

Tematica și bibliografia

Nr. crt.	Tema propusă	Conducătorul de doctorat	Bibliografia	Forma de finanțare
1	Proiectarea și analiza teoretică și experimentală a unor senzori purtabili (wearable)	Prof.univ.dr.ing. Horia Nicolai Teodorescu	[1] DOCUMENT ID: US 11835401 B2, US Patent Office, DATE PUBLISHED 12/5/2023 Sensors for Pressure, Forces, And Couples <a href="https://patents.google.com/patent/US11835401B2/en">https://patents.google.com/patent/US11835401B2/en</a>	Buget cu bursă / Buget fără bursă / Taxă
2	Analiza răspunsurilor la evenimente ale unor rețele de socializare (X-Twitter)	Prof.univ.dr.ing. Horia Nicolai Teodorescu	[1] HN Teodorescu, Mironela PIRNAU, "Twitter's Mirroring of the 2022 Energy Crisis: What It Teaches Decision-Makers—A Preliminary Study", Romanian Journal of Information Science and Technology, Volume 26, Issue 3-4 Pages 312-322; [2] H. -N. Teodorescu, "On models of 'having friends' and SN friends distribution: Information propagation on social networks and disaster modeling", 2016 International Conference on Control, Decision and Information Technologies (CoDIT), Saint Julian's, Malta, 2016, pp. 659-664, doi: 10.1109/CoDIT.2016.7593641; [3] H. -N. Teodorescu and N. Saharia, "A semantic analyzer for detecting attitudes on SNs", 2016 International Conference on Communications (COMM), Bucharest, Romania, 2016, pp. 47-50, doi: 10.1109/ICComm.2016.7528201.	Buget cu bursă / Buget fără bursă / Taxă
3	Dispozitive de alimentare autonomă și senzori bazați pe efectul triboelectric în polymeric	Prof.univ.dr.ing. Horia Nicolai Teodorescu	[1] MHM Teodorescu, HN Teodorescu, MG Hagan, "Sensors for pressure, forces, and couples", US Patent 11,835,401; [2] Horia-Nicolai Teodorescu, Yopa Prawatya, Thami Zeghloul, Lucian Dascalescu, "Anisotropy of the triboelectric effects in polymeric slabs", 2019, Tribology International, Volume 136 Pages 496-507; [3] H. -N. L. Teodorescu, "Seismic Energy Harvester for High Current Emergency Applications: Gas Valves and Alarms", 2022 International Conference on Applied Electronics (AE), Pilsen, Czech Republic, 2022, pp. 1-4, doi: 10.1109/AE54730.2022.9920103.	Buget cu bursă / Buget fără bursă / Taxă
4	Analiza corelativă formantică a vorbirii (I. Rom. Si Engl)	Prof.univ.dr.ing. Horia Nicolai Teodorescu	[1] H. -N. Teodorescu and S. A. Gheltu, "Analysis of Formant Correlations in Emotional Speech – Do Formants Correlate?", 2023 International Conference on Speech Technology and Human-Computer Dialogue (SpeD), Bucharest, Romania, 2023, pp. 83-88, doi: 10.1109/SpeD59241.2023.10314902; [2] H. -N. TEODORESCU, "Allan and Hadamard Variance Analysis of Formants during Sustained Pronunciations with Applications", 2019 International Conference on Speech Technology and Human-Computer Dialogue (SpeD), Timisoara, Romania, 2019, pp. 1-6, doi:	Buget cu bursă / Buget fără bursă / Taxă

			<p>10.1109/SPED.2019.8906554;</p> <p>[3] Speranta Cecilia Bolea, Horia Nicolai Teodorescu, "Applying a Delta-Type Measure to text coherence analysis and text segmentation", 2020, Proceedings of the Romanian Academy Series A-Mathematics Physics Technical Sciences Information Science, Volume 21, Issue 3, Pages 291-299;</p> <p>[4] H. -N. Teodorescu, "How much are formants correlated and what that means?", 2019 International Symposium on Signals, Circuits and Systems (ISSCS), Iasi, Romania, 2019, pp. 1-4, doi: 10.1109/ISSCS.2019.8801758.</p>	
5	Contribuții la metode statistice în proiectarea sistemelor electronice	Prof.univ.dr.ing. Horia Nicolai Teodorescu	<p>[1] M. Mehri, N. Masoumi and J. Rashed-Mohassel, "Trace Orientation Function for Statistical Prediction of PCB Radiated Susceptibility and Emission", in IEEE Transactions on Electromagnetic Compatibility, vol. 57, no. 5, pp. 1168-1178, Oct. 2015, doi: 10.1109/TEMC.2015.2414353;</p> <p>[2] J. A. Russer, M. Haider, P. Russer, A. Baev and Y. Kuznetsov, "Cyclostationarity in EMI Assessment of PCBs", 2021 United States National Committee of URSI National Radio Science Meeting (USNC-URSI NRS), Boulder, CO, USA, 2021, pp. 268-269, doi: 10.23919/USNC-URSINRSM51531.2021.9336442;</p> <p>[3] E. Garcia, "Electromagnetic Compatibility Uncertainty, Risk, and Margin Management", in IEEE Transactions on Electromagnetic Compatibility, vol. 52, no. 1, pp. 3-10, Feb. 2010, doi: 10.1109/TEMC.2009.2035108;</p> <p>[4] K. B. Hardin and C. R. Paul, "Decomposition of radiating structures using the ideal structure extraction methods (ISEM)", in IEEE Transactions on Electromagnetic Compatibility, vol. 35, no. 2, pp. 264-273, May 1993, doi: 10.1109/15.229430;</p> <p>[5] C. R. Paul, "A SPICE model for multiconductor transmission lines excited by an incident electromagnetic field", in IEEE Transactions on Electromagnetic Compatibility, vol. 36, no. 4, pp. 342-354, Nov. 1994, doi: 10.1109/15.328864;</p> <p>[6] R. Aloy, M.C. Casabán, L.A. Caudillo-Mata, L. Jódar, "Computing the variable coefficient telegraph equation using a discrete eigenfunctions method", Computers &amp; Mathematics with Applications, Volume 54, Issue 3, August 2007, Pages 448-458.</p>	Buget cu bursă / Buget fără bursă / Taxă
6	Metode de analiză a semnalelor biomedicale	Prof.univ.dr.ing. Daniela Tărniceriu	<p>[1] Proakis &amp; Dimitris G. Manolakis, "Digital Signal Processing - Principles, Algorithms &amp; Applications".</p>	Buget cu bursă / Buget fără bursă / Taxă

7	Coduri corectoare de erori folosite în transmisii de date	Prof.univ.dr.ing. Daniela Tărniceriu	[1] P. PROAKIS - "Digital Communications", 4 <sup>th</sup> editions; [2] S. MOSER - "Advanced Topics in Information Theory - Lecture Notes", ETH Zurich; [3] KAI NIU, KAI CHEN, JIARU LIN, AND Q. T. ZHANG, "Polar Codes: Primary Concepts and Practical Decoding Algorithms".	Buget cu bursă / Buget fără bursă / Taxă
8	Macromodelarea unor circuite electronice pasive și active	Prof.univ.dr.ing. Liviu Goraș	[1] Daniele Romano, "Circuit synthesis techniques of rational models of electromagnetic systems: A tutorial paper", Int J of Numerical Modelling <a href="https://doi.org/10.1002/jnm.2612">https://doi.org/10.1002/jnm.2612</a> .	Buget cu bursă / Buget fără bursă / Taxă
9	Tehnici de analiză și clasificare a unor semnale biomedicale	Prof.univ.dr.ing. Liviu Goraș	[1] M. Negoita (Fira), L. Goraș, "An ECG Signals Compression Method and Its Validation Using NNs", IEEE Transactions on Biomedical Engineering, Vol. 55, No. 4, 1319 – 1326, April 2008.	Buget cu bursă / Buget fără bursă / Taxă
10	Studiul unor circuite electronice neliniare	Prof.univ.dr.ing. Liviu Goraș	[1] L. Goraș, P. Ungureanu, L.O.Chus, "On Turing Instability in Nonhomogeneous Reaction-Diffusion CNN's", May 2017, IEEE Transactions on Circuits and Systems I Regular Papers PP(99):1-13.	Buget cu bursă / Buget fără bursă / Taxă
11	Arhitecturi și resurse 5G pentru implementarea de aplicații pe verticală de tip cloud-native (NetApps)	Prof.univ.dr.ing. Ion Bogdan	[1] Abdelaziz Bensrhair, Thierry Bapin (editors), „From AI to Autonomous and Connected Vehicles”, Wiley, 2021; [2] Wiliam Stalling, „5G Wireless, A Comprehensive Introduction”, Addison Wesley, 2021.	Buget cu bursă / Buget fără bursă / Taxă
12	Aplicații biometrice folosind semnalele electrofiziologice	Prof.univ.dr.ing. Iulian Aurelian Ciocoiu	[1] Ciocoiu, IB, Cleju, N., "Off-Person ECG Biometrics Using Spatial Representations and Convolutional Neural Networks", IEEE Access, vol. 8, pp. 218966-218981, 2020; [2] Ciocoiu, I.B., „Comparative analysis of bag-of-words models for ECG-based biometrics”, IET Biometrics, vol. 6, pp. 495-502, 2017.	Buget cu bursă / Buget fără bursă / Taxă
13	Aplicații ale arhitecturilor de tip deep learning în medicină	Prof.univ.dr.ing. Iulian Aurelian Ciocoiu	[1] Pavel, I., Ciocoiu, I.B., „COVID-19 Detection from Cough Recordings Using Bag-of-Words Classifiers”, Sensors, vol. 23, 4996, 2023.	Buget cu bursă / Buget fără bursă / Taxă
14	Aplicații ale arhitecturilor de tip <i>deep learning</i> în viziune computerizată	Prof.univ.dr.ing. Iulian Aurelian Ciocoiu	[1] I. Goodfellow, Y. Bengio, A. Courville, "Deep Learning", MIT Press, 2017; [2] R. Szelinski, "Computer Vision: Algorithms and Applications", Springer, 2020.	Buget cu bursă / Buget fără bursă / Taxă
15	Contribuții cu privire la implementarea eficientă a unor blocuri cheie din domeniul multimedia	Prof.univ.dr.ing. Doru Florin Chipier	[1] D.F.Chiper, "A Novel VLSI DHT Algorithm for a Highly Modular and Parallel Architecture", IEEE Transactions on Circuits and Systems-II, vol. 60, no. 5, pp. 282-286, 2013.	Buget cu bursă / Buget fără bursă / Taxă

16	Contribuții la dezvoltarea unor blocuri multimedia care să încorporeze eficient tehnici de securitate hardware	Prof.univ.dr.ing. Doru Florin Chiper	[1] D.F.Chiper, "A Novel VLSI DHT Algorithm for a Highly Modular and Parallel Architecture", IEEE Transactions on Circuits and Systems-II, vol. 60, no. 5, pp. 282-286, 2013;	Buget cu bursă / Buget fără bursă / Taxă
17	Contribuții la optimizarea unor blocuri cheie folosite în securitatea cibernetică	Prof.univ.dr.ing. Doru Florin Chiper	[1] Igor Shparlinski, "Number Theoretic Methods in Cryptography"; [2] Bart Preneel Vincent Rijmen (Eds.), "State of the Art in Applied Cryptography".	Buget cu bursă / Buget fără bursă / Taxă
18	Controlul convertoarelor de putere cu variabile de stare	Conf.univ.dr.ing. Dorin O. Neacșu	[1] Mihai Lucanu, „Convertoare performante de curent continuu”, Ed. Printech, București, 1997; [2] Dorin O. Neacșu, "Manual de proiectarea sistemelor automate de control în MATLAB", Ed. Tehnopress, Iasi, Romania, July 2014, ISBN-13: 9786066871136.	Buget cu bursă / Buget fără bursă / Taxă
19	Fiabilitatea convertoarelor de putere	Conf.univ.dr.ing. Dorin O. Neacșu	[1] Mihai Lucanu, „Convertoare performante de curent continuu”, Ed. Printech, București, 1997; [2] Dorin O. Neacșu, "Manual de proiectarea sistemelor automate de control în MATLAB", Ed. Tehnopress, Iasi, Romania, July 2014, ISBN-13: 9786066871136.	Buget cu bursă / Buget fără bursă / Taxă
20	Contribuții la studiul și implementarea VLSI a receptoarelor pe bază de transductoare ultrasonice microelectromecanice capacitive prin conversia analog-numerică directă	Prof.univ.dr.ing. Radu Gabriel Bozomitu	[1] Behzad Razavi, “Design of Analog CMOS Integrated Circuits”, McGraw-Hill Higher Education, Inc., 2001; [2] Marcel J.M Pelgrom, “Analog-to-digital conversion”, Springer New York, 2013; [3] Georges Gielen, Luis Hernandez-Corporales, Pieter Rombouts, “Time-encoding VCO-ADCs for Integrated Systems-on-Chip”, Springer Cham, 2022; [4] Pavan Shanthi, Richard Schreier, and Gabor C. Temes, “Understanding delta-sigma data converters”, John Wiley & Sons, 2017.	Buget cu bursă / Buget fără bursă / Taxă
21	Contribuții la implementarea comunicațiilor vehiculare utilizând tehnici radio definite prin software	Prof.univ.dr.ing. Radu Gabriel Bozomitu	[1] Peter Kenington, “RF and baseband techniques for software defined radio”, Artech, House, 2005; [2] Tony J. Roupael, “RF and Digital Signal Processing for Software-defined Radio”, Elsevier Inc., 2009; [3] Robert W. Stewart, Kenneth W. Barlee, Dale S. W. Atkinson, Louise H. Crockett, “Software Defined Radio using MATLAB & Simulink and the RTL-SDR”, Strathclyde Academic Media, 2017; [4] Chen, Wai, ed. "Vehicular communications and networks: Architectures, protocols, operation and deployment", Elsevier, 2015; [5] Schulze, Henrik, and Christian Lüders, "Theory and applications of OFDM and CDMA: Wideband wireless communications", John Wiley & Sons, 2005; [6] R. G. Bozomitu and F. D. Hutu, "Drivers' Warning Application Through Personalized DSSS-CDMA Data Transmission by Using the FM Radio Broadcasting Infrastructure", in IEEE Access, ISSN 2169-3536, vol.	Buget cu bursă / Buget fără bursă / Taxă

			11, pp. 11711-11731, 2023, doi: 10.1109/ACCESS.2023.3241611; [7] R. G. Bozomitu, "Radiocomunicații avansate", Iași, 2024.	
22	Sisteme de interfațare om-calculator și creier-calculator	Prof.univ.dr.ing. Dan Marius Dobrea	[1] D.M. Dobrea, M.C. Dobrea, "A MANFIS model of the 3D head position based on a wearable system", Romanian Journal of Information Science and Technology, vol. 21, no. 4, 2018, pp. 377-391, ISSN 1453-8245; [2] D.M. Dobrea, M.C. Dobrea, "EEG Classification System – From an Universal System Implementation to a Particular Signal Modeling", Proceedings of the Romanian Academy - Series A: Mathematics, Physics, Technical Sciences, Information Science, vol. 10, no. 2, May-August 2009, pp. 197-204, ISSN 1454-9069.	Buget cu bursă / Buget fără bursă / Taxă
23	Drone & UAV	Prof.univ.dr.ing. Dan Marius Dobrea	[1] D.M. Dobrea, M.C. Dobrea, "An autonomous UAV system for video monitoring of the quarantine zones", Romanian Journal of Information Science and Technology, vol. 23, no. 5, 2020, pp. S53-S66, ISSN 1453-8245; [2] D.M. Dobrea, M.C. Dobrea, "An L-Band EMI Analysis of Different Components Used with the NXP HoverGames UAV", E-Health and Bioengineering Conference (EHB), Nov. 17-18, 2022, România, Iași, ISBN 978-166548557-9, eISSN 2575-5145.	Buget cu bursă / Buget fără bursă / Taxă
24	Sisteme bioinspirate	Prof.univ.dr.ing. Dan Marius Dobrea	[1] M.C. Dobrea, D.M. Dobrea, "A bio-inspired solution for a local autonomous, reflex, obstacle avoiding behavior", International Symposium on Signals, Circuits, and Systems, ISSCS 2011, June 30 – July 1, 2011, România, Iași, pp. 177-180, ISBN: 978-1-61284-942-3; [2] D.M. Dobrea, A. Sirbu, M.C. Dobrea, "A Self-Evolving Controller for a Physical Robot: A New Introduced Avoiding Algorithm", 12 <sup>th</sup> Middle Eastern Simulation and Modelling Conference (MESM) and 2nd GAMEON-Arabia Conference (Edited by Marwan Al-Akaidi and Ken Newman, Publication of Eurosis-ETI, Printed in Ghent, Belgium), November 14-16, 2011, Arab Open University, Amman, Jordan, pp. 65-70, ISBN: 978-90-77381-67-0;	Buget cu bursă / Buget fără bursă / Taxă
25	IoT	Prof.univ.dr.ing. Dan Marius Dobrea	[1] I.C. Severin, D.M. Dobrea, M.C. Dobrea, "Head Gesture Recognition using a 6DOF Inertial IMU", International Journal of Computers Communications & Control, vol. 15, no. 3, June, 2020, pp. 1-13, ISSN 1841-9836, eISSN 1841-9844; [2] L. Chettri, R. Bera, "A Comprehensive Survey on Internet of Things (IoT) Toward 5G Wireless Systems", IEEE Internet of Things Journal, vol. 7, Issue: 1, January 2020, pp. 16 – 32, ISSN: 2327-4662.	Buget cu bursă / Buget fără bursă / Taxă

26	Sisteme de prelucrare inteligentă a semnalelor	Prof.univ.dr.ing. Dorel Aiordăchioaie	[1] A.V.Oppenheim, et al, "Signals and Systems", 2/e, PHI, 2006; [2] M.H. Hayes, "Statistical Digital Signal Processing and Modeling", Willey, 1996.	Buget cu bursă / Buget fără bursă / Taxă
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