - prezent)
- Mobile Networks and Applications (Q2) (2017 - prezent)
- IEEE Journal of Radio Frequency Identification (2022 - prezent)

Member of Scientific Boards or Scientific Committees of IDB indexed journals:

- International Journal On Advances in Internet Technology (2012 - present);
- Acta Tehnica Napocensis Electronics and Telecommunications (2015 - present).

Member of Technical Committees of international conferences:

- International Symposium on Distributed Simulation and Real Time Applications (IEEE/ACM DS-RT 2020)
- IEEE International Conference on Communications (COMM 2014 - present)
- International Conference on Advances in Future Internet (AFIN 2011-present)
- Advanced International Conference on Telecommunications (AICT 2013-present)
- 21st European Signal Processing Conference (EUSIPCO 2013)

Keynote Speaker/Invited Speaker/Conference Chair

- Keynote Speaker, The Eighth Advanced International Conference on Telecommunications, AICT 2012, May 27 - June 1, 2012, Stuttgart, Germany
- Invited Speaker, Second Romanian Summer School of Antennas and Propagation, August 28-29, 2019, Timisoara, Romania, <https://events.vtools.ieee.org/m/201110>
- Chair of WIRELESS COMMUNICATIONS 1 session, IEEE International Conference on Communications (COMM 2014), <http://www.comms.ro/comm2014/comm2014-program.pdf>

Awarded research results by the Executive Unit for Financing Higher Education, Research, Development, and Innovation in Romania (UEFISCDI)

- Article awarded by UEFISCDI (2021), Scientific Papers Section, for the paper *Development and Validation of an ISA100.11a Simulation Model for Accurate Industrial WSN Planning and Deployment*
- Article awarded by UEFISCDI (2020), Scientific Papers Section, for the paper *Information Dissemination Speed in Delay Tolerant Urban Vehicular Networks in a Hyperfractal Setting*
- Article awarded by UEFISCDI (2014), Scientific Papers Section, for the paper *Challenges for a broadband service strategy in rural areas: A Romanian case study*
- Article awarded by CNCSIS (2008), Scientific papers section for the paper *Evaluation of Adaptive Radio Techniques for the under-11GHz Broadband Wireless Access*

Institutional activities (Technical University of Cluj-Napoca)**Faculty roles and activities**

- Academic Advisor for students, *Communications Integrated Systems with Special Applications* Master Programme, Department of Communications, Faculty of Electronics, Telecommunications, and Information Technologies
- Member, Board of Communications Department (2020 - present)
- Member, Council of Faculty of Electronics, Telecommunications, and Information Technologies (2017 - present)

Other Professional Activities**Professional affiliations**

- Chapter Vice-Chair, IEEE Romania Section – APS/CRFID Jt. Chapter
- Member, Institute of Electrical and Electronics Engineers (IEEE) (2006 - present)
- Member, IEEE Communications Society (ComSoc) (2006 - present)
- Member, NetWorld2020 Expert Task Force

I certify that the above information is true
Professor, Ph.D., Emanuel-Dumitru PUSCHITA