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Habilitation thesis title: Research on the Integration of Computing and Communication Systems

Domain: Electronic Engineering, Telecommunications and Information Technologies

PUBLICATIONS LIST

RELEVANT PAPERS

1. **Balan, T.**, Balan, A. and Sandu, F., 2019. SDR implementation of a D2D security cryptographic mechanism. *IEEE Access*, 7, pp.38847-38855. - **zona Q2**
<https://ieeexplore.ieee.org/abstract/document/8667414>
2. Sârbu, A., Bechet, A., **Balan, T.**, Robu, D., Bechet, P. and Miclăuș, S., 2019. Using CCDF statistics for characterizing the radiated power dynamics in the near field of a mobile phone operating in 3G+ and 4G+ communication standards. *Measurement*, 134, pp.874-887- **zona Q1**, categoria SCIENCE, conform cu Lista revistelor incadrate pe subdomenii, ordonate descrescator in functie de factorul nenul de impact (IF), conform editiei **JCR 2017** din iunie 2018.
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3. Machaka, V. and **Balan, T.**, 2022. Investigating Proactive Digital Forensics Leveraging Adversary Emulation. *Applied Sciences*, 12(18), p.9077. - **zona Q2**
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4. **Balan, T.**, Dumitru, C., Dudnik, G., Alessi, E., Lesecq, S., Correvon, M., Passaniti, F. and Licciardello, A., 2020. Smart multi-sensor platform for analytics and social decision support in agriculture. *Sensors*, 20(15), p.4127. - **zona Q2**
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7. Fernoaga, V., Sandu, V. and **Balan, T.**, 2020. Artificial intelligence for the prediction of exhaust back pressure effect on the performance of diesel engines. *Applied Sciences*, 10(20), p.7370. - **zona Q2**;
<https://www.mdpi.com/2076-3417/10/20/7370>
8. **Balan, T.**, Robu, D. and Sandu, F., 2017. Multihoming for mobile internet of multimedia things. *Mobile Information Systems*, 2017;
<https://www.hindawi.com/journals/misy/2017/6965028/>
9. **Balan, T.**, Robu, D. and Sandu, F., 2016. LISP Optimisation of Mobile Data Streaming in Connected Societies. *Mobile Information Systems*, 2016.
<https://www.hindawi.com/journals/misy/2016/9597579/>
10. Balan, A., **Balan, T.**, Cirstea, M. and Sandu, F., 2020. A PUF-based cryptographic security solution for IoT systems on chip. *EURASIP Journal on Wireless Communications and Networking*, 2020(1), pp.1-22.
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PhD THESIS

Balan T.C., scientific coordinator prof.dr.ing. Sandu F., Title: "Solutions for mobile computing in heterogeneous networks", domain: Electronics and Telecommunications Engineering.

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1. **Bălan T. C.**, Sandu F., Cap. 18 - "LTE Mobility Solutions at Network Level for Global Convergence", pp. 405-423, in monography "Fourth-Generation Wireless Networks: Applications and Innovations", editura IGI Global – S.U.A., 2010 – ISBN: 978-1-61520-674-2.
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<https://www.sciencedirect.com/science/article/pii/B9780128205815000134>

3. Alexandru M., **Balan T.**, Morariu G., "Comunicatii mobile celulare si calcul mobil. Evolutia de la 3G la 4G", Editura Universitatii Transilvania din Brasov, 2015 isbn:978-606-19-0567-6
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6. **Bălan, T.** „Network Security and Perimeter Defence”, Editura Universitatii Transilvania isbn:978-606-19-1602-3, 2023
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7. **Bălan, T.**, Popescu V, Fernoaga V., „Integrarea Sistemelor de Calcul si Telecomunicatii – Aplicatii”, Editura Universitatii Transilvania isbn:978-606-19-1601-6 AnAparitie:2023 NrAutori:3 TotalNrPagini:126
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8. **Bălan, T.** – coautor la monografia „Comunicatii Mobile - Aplicatii - Reteaua de Baza”, Editura Universitatii Transilvania, isbn:978-606-19-1543-9, 2022
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1. **Balan, T.**, Balan, A. and Sandu, F., 2019. SDR implementation of a D2D security cryptographic mechanism. *IEEE Access*, 7, pp.38847-38855. - **zona Q2**
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6. Ungureanu, D., Toma, S.A., Filip, I.D., Mocanu, B.C., Aciobăniței, I., Marghescu, B., **Balan, T.**, Dascalu, M., Bica, I. and Pop, F., 2023. ODIN112–AI-Assisted Emergency Services in Romania. *Applied Sciences*, 13(1), p.639. - **zona Q2**; <https://www.mdpi.com/2076-3417/13/1/639>
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ISI WEB OF SCIENCE INDEXED ARTICLES

ISI WOS list with active links: <https://drive.unitbv.ro/s/Jt8PrSDGoQt5ysM>

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2. Zamfir, S., **Balan, T.**, Sandu, F. and Costache, C., 2016, June. Solutions for deep packet inspection in industrial communications. In 2016 International Conference on Communications (COMM) (pp. 153-158). IEEE.
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3. Nica, A., **Balan, A.**, Zaharia, C. and Balan, T., 2022. Automated Testing of GUI Based Communication Elements. In Online Engineering and Society 4.0: Proceedings of the 18th International Conference on Remote Engineering and Virtual Instrumentation (pp. 380-390). Springer International Publishing.
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6. **Balan, T.C.**, Robu, D.N. and Sandu, F., 2015, October. Ad-hoc lab computer network configuration using remote resources. In 2015 IEEE 21st International Symposium for Design and Technology in Electronic Packaging (SIITME) (pp. 393-396). IEEE.
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10. Costache C., Sandu F., **Balan T.**, Nedelcu A., Covei A."Business Integration of Industrial Communications with Cloud Computing", 10th International Conference on Communications, Bucharest, May 29-31, 2014
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14. Ilca, L.F., **Balan, T.** (2022). Purple Team Security Assessment of Firmware Vulnerabilities. In: Auer, M.E., Bhimavaram, K.R., Yue, XG. (eds) Online Engineering and Society 4.0. REV 2021. Lecture Notes in Networks and Systems, vol 298. Springer
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18. Lesecq, S., Gougis, M., Gouze, E., Di Matteo, A., Alessi, E., Di Palma, V., Di Salvo, S., O'Riordan, A., Shao, H., Mouzakitis, G., **Balan T.** and Ponsardin, G., 2020, November. SARMENTI: in-situ real-time soil nutrients and gaseous emission measurement. In 2020 7th International Conference on Energy Efficiency and Agricultural Engineering (EE&AE) (pp. 1-4). IEEE.
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22. I. L. Florin and **T. Bălan**, "Vulnerability Remediation in ICS Infrastructure Based on Source Code Analysis," 2020 19th RoEduNet Conference: Networking in Education and Research (RoEduNet), Bucharest, Romania, 2020, pp. 1-6, doi: 10.1109/RoEduNet51892.2020.9324845.
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<https://ieeexplore.ieee.org/abstract/document/8484746>
24. Chitic, M., Machidon, O., Sandu, F., **Balan, T.** and Machedon-Pisu, M., 2014, September. Pattern encryption with cellular automata-A LabVIEW implementation on FPGA. In 2014 RoEduNet Conference 13th Edition: Networking in Education and Research Joint Event RENAM 8th Conference (pp. 1-6). IEEE.
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3. Rekeraho A., **Balan T.**, Cotfas D., Cotfas P, R. Acheampong and C. Musuroi, "Sandbox Integrated Gateway for the Discovery of Cybersecurity Vulnerabilities," 2022 International Symposium on Electronics and Telecommunications (ISETC), Timisoara, Romania, 2022
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4. Cazacu V., Sandu F., Iuga L., **Bălan T.C.**, "Distributed Real-Equipment Testing For The Mobile Communications Services", Proceedings of the 10th RoEduNet IEEE International Conference, Iași, Romania, 23-25 June, 2011, ISSN 2247-5443, pag. 30-36
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7. Sandu F., **Bălan T. C.**, Dovancescu S., Cserey S., „Service Orientation in Education – Intelligent Networks for eLearning / mLearning”, Proceedings of the 2nd International Workshop on e-learning and Virtual and Remote Laboratories – Potsdam, Germany – February 2008 BDI1: issn:16135652 isbn:978-3-940793-17-1

8. P. Mihaila, **T. Balan**, R. Curpen, F. Sandu, "Network Automation and Abstraction using Python programming methods", 6th International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics, MACRO, Tg. Mures, Romania, 2017, De Gruyter BDI:DBLP issn:22470948 isbn:2247-0948
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2. O.M. Machidon, **T.C. Bălan**, R. Curpen, „Cloud Perspective on Reconfigurable Hardware”, Review of the Air Force Academy – Brasov, Romania Vol XII, No 2/2013, pag.23-28
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5. G Panga, S Zamfir, **T Balan**, IOT DIAGNOSTICS FOR CONNECTED CARS, revista:Scientific Research and Education in the Air Force - AFASES BDI1: issn:22473173, isbn:10.19062/2247
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Responsible partner / director in one national and four international project:

- Partner responsible and project coordinator in ODIN 112 UEFISCDI PNIII Solutions - Contract 375SOL/2021, acronym ODIN112
- Partner responsible and project coordinator in Horizon 2020 SARMENTI project - "Smart multisensor embedded and secure system for soil nutrient and gaseous emission monitoring", grant agreement ID: 825325

- Partener responsabil pentru proiectul "Implementation of a Voice Over IP Capability for NATO Wide Secure Voice Services: VOSIP", NATO Communication and Information Agency – NCIA, număr contract RFQ-C0-14137-VOSIP,
 - Responsible partner for the project "EGSE for Small Sat - A Baseline Verification and Validation", 2018-2019; Grant awarded by: ESA - European Space Agency, Call: Romanian Incentive Scheme – Activity Type b) – Research and development activities
 - Partner responsible and coordinator: Fulbright Commission Project CS07 - Minigrant offer for the development of cybersecurity-oriented programs Period: 2022-2023
- Member of research teams in 6 international projects
- Management Committee member (substitute) in COST Action CA15104 – “Inclusive Radio Communication Networks for 5G and beyond (IRACON), 2016 – 2020, EU H2020
 - Management Committee member (substitute) in COST Action CA19121 - Network on Privacy-Aware Audio- and Video-Based Applications for Active and Assisted Living – GOOD BROTHER, 2020-2024
 - Member in COST Action CA20120 - Intelligence-Enabling Radio Communications for Seamless Inclusive Interactions (INTERACT) 2021-2025
 - EU FP7 Project 4WARD - Architecture and Design for the Future Internet (2008-2010), contract number: 216041
 - Leonardo da Vinci project: “Valorisation of an Experiment-based Training System through a Transnational Network Development – VET-TREND”, RO/06 / B /F /NT175014 – under the supervision of „Transilvania” University of Brasov (2006-2008)
 - European Union Program – eSTART "Multi-regional master study program in the field of e-Activities eSTART" POSDRU /86/1.2/S/54956
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Data

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signature

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