Curriculum Vitae

PERSONAL INFORMATION

Marcu Ioana Manuela



Iuliu Maniu Blvd, no. 1-3, 060071, Bucharest, Romania

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https://www.researchgate.net/profile/Ioana_Marcu

Skype iomarcu

WORK EXPERIENCE

Oct. 2024– present

Full Professor

POLITEHNICA Bucharest, Electronics, Telecommunications and Information Technology Faculty, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, website: etti.upb.ro

- Courses, applications and laboratories: Multiple Access Techniques (TAM); Mobile and Personal Communications (CMP); Digital communications (CD); Mobile Communications; Computer Graphics, Animation and Video Editing
- Research project submission (in collaboration with different companies)
- PhD students' guidance

Type of business or sector Higher education

Sept. 2019– Sept 2024

Associate Professor

University Politehnica of Bucharest, Electronics, Telecommunications and Information Technology Faculty, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, website: www.eletronica.pub.ro

- Courses, applications and laboratories: Multiple Access Techniques (TAM); Mobile and Personal Communications (CMP); Digital communications (CD); Mobile Communications; Computer Graphics, Animation and Video Editing
- Research project submission (in collaboration with different companies)

Type of business or sector Higher education

Oct. 2009– Sept 2019

Lecturer

University Politehnica of Bucharest, Electronics, Telecommunications and Information Technology Faculty, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, website: www.eletronica.pub.ro

- Courses, applications and laboratories: Multiple Access Techniques (TAM); Acces and Transportation Technologies; Digital communications; Analog and Digital Communications; System's analysis and Synthesis; Signals and Systems for Communications; Mobile Communications, Measurements in Electronics and Communication
- Research project submission (in collaboration with different companies)

Type of business or sector Higher education

Oct. 2002- Oct. 2009

Assistant professor

University Politehnica of Bucharest, Electronics, Telecommunications and Information Technology Faculty, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, website: www.eletronica.pub.ro

- Applications: Multiple Access Techniques; Acces and Transportation Technologies; Digital communications; Analog and Digital Communications; System's analysis and Synthesis; Signals and Systems for Communications; Mobile Communications, Measurements in Electronics and Communication

Type of business or sector Higher education

Aprilie 2002-Oct. 2002

Team Leader

NIM IMPEX S.R.L. , Str. Maltopol, Nr. 23 , sector 1, Bucuresti, website: http://www.nimsite.com/

- Project development; team activity coordination

Type of business or sector .NET developer

Aprilie 2002-Oct. 2002

Temporary Assistant professor

University Politehnica of Bucharest, Electronics, ETTI, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, website: www.electronica.pub.ro

- Applications: CDMA systems, Analog and Digital Communications; System's analysis and Synthesis

Type of business or sector Higher education

EDUCATION AND TRAINING

Nov. 2023

Habilitation

POLITEHNICA Bucharest, ETTI, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, URL: etti.upb.ro

- Habilitation thesis title: "Contribuții la dezvoltarea sistemelor de comunicații de ultimă generație pentru aplicațiile IoT" ("Contributions to the development of next-generation communication systems for IoT applications")

July 2011

Doctor Diploma

EQF 8 Level

University Politehnica of Bucharest, ETTI, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, URL: www.electronica.pub.ro

- Thesis title: Contributions to turbo technique usage for improvement of multiuser systems' performances

Noi. 2003 – July 2011

PhD student

EQF 7 Level

University Politehnica of Bucharest, ETTI, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, www.electronica.pub.ro

- Usage of turbocoding technique in multiuser systems

Dec.– Ian 2008

Alcatel-Lucent training diploma

At Alcatel-Lucent, Timisoara

- Training course related to Alcatel-Lucent equipments used in communication systems

Oct. 2000- Ian. 2001

Connex training diploma

University Politehnica of Bucharest, Electronics, ETTI, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, website: www.electronica.pub.ro

- Connex Training Courses (currently Vodafone)

Oct. 2002- July 2003

Master program, RMCO area

EQF 7 Level

University Politehnica of Bucharest, Electronics, ETTI, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, website: www.electronica.pub.ro

- Master program: RMCO (Radiocommunications, Microwaves and Optical Communications)

Oct. 1997- July 2002

Engineer Diploma, Mobile and Satellites Communications

EQF 6 Level

University Politehnica of Bucharest, ETTI, Telecommunications Department, Bd. Iuliu Maniu 1-3, Bucharest, 6, 061071, Spl. Independentei nr. 313, 060042, București, Sector 6, ROMANIA, website: www.electronica.pub.ro

- Analog and Digital Transmissions, Data Communications; Mobile Terrestrial Communications, Satellites Communications

Sept. 1993- July 1997

Highschool Diploma

EQF 4 Level

Economic Highschool in Ploiești (currently Virgil Madgearu Economic Highschool), Rudului 24 Street, Ploiești 100024

- Commerce Domain

PERSONAL COMPETENCIES

Native language Romanian

Other language(s)

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

Social skills and competences

- excellent communication skills gained from working with students (coordination/ dissertation projects)
- teamwork skills, acquired in years of work in teams of different dimensions, from groups of 2-3 up to research teams involved in international projects

Workplace skills

- Design, testing of telecommunications systems - physical level
- Matlab / Simulink
- Knowledge of IEEE and 3GPP standards

Organizational skills and competences

- Participant in the faculty schedules committee, secretary for the bachelor and dissertation committees (2002-present)
- Coordinator of the research team (I. Marcu (project director), I. Pirnog, A.-M. Drăgulinescu, C. Zamfirescu) entitled "Rețea ad-hoc optimizată pentru agricultura de precizie (RomAgrar)", ARUT project no. 24/09.10.2023, from “National Program for Research of the National Association of Technical Universities - GNAC ARUT 2023” competition, project period: Oct. 2023- Dec. 2025
- Coordinator of the research team (5 professors, associate professors, lecturers, assistants and PhD students from the Faculty of Electronics, Telecommunications and Information Technology) within the project "Next Generation Internet platform for precision agriculture" (NGI-UAV-AGRO), contract Nov.2020- Oct. 2022
- Coordinator of the research team (12 professors, associate professors, lecturers, assistants and PhD students from the Faculty of Electronics, Telecommunications and Information Technology) within the project "Telemetry system for intelligent agriculture" (SmartAgro), July 2018-Aug 2020
- Coordinator of the research team (3 members) within the GEX project "Modulation ΣΔ in 5G systems" (ModΣs), contract Sept 2017, internal grant UPB (2017-2018).
- Excellent organizational and planning skills
- Analytical thinking

Computer skills and competences

SELF-E				
Information processing	Communication	Content design	Security	Problem solving
Experienced user	Experienced user	Independent user	Experienced user	Experienced user

ADDITION INFORMATION

Publications
- In Publication List Annex

Presentations
- In Publication List Annex

Projects
- In Publication List Annex

Conferences
- In Publication List Annex

Distincţii
- Award for research results, UEFISCDI PRECISI2020 competition, Dec. 2020: **I. Marcu**, G. Suciu, C. Bălăceanu, A. Vulpe, A.M. Drăgulinescu, "Arrowhead Technology for Digitalization and Automation Solution: Smart Cities and Smart Agriculture", Sensors **2020,** 20(5), 1464 (PN-III-P1-1.1-PRECISI-2020-40781)
- Award for Research results, UEFISCDI, Dec. 2015: G. Suciu, V. Suciu, A. Martian, R. Craciunescu, A. Vulpe, **I. Marcu**, S. Halunga, O. Fratu, „Big Data, Internet of Things and Cloud Convergence – An Architecture for Secure E-Health Applications", Journal of Medical Systems, Springer Publisher, Online ISSN1573-689X, September 2015
- Award for the Contribution to the Industrial Research Excellence for the paper entitled "An End-to-End LoRaWAN-based IoT Platform with Built-in Network Coverage Testing Capability" (authors: A.-M. Drăgulinescu, I. Marcu, C. Zamfirescu) in The 25th International Symposium on Wireless Personal Multimedia Communications, in Herning, Denmark, organised by the Department of Business Development and Technology of Aarhus University (Aarhus BSS - Aarhus University), OCT 2022

Membership
- IEEE member
- EAI member

ANNEXES

- Publication List

LIST OF PUBLICATIONS
PUBLICATIONS / RESEARCH PROJECTS / AWARDS
Marcu Ioana Manuela
Department of Telecommunications
National University of Science and Technology POLITEHNICA Bucharest

PHD THESIS

Thesis Title: „Contributions to Turbo technique usage for improvement of multiuser systems' performances", National University of Science and Technology POLITEHNICA Bucharest/ Electronics, Telecommunications and Information Technology Faculty, Telecommunications Department, 2011.

BOOKS

1. **I. Marcu**, O. Fratu " Mobile Communications. Applicative Aspects", Editura Politehnica Press, ISBN 978-606-9608-28-9, 129 pag, 2022 (http://cr.uk.to/Mobile_Communications.pdf)

2. **I. Marcu**, "Noțiuni fundamentale de grafică computerizată și animație", Editura Politehnica Press, ISBN 978-606-9608-25-8, 147 pag, 2022 (http://cr.uk.to/edi_final_marcu.pdf)

3. **I. Marcu**, I. Pirnog, A. Vulpe, L. Dogariu, A.-M. Drăgulinescu, "Electronic measurements. Theory and applications", Editura Politehnica Press, ISBN 978-606-515-987-7, 166 pag, 2021

4. **I. Marcu**, C.Oprea, A. Martian, O. Fratu, I. Marghescu, "Comunicatii Mobile. Aspecte teoretice si experimentale", Editura Politehnica Press, ISBN 978-606-515-837-5, 109 pag, 2018

5. T. Petrescu, S. Halunga, O. Fratu, **I. Marcu**, C. Voicu, R. Craciunescu, "Analiza și sinteza circuitelor: teorie și aplicații", Editura Politehnica Press, ISBN 978-606-515-641-8, Bucuresti, 2015

6. I. Constantin, S. Halunga, **I. Marcu**, „Comunicaţii analogice şi digitale – Culegere de probleme", Editura Electronica 2000, Bucureşti, 2010 (191 pag.), ISBN 978-973-7860-22-4

7. M. Stanciu, S. Obreja, A. Paun, R. U. Mihnea, **I. Marcu**, R. O. Preda, I. Pirnog, "Instrumentație electronică de masură - Îndrumar de laborator", Electronica 2000, ISBN 978-973-7860-10-1, 130 pag, Bucharest, Romania, 2008

8. S.V. Nicolaescu, I Marghescu, I. Bogdan, S Halunga, **I. Marcu** ş.a. „Accesul Wireless de Bandă Largă ", vol I (387 pag), Editura Printech 2008, ISBN 978-606-521-080-6, 978-606-521-081-3

9. S.V. Nicolaescu, I Marghescu, I. Bogdan, S Halunga, I. Marcu ş.a. „Accesul Wireless de Bandă Largă ", vol II (214 pag), Editura Printech 2008, ISBN 978-606-521-080-6, 978-606-521-081-3

10. I. Constantin, S. Halunga, **I. Marcu**, „Semnale şi Sisteme - probleme", Editura Electronica 2000, Bucureşti, 2007 (149 pag.), ISBN 978-973-7860-07-1

BOOK CHAPTER

1. **Ioana Marcu**, Simona Halunga, Octavian Fratu, Dragos Vizireanu, „Multiuser systems implementations in fading environments", Book title: Matlab / Book 5, InTech - Open Access Publisher, Tadeusz Michałowski (Ed.), ISBN: 978-953-307-708-6, 2011

PAPERS (Web of Science conferences/journals)

1. **I. Marcu (Bercă)**, S. Halunga, Octavian Fratu, Tatiana Mochi, "Software defined radio - Simulation for audio broadcasting applications", TELSIKS 2003, 6th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services, October 1-3, Nis, Serbia and Montenegro, Vol.2, pp. 238-241 WOS: 000188740300050

2. **I. Marcu**, S. Halunga, O. Fratu, D. Vizireanu, „Fading effects on turbo-encoded data", Conferinţa IEEE – TELSIKS 2007, Nis, Serbia, 26-28 Sept 2007, pg. 525-528 WOS: 000251017900104

3. S. Halunga, **I. Marcu**, O. Fratu, A. Badescu, „Conventional and optimal multiuser performance increase by using turbo encoding", 9th International Conference On Telecommunications In Modern Satellite, Cable And Broadcasting Services (TELSIKS 2009), 7-9 Oct. 2009, Nis, Serbia, pp 414 – 417 WOS: 000289094600079

4. A. Bădescu, O. Fratu, S. Halunga, **I. Marcu**, „Consideration on radio propagation in cavities", 9th International Conference On Telecommunications In Modern Satellite, Cable And Broadcasting Services (TELSIKS 2009), 7-9 Oct. 2009, Nis, Serbia, pp 388 – 391 WOS: 000289094600074

5. S. Halunga, **I. Marcu**, O. Fratu, I Marghescu,"Orthogonality, amplitude and number of users efects on conventional multiuser detection using turbo decoding", EUROCON 2009, 18-23 May 2009, Sankt Petersburg, Rusia, pp. 2000-2004 WOS: 000272589500327

6. S. Halunga, **I. Marcu**, O. Fratu, D. Vizireanu, "Convolutional encoding effects on conventional multiuser decoding algorithm in imperfect decoding conditions", Wireless Vitae, 2009, Aalborg, Denmark, pp 238-242 WOS:000276233900046

7. C. Vasile, **I.Marcu**, S. Halunga, D. N. Vizireanu, „MMSE Multiuser Detector Performances Improvement with Convolutional and Turbo coding", 8th International Conference on Communications (COMM 2010), 10-12 June 2010, ISBN: 978-1-4244-6360-2, Bucharest, Romania WOS:000299870700124

8. C. Vasile, S.V. Halunga, **I.M. Marcu**, O. Fratu, A. Badescu, „MMSE Synchronous Systems Behaviour in Different Types/Length of Spreading Sequences Environment", 9th International Symposium on Electronics and Telecommunications (ISETC), Pages: 191-194, DOI: 10.1109/ISETC.2010.5679358, Published: 2010 WOS:000296356700039

9. **I. Marcu**, S. Halunga, I. Pirnog, A. Marțian, C. Oprea, "Convolutional /turbo encoding improvements for different multiuser detection algorithms in unperfect reception conditions", U.P.B. Sci. Bull., Series C, Vol. 73, Iss. 4, 2011, ISSN 1454-234x WOS:000421687700015

10. A. Bădescu, O. Fratu, A. Frujină, S. V. Halunga, **I. Marcu**, „Wireless sensor network for wildlife monitoring", ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL, Volume: 10 Issue: 11 Pages: 1625-1634, Published: NOV 2011, ISSN: 1582-9596 WOS:000298662900003 URL: http://www.eemj.icpm.tuiasi.ro/issues/vol10/vol10no11.htm

11. E.-C. Popovici, **I.-M. Marcu**, O. Fratu, S.-V. Halunga, "Location-Based Web System for Geographically Distributed Mobile Teamwork Management", Chapter book in Advances in Intelligent Web Mastering – 3, Advances in Intelligent and Soft Computing Volume 86, DOI: 10.1007/978-3-642-18029-3_22, ISBN 978-3-642-18028-6, ISSN 1867-5662, pp 217-224, Editura Springer-Verlag Berlin, Heidelberg, Berlin, Germania, 2011 WOS: 000290421700022

12. E. Zainea, A. Marțian, **I. Marcu**, O. Fratu, "Transition from analog to digital broadcasting A spectral efficiency review", în Proc. 10th International Symposium on Electronics and Telecommunications (ISETC12), Timisoara, November 2012, pp. 171-175, ISBN: 978-1-4673-1175-5 WOS:000318702700040

13. **I. M. Marcu**, S. V. Halunga, "LDPC vs turbocodes behavioral analysis in multiuser DS-CDMA systems", Proceedings of "International Symposium on Electronics and Telecommunications ETC 2014 Eleventh Edition", ISBN 978-1-4799-7265-4, pp. 135-139, Timișoara, November 14-15, 2014 WOS:000366633300032

14. **I. Marcu**, C. Voicu, S. V. Halunga, "Superimposed effects of signature sequences and LDPC technique in faded CDMA multiuser systems", Proceedings of ISSCS 2015, ISBN: 978-1-4673-7487-3, Iasi, Romania, 2015 WOS:000380451600037

15. R. O. Preda, **I. Marcu**, A. Ciobanu, „Image authentication and recovery using wavelet-based dual watermarking", Scientific Bulletin of the University Politehnica of Bucharest, Series C: Electrical Engineering and Computer Science, Vol. 77, Issue 4, pp. 119-130, ISSN: 2286-3540, 2015 WOS:000421811300017

16. G. Suciu, V. Suciu, A. Martian, R. Craciunescu, A. Vulpe, **I. Marcu**, S. Halunga, O. Fratu, „Big Data, Internet of Things and Cloud Convergence – An Architecture for Secure E-Health Applications", Journal of Medical Systems (Q2, IF:5.3), Springer Publisher, Online ISSN 1573-689X, September 2015 WOS:000363557500011

17. **I. Marcu**, S. V. Halunga, "Implication of LDPC Technique in Non-ideal Multiuser Communication System", Wireless Personal Communications, Volume 87, Issue 3, pp 797–814, April 2016 DOI: 10.1007/s11277-015-2627-4 WOS: 000372271400012

18. **I. Marcu**, C. Voicu, S. V. Halunga, "Combined-coding effects over multiple access transmissions", U.P.B. Sci. Bull., Series C, Vol. 78, Iss. 3, pp. 127-136, ISSN 2286-3540, 2016 WOS:000393326700012

19. I. Marcu, C. Voicu, R. Crăciunescu, S. Halunga, „LDPC Performances in Multi-Carrier Systems", IEEE 11th International Conference on Communications (COMM 2016), ISBN:978-1-4673-8197-0, pp. 209-212, Bucharest, Romania, June 2016 WOS:000383221900044

20. A.-M. C. Drăgulinescu, **I. Marcu**, S. Halunga, O. Fratu, "Sensors system design for discrimination between humans and animals", 8th International Conference on Advanced Topics in Optoelectronics, Microelectronics and Nanotechnologies (ATOM-N), Constanta, Romania, Aug. 2016 WOS:000391359600038

21. A. Vulpe, Ş. C. Arseni, **I. Marcu**, C. Voicu, O. Fratu, „Building a Unified Middleware Architecture for Security in IoT", In WorldCIST 2017: Recent Advances in Information Systems and Technologies, vol 570, pp.105-114. Springer, Cham, DOI: 10.1007/978-3-319-56538-5_11, Apr 2017 WOS: 000425541200011

22. M. Popescu, R. Bărtuşică, A. Boitan, **I. Marcu**, S. Halunga, „Considerations on Estimating the Minimal Level of Attenuation in TEMPEST Filtering for IT Equipments", In: Fratu O., Militaru N., Halunga S. (eds) Future Access Enablers for Ubiquitous and Intelligent Infrastructures. FABULOUS 2017. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 241. Springer, Cham WOS: 000481658200002

23. A.-M. C. Dragulinescu, A. Dragulinescu, **I. Marcu**, S. Halunga, O. Fratu, "SmartGreeting: A new smart home system which enables context-aware services", In: Fratu O., Militaru N., Halunga S. (eds) Future Access Enablers for Ubiquitous and Intelligent Infrastructures. FABULOUS 2017. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 241. Springer, Cham WOS: 000481658200023

24. I. Marcu, C. Voicu, A.M.D. Drăgulinescu, O. Fratu, G. Suciu, C. Bălăceanu, M.M Andronache, "Overview of IoT basic platforms for precision agriculture", FABULOUS 2019: Future Access Enablers for Ubiquitous and Intelligent Infrastructures, Publisher: Springer, ISBN: 978-3-030-23975-6, pp 124-137, March 2019 WOS: 000552334400013

25. M. Vochin, A. Vulpe, **I. Marcu**, G. Suciu, "Low-power intelligent displaying system with indoor mobile location capability", FABULOUS 2019: Future Access Enablers for Ubiquitous and Intelligent Infrastructures, Publisher: Springer, ISBN: 978-3-030-23975-6, pp 146-153, March 2019 WOS: 000552334400015

26. G. Suciu, **I. Marcu**, C. Bălăceanu, M. Dobrea, E. Botezat, "Efficient IoT system for Precision Agriculture", 15th International Conference on Engineering of Modern Electric Systems (EMES), ISBN: 978-1-7281-0773-8, Pages: 173-176 Oradea, Romania, June 2019 WOS:000503434500044

27. I. M. Marcu, G. Suciu, C. M. Bălăceanu, A. Banaru, "IoT based System for Smart Agriculture", 11th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), ISBN: 978-1-7281-1624-2, Pitesti, Romania, June 2019 WOS: 000569985400006

28. C. M. Bălăceanu, **I. Marcu**, G. Suciu, "Telemetry System for Smart Agriculture", International Conference on Business Information Systems (BIS 2019: Business Information Systems Workshops), Part of the Lecture Notes in Business Information Processing book series (LNBIP, volume 373), ISBN 978-3-030-36690-2, pp 573-584, June 2019, Sevilla, Spain WOS: 000611408800048

29. A.-E. Marcu, G. Suciu, E. Olteanu, D. Miu, A. Drosu, **I. Marcu**, "IoT System for Forest Monitoring", 42nd International Conference on Telecommunications and Signal Processing (TSP), ISBN: 978-1-7281-1864-2, pp. 629-632, Budapest, Hungary, July 2019, WOS: 000493442800138

30. C. Bălăceanu, **I. Marcu**, G. Suciu, C. Dantas, P. Mayer, " Developing a Smart Toilet System for ageing people and persons with disabilities", ECBS 2019, ISBN:978-1-4503-7636-5, WOS: 000525376600016, Romania, Sept 2019

31. I. M. Marcu, A. Țigănuș, A. M. Dragulinescu, "A new approach on Smart-Parking concept", ECBS 2019, ISBN:978-1-4503-7636-5, WOS: 000525376600015, Bucharest, Romania, Sept 2019

32. I. Pirnog, **I. Marcu**, A.M.C. Drăgulinescu, C. Oprea, "Digital Filters for Sigma-Delta Modulation in Wireless Communications", 2019 International Semiconductor Conference (CAS 2019), Electronic ISBN: 978-1-7281-1888-8, pp.111-114, WOS: 000514295300022, Sinaia, Romania, Oct. 2019

33. C. Oprea, I. Pirnog, **I. Marcu**, M. Udrea, "Robust Pose Estimation Using Time-of Flight Imaging", 2019 International Semiconductor Conference (CAS 2019), Electronic ISBN: 978-1-7281-1888-8, pp.301-304, Sinaia, Romania, Oct. 2019 WOS: 000514295300063

34. I. Pirnog, **I. Marcu**, C. Oprea, "Automated Segmentation of Pigmented Skin Lesions Images for Smartphone Applications", 2019 International Semiconductor Conference (CAS 2019), Electronic ISBN: 978-1-7281-1888-8, pp.107-110, Sinaia, Romania, Oct. 2019 WOS: 000514295300021

35. I. Marcu, G. Suciu, C. Bălăceanu, A.-M. Drăgulinescu, M. A. Dobrea, "IoT Solution for Plant Monitoring in Smart Agriculture", 2019 IEEE 25th International Symposium for Design and Technology in Electronic Packaging (SIITME), Electronic ISBN: 978-1-7281-3330-0, Cluj-Napoca, Romania, Oct. 2019 WOS: 000564733700038

36. I. Marcu, G. Suciu, C. Bălăceanu, A. Vulpe, A.M. Dragulinescu, „Arrowhead Technology for Digitalization and Automation Solution: Smart Cities and Smart Agriculture", SENSORS, Volume: 20, Issue: 5, Article Number: 1464, DOI: 10.3390/s20051464, WOS: 000525271500226, Published: MAR 2020 (Q1)

37. I. Marcu, I. Pirnog, C. Voicu, A.-M.-C. Drăgulinescu, "Delta-Sigma Modulation for noise cancellation in 5G-compliant network", WIRELESS PERSONAL COMMUNICATIONS, DOI: 10.1007/s11277-020-07327-w, ISSN: 0929-6212, WOS: 000526247100009, APR 2020 (ISI Q3, IF: 2.2)

38. C. Mărculescu, A. Machedon, A.-M. C. Drăgulinescu, **I. Marcu**, C. Zamfirescu, "LoRa and Bluetooth-based IoT alarm clock device for hearing-impaired people", IEEE 26th International Symposium for Design and Technology in Electronic Packaging (SIITME), Electronic ISSN: 2642-7036, Pitesti, Romania, Oct. 2020 WOS: 000651085100028

39. C. Bălăceanu, G Suciu, M Balanescu, A Iosif, M Dobrea, O Orza, **I Marcu**, "Assessment of climate change effects on the viticulture using ADCON telemetry station", Journal of Environmental Protection and Ecology (Q4, IF:0.507), 2020, 21(2), pp. 471–480 (Scopus) URL: https://www.scopus.com/authid/detail.uri?authorId=24473143100 WOS: 000566784600010

40. I. Marcu, A.-M. C. Drăgulinescu, C. Oprea, G. Suciu, C. Bălăceanu, "Predictive analysis and wine-grapes disease risk assessment based on atmospheric parameters and precision agriculture platform", Sustainability 2022 (Q2, IF:3.9), 14(18), 11487; https://doi.org/10.3390/su141811487, WOS: 000856715900001, Sept 2022

41. A.-M. Drăgulinescu, **I. Marcu**, C. Zamfirescu, „An End-to-End LoRaWAN-based IoT Platform with Built-in Network Coverage Testing Capability", 25th International Symposium on Wireless Personal Multimedia Communications (WPMC2022), DOI: 10.1109/WPMC55625.2022.10014713, Oct. 30-Nov. 2, 2022, Denmark WOS:000947852500075

42. G. Craioveanu **and I. M. Marcu**, "Adaptive Generative-Music Application for Cognitive Support During Maritime and Aerial Travel" 2023 IEEE 9th World Forum on Internet of Things (WF-IoT), pp. 1-4, doi: 10.1109/WF-IoT58464.2023.10539441, WOS: 001241286500063, Aveiro, Portugal, 2023

43. C. Florea, M.G. Berceanu, R. G. Trifan, **I.M. Marcu**, „Clustering Approach for Reliable Wireless Communication", Appl. Sci. Basel 2024, 14(1), 13; https://doi.org/10.3390/app14010013 (https://www.mdpi.com/2076-3417/14/1/13) (Q2, IF:2.7) WOS: 001139824800001

44. D. Abrudan, **I. M. Marcu**, N. Vizireanu, „Digital images augmentation using mathematical morphology operators", In: Yang, XS., Sherratt, S., Dey, N., Joshi, A. (eds) Proceedings of Ninth International Congress on Information and Communication Technology. ICICT 2024. Lecture Notes in Networks and Systems, vol 1012. Springer, Singapore. https://doi.org/10.1007/978-981-97-3556-3_45. Feb 2024 WOS: 001326995600045

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37. S. Halunga, O. Fratu, D. Păun, **I. Marcu (Bercă)**, "Turbocodes Bit Error Rate Performances with Different Correlator Structures", ELECTRONICS ET'2003, the 12th International Scientific and Aplied Science Conference, September 24-26, 2003, Sozopol Bulgaria, Book3. pp. 43-48

RESEARCH PROJECTS

Project manager / manager won by competition:

1. I. Marcu (project director), I. Pirnog, A.-M. Drăgulinescu, C. Zamfirescu, "Rețea ad-hoc optimizată pentru agricultura de precizie (RomAgrar)", contract 24.10.2023, din cadrul competiției National Program for Research of the National Association of Technical Universities - GNAC ARUT 2023, project period: october 2023- december 2024

2. I. Marcu (project director), O. Fratu, et al, "Platforma Next Generation Internet bazată pe 5G și UAV-uri pentru agricultura de precizie (NGI-UAV-AGRO)", contract 461PED/2020, cod proiect: PN-III-P2-2.1-PED-2019-1945 din cadrul competiției " Programul 2 - Creşterea competitivităţii economiei româneşti prin cercetare, dezvoltare şi inovare, Subprogramul 2.1. Competitivitate prin cercetare, dezvoltare şi inovare - "Proiect experimental demonstrativ (PED 2019)" (UEFISCDI), project period: november 2020- october 2022 (http://nextagri.radio.pub.ro/)

3. I. Marcu (project responsible), O. Fratu, S. Halunga, et al "Sistem de telemetrie pentru agricultura inteligentă (SmartAgro)", contract subsidiar nr. 8592 / 08.05.2018 din cadrul proiectului "Ecosistem de cercetare, inovare și dezvoltare de produse și servicii TIC pentru o societate conectată la Internet of Things – NETIO" cod MySmis 105976, Programul Operațional Competitivitate 2014-2020, Axa prioritară 1: Cercetare, dezvoltare tehnologică și inovare (CDI) în sprijinul competitivității economice și dezvoltării afacerilor, Domeniul major de intervenţie: Parteneriate pentru transfer de cunoștințe, contract nr. 53/05.09.2016, durata proiect: iulie 2018- august 2020

4. I. Marcu (project manager), C. Voicu, A.M.C. Drăgulinescu " Modulația ΣΔ în sistemele 5G (ModΣs)", contract nr 43/ 25.09.2017, grant intern UPB (2017-2018)

Member of the research teams within the following national / international projects:

1. A.M.C. Drăgulinescu, et al, "Viticultura inteligentă bazată pe tehnici IoT – premisă de gestionare a schimbărilor climatice", Planul sectorial pentru cercetare – dezvoltare al Ministerului Agriculturii şi Dezvoltării Rurale pe anii 2023-2026, Agricultură şi Dezvoltare Rurală – ADER 2026, contract ADER 6.3.13/27.0.2023, 2023-2026.

2. A. Bădescu, I. Marcu, et al, "Radiowave propagation in heterogeneous media: implications on the electronics of Cosmic Neutrino Detectors", proiectul nr PN3-P3-529/2017 –UEFISCDI, partener unic UPB, desfășurat prin centrul de cercetare UPB; domeniu PE7, 24 luni

3. A. Bădescu, I. Marcu, et al, "Dezvoltarea de aplicatii de securitate pe baza tehnologiilor experimentale complexe utilizate in studiul radiatiei cosmice (DEXTER)", contract nr 19 PCCDI/2018, UEFISCDI, desfasurat prin centrul de cercetare UPB; domeniu "Spatiu si securitate"; 2020-2022

4. A. Vulpe, I. Marcu et al, ""Platformă de test pentru Studiul Securității în IoT (PaSS-IoT)" nr. 96/2016, grant GEX, 2016-2017

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8. O. Fratu (coord) "Sisteme de detecţie pentru radiaţia cosmică folosind noi tehnologii (DETCOS)", contract nr.1282-104/01.10.2008, proiect de cercetare PNCDI II de tip parteneriat, 2008-2011

9. O. Fratu (Director de proiect şi coord. UPB), S. Halunga, I. Marghescu, E. Popovici, I.Marcu, etc. "Evolutia, modalitatile de implementare si de tranzitie pentru radiodifuziunea digitala DVB in conditiile de utilizare eficienta a spectrului de frecvente", proiect nr. 106/08.08.2011, proiect de cercetare PNCDI II de tip parteneriat "Termeni de referinta", beneficiar MCSI (coordonator UPB, participant ICI) (2011-2013)

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13. S Halunga (coord, ştiinţific UPB), O Fratu (coord. administrativ), S Ciochină, I Marghescu, Ş Obreja, M Udrea, I Marcu: SIUM „Sistem integrat pentru utilizatorul mobil", Contract de cercetare de excelenţă, nr 80/03.10.2005 (coordonator general: ICI, director coordonator mat. Emil Stănescu, 3 participanţi: UPB, ASE, UPIT), subcontract UPB-ICI nr 832/10.10.2005 (2005-2008)

14. 2004-2007: S. Halunga, (coord) I. Bercă, O Fratu. ş.a. "Tehnici optimale şi cvasioptimale de diseminarea rezuodare şi prelucrare a datelor pentru sistemele de generaţia a 3a şi a 4a""contract de cercetare tip A UPB – ANSTI, nr 1389/2004, tema 33.

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22. O. Fratu (PPD, coord. UPB), S. Halunga, I. Marghescu, I. Marcu ş.a., „Reconfigurable Interoperability of Wireless Communications Systems (RIWCoS)", Contract NATO de tip „Ştiinţă pentru Pace" nr. SfP-982469 (coordonatori: O. Fratu – PPD, A.C. Boucouvalas – NPD, participanţi din România, Grecia, Macedonia şi Danemarca) (2007-2010).

23. S. Ciochină (director), ş.a. "ATHENA - Digital Switchover: Developing Infrastructures for Broadband Access", contract de cercetare tip STREP (FP6), nr FP6-507312 (2004-2006).

24. S. Ciochină (director), ş.a. "Enthrone - End-to-End QoS through Integrated Management of Content, Networks and Terminals", contract de cercetare tip IP (FP6), nr FP6-507637 (2003-2007).

AWARDS

1. Award for the Contribution to the Industrial Research Excellence for the paper entitled "An End-to-End LoRaWAN-based IoT Platform with Built-in Network Coverage Testing Capability" (authors: A.-M. Drăgulinescu, **I. Marcu**, C. Zamfirescu) in The 25th International Symposium on Wireless Personal Multimedia Communications, in Herning, Denmark, organised by the Department of Business Development and Technology of Aarhus University (Aarhus BSS - Aarhus University), OCT 2022

2. Award for research results, UEFISCDI competiție PRECISI2020, Dec. 2020: **I. Marcu**, G. Suciu, C. Bălăceanu, A. Vulpe, A.M. Dragulinescu, "Arrowhead Technology for Digitalization and Automation Solution: Smart Cities and Smart Agriculture", Sensors **2020,** 20(5), 1464 (PN-III-P1-1.1-PRECISI-2020-40781)

3. Award for research results, UEFISCDI, Dec. 2015: G. Suciu, V. Suciu, A. Martian, R. Craciunescu, A. Vulpe, **I. Marcu**, S. Halunga, O. Fratu, "Big Data, Internet of Things and Cloud Convergence – An Architecture for Secure E-Health Applications", Journal of Medical Systems (Q2), Springer Publisher, Online ISSN1573-689X, September **2015**

PATENT APPLICATIONS

1. **I.-M. Marcu**, O. Fratu, S. V. Halunga,; A.-R. Vulpe, C. Florea, A. Marțian, A.M.C. Drăgulinescu, G. Suciu, C. M. Bălăceanu, A. Drosu, R.-N. Chevereșan, D. Miu, „Telemetry system for intelligent agriculture addressed to farmers and agricultural producers, has component set for monitoring, warning and supporting decisions in cloud, which provides for visualization and analysis of data, notifications or recommendations resulting from data analysis", Derwent Primary Accession Number 2022-495358, Patent Number RO135499-A2, Main IPC G16Y-010/05, Patent Assignees: UNIV POLITEHNICA DIN BUCURESTI (UYPO-Non-standard), BEIA CONSULT INT SRL(BEIA-Non-standard), Indexed 2022-04-24

2. **I.-M. Marcu**, A.M.C. Drăgulinescu, C. Oprea, G. Suciu, Gh. Suciu, „NGI-UAV-AGRO (Sistem autonom pentru agricultura urbană de precizie folosind senzori ambientali și drone", Cerere de brevet la OSIM nr A/00683, Patent Assignees: UNIV POLITEHNICA DIN BUCURESTI (UYPO-Non-standard), BEIA CONSULT INT SRL(BEIA-Non-standard) din 26.10.2022