

LISTA DE LUCRĂRI

TEZA DE DOCTORAT

Bălan T.C., conducător științific prof.dr.ing. Sandu F., Titlu: "Soluții pentru calcul mobil în rețele eterogene", domeniul: Inginerie Electronică, Telecomunicații și Tehnologii Informaționale
<http://193.254.231.112:8280/liberty/OpacLogin?mode=BASIC&openDetail=true&corporation=UNITBV&action=search&queryTerm=uuid%3D%2282b0761ec1fee770013ab3ba00ad0405%22&operator=OR&url=%2Fopac%2Fsearch.do>

TEZA DE ABILITARE

Bălan T.C., Titlu: "Cercetări în vederea integrării sistemelor de calcul și comunicații", domeniul: Inginerie Electronică, Telecomunicații și Tehnologii Informaționale
https://www.unitbv.ro/documente/cercetare/doctorat-postdoctorat/abilitare/teze-de-abilitare/titus-constantin-balan/5-Titus_Balan-Teza_abilitare.pdf

Teza a fost susținută cu succes și se așteaptă confirmarea finală din partea comisiei CNATCDU

ARTICOLE ÎN REVISTE

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**
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**
3. Machaka, V. and **Balan, T.**, 2022. Investigating Proactive Digital Forensics Leveraging Adversary Emulation. *Applied Sciences*, 12(18), p.9077. - **zona Q2**
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**
5. Mocanu, B.C., Filip, I.D., Ungureanu, R.D., Negru, C., Dascalu, M., Toma, S.A., **Balan, T.C.**, Bica, I. and Pop, F., 2022. ODIN IVR-interactive solution for emergency calls handling. *Applied Sciences*, 12(21), p.10844. - **zona Q2**
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**;
7. Radu, F., Cotfas, P.A., Alexandru, M., **Balan, T.C.**, Popescu, V. and Cotfas, D.T., 2023. Signals Intelligence System with Software-Defined Radio. *Applied Sciences*, 13(8), p.5199. - **zona Q2**
8. 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**;
9. **Balan, T.**, Robu, D. and Sandu, F., 2017. Multihoming for mobile internet of multimedia things. *Mobile Information Systems*, 2017;
10. **Balan, T.**, Robu, D. and Sandu, F., 2016. LISP Optimisation of Mobile Data Streaming in Connected Societies. *Mobile Information Systems*, 2016.



11. 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.
12. Rekeraho, A., Cotfas, D.T., Cotfas, P.A., **Bălan, T.C.**, Tuyishime, E. and Acheampong, R., 2023. Cybersecurity challenges in IoT-based smart renewable energy, International Journal on Information Security
13. L.F. Ilca, P.L. Ogrutan and **T. Balan**, "Enhancing Cyber-Resilience for Small and Medium-sized Organizations with Prescriptive Malware Analysis, Detection and Response", Sensors - **zona Q2**

CĂRȚI / CAPITOLE DE CĂRȚI

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.
2. Buratti, C., Ström, E., Feltrin, L., Clavier, L., Gardašević, G., Blazek, T., Berbakov, L., **Balan, T.C.**, Orozco-Barbosa, L., Anton-Haro, C. and Rajchowski, P., 2021. IoT protocols, architectures, and applications. In Inclusive Radio Communications for 5G and Beyond (pp. 187-220). Academic Press.
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
4. **Bălan, T.C.** – coautor la monografia – „Advanced Technologies for e-Learning” - Ediția 2-a, Vol.1 – „Models, methods, tools and services. Access technologies” - Editura Lux Libris (cod CNCIS 201), Braşov , 2009, 220 pag., ISBN: 978-973-131-020-6, Secțiunea: “Technologies for the Integration of e-Learning Resources” – “Service Orientation in Education - Intelligent Networks for e-Learning / m-Learning” (13 pag.)
5. **Bălan, T.C.** – coautor la monografia “Rețele Inteligente de Telecomunicații”, secțiuni (3 capitole):Contextul Rețelelor Inteligente de Telecomunicații,Modelul de Procesare a Apelurilor, WebRTC - Comunicații prin web în timp real, Editura Universitatii Transilvania din Brasov, 2017, ISBN 978-606-19-0820-2
6. **Bălan, T.** „Network Security and Perimeter Defence”, Editura Universitatii Transilvania isbn:978-606-19-1602-3, 2023
7. **Bălan, T.**, Popescu V, Fernoaga V., „Integrarea Sistemelor de Calcul si Telecomunicații – Aplicații”, Editura Universitatii Transilvania isbn:978-606-19-1601-6 AnAparitie:2023 NrAutori:3 TotalNrPagini:126
8. **Bălan, T.** – coautor la monografia „Comunicatii Mobile - Aplicații - Reteaua de Baza”, Editura Universitatii Transilvania, isbn:978-606-19-1543-9, 2022

ARTICOLE PUBLICATE IN VOLUME ALE CONFERINȚELOR INTERNAȚIONALE

ARTICOLE INDEXATE ISI WEB OF SCIENCE

1. **Balan, T.**, Zamfir, S., Robu, D. and Sandu, F., 2016, June. Contributions to content-based software defined networks. In 2016 International Conference on Communications (COMM) (pp. 159-162). IEEE.

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.
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.
4. Curpen, R., **Balan, T.**, Sandu, F., Costache, C. and Cerchez, C., 2014, May. Demonstrator for voice communication over LTE. In 2014 10th International Conference on Communications (COMM) (pp. 1-4). IEEE.
5. Robu, D., Curpen, R., Ilie, D., **Balan, T.** (2021). Open Source Online Conference System for Industry Experts Participation in Education. In: Auer, M.E., Tsiatsos, T. (eds) Internet of Things, Infrastructures and Mobile Applications. IMCL 2019. Advances in Intelligent Systems and Computing, vol 1192. Springer
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.
7. Sandu, F., Costache, C. and **Balan, T.**, 2015, October. Semantic data aggregation in heterogeneous learning environments. In 2015 IEEE 21st International Symposium for Design and Technology in Electronic Packaging (SIITME) (pp. 409-412). IEEE.
8. Zamfir, S., **Balan, T.**, Sandu, F., Costache, C. (2016). Mobile Communication Solutions for the Services in the Internet of Things. In: Exploring Services Science. IESS 2016. Lecture Notes in Business Information Processing, vol 247. Springer
9. Stanciu A, **Balan T.**, Sandu F. and Gerigan C., "Reconfigurable platform for embedded systems teaching," 2017 IEEE 23rd International Symposium for Design and Technology in Electronic Packaging (SIITME), Constanta, Romania, 2017
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
11. Timofte, A.G., Florin, R.A.D.U., Balan, A. and Balan, T.C., 2020, June. SDR-Based Platform for Processing the Images Transmitted Through the WLAN 802.11 a Protocol. In 2020 13th International Conference on Communications (COMM) (pp. 387-392). IEEE.
12. Robu D., **Balan T.**, Stanciu A. and Sandu F., "SDR-assisted device-to-device communication in radio-congested environments," 2017 IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB), Cagliari, Italy, 2017, pp. 1-7
13. **Balan, T.**, Robu, D., Sandu, F., Balan, A. (2021). Building a Virtualized Cybersecurity Lab. In: Auer, M.E., Tsiatsos, T. (eds) Internet of Things, Infrastructures and Mobile Applications. IMCL 2019. Advances in Intelligent Systems and Computing, vol 1192. Springer
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
15. Ilca L. and **Balan T.**, "Windows Communication Foundation Penetration Testing Methodology," 2021 16th International Conference on Engineering of Modern Electric Systems (EMES), Oradea, Romania, 2021
16. Zamfir S., **Balan T.**, Iliescu I. and Sandu F., "A security analysis on standard IoT protocols," 2016 International Conference on Applied and Theoretical Electricity (ICATE), Craiova, Romania, 2016

17. Stanciu A, **Balan T.**, Gerigan C. and Zamfir S., "Securing the IoT gateway based on the hardware implementation of a multi pattern search algorithm," 2017 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM) & 2017 Intl Aegean Conference on Electrical Machines and Power Electronics (ACEMP), Brasov, Romania, 2017
18. Leseccq, 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.
19. Anghel, D., **Balan, T.C.** (2022). Automation of IoT Based Services Using Digital Twin. 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, Cham. https://doi.org/10.1007/978-3-030-82529-4_35
20. I. C. Parvan, G. Danciu and **T. Balan**, "Noise pollution monitoring using mobile crowd sensing and SAP analytics," 2021 16th International Conference on Engineering of Modern Electric Systems (EMES), Oradea, Romania, 2021, pp. 1-4, doi: 10.1109/EMES52337.2021.9484144.
21. Robu, D., Curpen, R., Ilie, D., **Balan, T.** (2021). Open Source Online Conference System for Industry Experts Participation in Education. In: Auer, M.E., Tsiatsos, T. (eds) Internet of Things, Infrastructures and Mobile Applications. IMCL 2019. Advances in Intelligent Systems and Computing, vol 1192. Springer, Cham.
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.
23. Curpen, R., **Bălan, T.**, Micloș, I.A. and Comănici, I., 2018, June. Assessment of signal jamming efficiency against LTE UAVs. In 2018 International Conference on Communications (COMM) (pp. 367-370). IEEE.
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.
25. Sandu, F., Cserey, S., Szekely, I., Robu, D. and **Balan, T.**, 2008, May. Simulation of an advanced mobile communication network. In 2008 11th International Conference on Optimization of Electrical and Electronic Equipment (pp. 223-230). IEEE.
26. Szekely, I., **Balan, T.**, Sandu, F., Robu, D. and Cserey, S., 2008, May. Optimization of GSM-UMTS core network for IP convergence in 4G through Mobile IPv6. In 2008 11th International Conference on Optimization of Electrical and Electronic Equipment (pp. 217-222). IEEE.

ARTICOLE INDEXATE ÎN ALTE BAZE DE DATE INTERNAȚIONALE (BDI)

1. Ilca F. and **Balan T.**, "Phishing as a Service Campaign using IDN Homograph Attack" 2021 International Aegean Conference on Electrical Machines and Power Electronics (ACEMP) & 2021 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM), Brasov, Romania, 2021
2. Acheampong, R., **Balan, T.C.**, Popovici, D.M. and Rekeraho, A., 2022, June. Security scenarios automation and deployment in virtual environment using ansible. In 2022 14th International Conference on Communications (COMM) (pp. 1-7). IEEE
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

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
5. Sandu F., Cserey S., **Bălan T. C.**, Romanca M., "Simulation-based UMTS e-Learning Software" - Workshop on Pervasive Technologies in e/m-Learning and Internetbased Experiments ("PTLIE") - Proceedings of "PETRA 2008" - the 1st International Conference on Pervasive Technologies Related To Assistive Environments – published by ACM (Association for Computer Machinery) - Athens, Greece, 15-19 May 2008 (organized by the University of Texas at Arlington, USA)
6. Sandu F., Balbae S., Cserey S., **Bălan T. C.**, „Simulation of an Intelligent Network – Basic Call State Model Remote Laboratory”, Proceedings of the 2nd International Workshop on e-learning and Virtual and Remote Laboratories – Potsdam, Germany – February 2008, ISBN 978-3-940793-17-1, ISSN 1613-5652
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
9. R. Curpen, **T. Balan**, F. Socea, F. Sandu, "An analysis of the video capabilities of multiple antenna LTE networks", 6th International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics, MACRO, Tg. Mures, Romania, 2017, BDI:DBLP issn: isbn:978-973-1970-39-4

ALTE LUCRĂRI

1. **Bălan.T.C.**, „Network Policy Function Virtualization via SDN and Packet Processing”- Review of the Air Force Academy – Brasov, Romania Vol XII, No 3(27)/2014, pag.73-78
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
3. Zamfir, S, **Balan, T.**; Sandu,F., "Automating Telecom Equipment fo Cloud Integration", Review of the Air Force Academy, 2015, Vol XIII, No 3(30)/2015 BDI1: issn:20694733
4. I Iliescu, **T Bălan**, O Garoiu, S Zamfir, THIN CLIENT FOR REAL-TIME MONITORING OF COMMUNICATION INFRASTRUCTURE revista:Scientific Research and Education in the Air Force - AFASES issn:22473173 isbn:10.19062/2247
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
6. Curpen, R; Zamfir, S; Iliescu, I; **Balan, T.**; "PERFORMANCE ANALYSIS OF VoIP SERVICES IN LTE NETWORKS", Bulletin of the Transilvania University of Brasov. Engineering Sciences. Series I, 2016
7. **Bălan T.C.**, Sandu F., Cazacu V., "Automated Remote Testing of Timing-over-Packet Synchronization for WCDMA and LTE Base Stations", Proceedings of the 8th International Conference on Remote Engineering and Virtual Instrumentation - REV 2011, Braşov, Romania, 29June-02July, 2011, ISBN 978-3-89958-555-1, pag 198-202
8. **T Bălan**, P Bîrlă, C Marcu, I Onceru, IoT WEB-SHARED VARIABLES–PUBLISH, COLLECT AND ANALYSIS IN THE CLOUD, Review of the Air Force Academy, pg. 65-70, 2017, issn:20694733 isbn:1842-9238
9. A.Draghici, **T.Balan**, REMOTE DETECTION AND TRACKING OF ALCOHOL CONCENTRATION FOR CAR DRIVERS, Scientific Research and Education in the Air Force - AFASES 2017, issn:22473173 isbn:2247-3173
10. **Bălan T. C.**, Sandu F., Cserey S., Cazacu V., "LTE eNodeB Demonstrator with Real and Simulated Interfaces" – Proceedings of the International Conference on Development and Application Systems (DAS 2010), 27-29 May 2010, Suceava, Romania, ISSN 1844-5039

11. **Bălan.T.C.**, Sandu F., Cazacu V., "Ontology Based Resource Management of Real and Emulated Telecom Systems", Bulletin Of The Transilvania University of Brasov, SERIES I - Engineering Sciences, 2011, ISSN 2065-2119
12. Cazacu V., Szekely I., Sandu F., **Bălan.T.C.**, " Performance Metrics For The IT Services Portfolio", Bulletin Of The Transilvania University Of Brasov, SERIES I - Engineering Sciences, 2011, ISSN 2065-2119

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