

PLAN INTERN DE CERCETARE

CENTRUL DE CERCETARE PENTRU INGINERIE ELECTRICĂ, ELECTRONICĂ ȘI TEHNOLOGIA INFORMAȚIEI (CC-IEETI)

Teme de cercetare științifică în care se încadrează elementele planului de cercetare

1. Prelucrări de semnale și imagini;
2. Tehnologii, sisteme și rețele pentru comunicații fixe și mobile. Prelucrarea semnalelor în vederea transmiterii informației la distanță. Tehnici, algoritmi și metode dezvoltate la nivelul modelelor de protocol pentru arhitecturi de telecomunicații;
3. Modelarea și caracterizarea dispozitivelor și proceselor. Achiziția și prelucrarea datelor de proces. Arhitecturi, sisteme, tehnici și tehnologii pentru monitorizarea locală sau distantă a proceselor industriale;
4. Dispozitive avansate pentru manipulare și caracterizare la micro și nanoscala. Generatoare și sisteme microelectromecanice bazate pe materiale piezoelectrice. Sisteme embedded;
5. Identificarea soluțiilor tehnice și economice pentru îmbunătățirea calității energiei electrice și termice.
6. Promovarea eficienței energetice și resurselor regenerabile de energie în comunitățile locale

Articole ISI și CNCSIS (A, B, B⁺, C)

7. C. Dragoi, D. Coltuc, *Local Prediction Based Reversible Watermarking*, IEEE Trans. on Image Processing, IEEE Trans on IFS, sau echivalent (revista ISI);
8. D. Coltuc, I. Caciula, *Multiple Moduli Difference Expansion Reversible Watermarking*, IEEE Trans. on Image Processing, IEEE Trans on IFS sau echivalent (revista ISI)
9. Dragoi, D. Coltuc, *Local Exact Histogram Specification*, IEEE Trans. IP, JSS sau echivalent (revista ISI)
10. Ioan Alexandru Ivan, Mohamed Kharboutly, Joël Agnus, Micky Rakotondrabe, Gilgueng Hwang, Nicolas Chaillet and Stéphane Régnier, *An impulsive and space-dependant 2-DoF control of MagPieR: the magnetic and piezoelectric microrobot*, IFAC Mechatronics
11. Micky RAKOTONDRABE, Ioan Alexandru IVAN, Sofiane KHADRAOUI, Philippe LUTZ and Nicolas CHAILLET, *Complete self-sensing of displacement and force in piezoelectric actuators dedicated to controlled micropositioning tasks*, IEEE/ASME Transactions on Mechatronics
12. Ioan Alexandru Ivan, Roger Bourquin, Mihaela Ivan, *Revised constitutive equations for high coupling factor piezoelectric cantilevers*, Sensors
13. Ivan Ioan Alexandru, Mihai Ardeleanu, Guillaume J. Laurent, *High dynamics and precision optical measurement using a PSD (position sensitive detector) in reflection-mode: application to a 2D object tracking over a smart surface*, Sensors
14. Ioan Alexandru Ivan, Micky Rakotondrabe, Joel Agnus, Philippe Lutz, *Multi DoF self-sensing of piezoelectric nano translation stage*, Nanotechnology
15. Mihăiță Nicolae Ardeleanu, Veronica Despa, Ioan Alexandru Ivan, *Modeling of a micro-gripper compliant joint using comsol multiphysics simulation*, Buletinul FIE - UVT
16. Alberto Gonzalez, Felix Albu, Miguel Ferrer, Maria de Diego, *Evolutionary and variable step size affine projection algorithms for active noise control*, IET Signal Processing
17. Enescu, D., Virjoghe, E.O., *Thermoelectrics: A review of thermoelectric cooling device*, International Journal of Refrigeration, 2013
18. Virjoghe, E.O., Florescu V., Enescu, D., Stan, M.F., Cobianu, C., *Numerical calculation of stationary electric field for extinction chamber of vacuum circuit breaker*, The Scientific Bulletin of the Electrical Engineering Faculty, 2013
19. Enescu, D., Virjoghe, E.O., Nedelcu, O., Stan, M.F., *Strategies concerning the pollution sources reduction in a thermoelectric plant*, The Scientific Bulletin of the Electrical Engineering Faculty, 2013
20. N. Angelescu, *Algorithms for image compression*, The Scientific Bulletin of Electrical Engineering Faculty, Valahia University of Targoviste, Romania, 2013

21. Fl. Ion, G. Predusca, *A Study of the Efficiency of low power non insulated DC-DC Converters for Photovoltaic Applications*, WSEAS Transaction on Electronics
22. Fl. Ion, G. Predusca, *Water supply system automation of vegetable greenhouse*, The Scientific Bulletin of Electrical Engineering Faculty, Valahia University of Targoviste, Romania, 2013
23. Cobianu, C., Stan, M-F, Virjoghe, E.O., *Characterization of the magnetic thin multi-layers with vibrating sample magnetometer*, Journal of Science and Arts, 2012
24. Virjoghe, E.O., Enescu, D., Stan, M.F., *Numerical Determination Of Electric Field Around A High Voltage Electrical Overhead Line*, The Scientific Bulletin of the Electrical Engineering Faculty, 2013
25. Andrea MAZZA, Gianfranco CHICCO, Angela RUSSO, Elena Otilia VIRJOGHE, *Distribution network optimization*, Electrical Power and Energy Systems
26. Fluieraru C., Sachelarie D., Predusca G., *Caracterizarea celulelor solare cu siliciu, utilizand Matlab*, The Scientific Bulletin of the Electrical Engineering Faculty, 2013
27. Fluieraru C., Sachelarie D., Predusca G., *Tehnici de determinare a parametrilor celulelor solare cu siliciu*, The Scientific Bulletin of the Electrical Engineering Faculty, 2013
28. Circumarescu D.L., Predusca G., *Investigating the performance of QoS mechanism for IntServ over DiffServ network services*, The Scientific Bulletin of the Electrical Engineering Faculty, 2013
29. Dan Puchianu, Cristian Fluieraru, Bogdan Salisteanu, *Spice simulation of the rlc circuit with the metal-oxide-semiconductor field effect transistor (MOSFET)*, The Scientific Bulletin of the Electrical Engineering Faculty, 2013
30. M. Rubino, H. Andrei, G. Chicco, *Network Simplification Rules and Bounding Schemes to Form the Radial Configurations for Distribution System Minimum Losses Reconfiguration*, Electric Power Systems Research – ISI;
31. H. Andrei, C. Cobianu, P. C. Andrei, T. Ivanovici, G. Predusca, *Numerical Method to Evaluate PV Cell Parameters*, The Scientific Bulletin of Electrical Engineering Faculty – B+
32. E. Diaconu, H. Andrei, *Modern Solutions for Parking Services Management*, Modern Traffic and Transportation Engineering Research (MTTER) - ISI
33. M. Ghita, H. Andrei, *Numerical Approximation of the Wind Power Characteristics*, The Scientific Bulletin of Electrical Engineering Faculty – B+

Articole în extenso în Proceedings^{uri} ale conferințelor internaționale

1. Tudoroiu, D. Coltuc, *On High Capacity Reversible Watermarking*, IEEE ISSCS' 2013 sau echivalent
2. Caciula, D. Coltuc, *On fine tuning of the embeddding capacity of reversible watermarking*, IEEE ISSCS' 2013 sau echivalent
3. Dragoi, D. Coltuc, *Context Embedding for Raster Scan Rhombus Based Reversible Watermarking*, ACM Conf. on Information Hiding and Multimedia Security, 2013
4. Ion Lungu, Micky Rakotondrabe, Simona Noveanu, Ioan Alexandru Ivan and Dan Mandru, *Development and control of a modular family of linear and rotary actuators based on shape memory alloy*, IFAC or IEEE conference
5. Soukeyna Bouchebout, Aude Bolopion, Mohamed Kharboutly, Ioan Alexandru Ivan, Joel Agnus and Stephane Regnier, *Design and first experiments on MagPieR, the magnetic and piezoelectric microrobot*, ISOT 2012 Workshop
6. Ioan Alexandru IVAN, Mihai ARDELEANU, Guillaume J. LAURENT, Ning TAN, Cédric CLEVY, *The metrology and applications of PSD (position sensitive detector) sensors for microrobotics*, ISOT 2012 Workshop
7. Gilgueng Hwang, Hugo Salmon, Ioan Alexandru Ivan, Joel Agnus, Nicolas Chaillet, Stéphane Régnier, Anne-Marie Haghir-Gosnet, *Large range versatile wireless microrobotic manipulators in microfluidic devices*, MEMS 2013 Conference
8. Felix Albu, H.K. Kwan, *New proportionate affine projection sign algorithms*, ISCAS 2013
9. Felix Albu, Marius Rotaru, Reza Arablouei, and Kutluyıl Doğançay, *Intermittently-Updated Affine Projection Algorithm*, ICASSP 2013
10. Marius Rotaru, Cristian Stanciu, Silviu Ciochina, Felix Albu, Henri Coanda, *A FPGA Implementation of Prediction Error Method for Active Feedback Cancellation using Xilinx System Generator*, Adaptive 2013
11. Felix Albu, *A Fast Filtering Based Proportionate Sign Algorithm*, Icinco 2013
12. Gaba, A., Enescu, D., Nedelcu, O., Gaba R, *Reduction of fuel consumption and the pollutant emissions using the additives to a boiler*, CIEM Conferința Internațională Energie Mediu, București, 2013
13. Enescu, D., Virjoghe E. O., Nedelcu, O., *Optimization of Power Plants Emplacement in Load Curves*, CIEM Conferința Internațională Energie Mediu, București, 2013
14. N. Angelescu, *Identification and segmentation of medical images – mammography*, International Symposium on Signals, Circuit, Systems ISSCS 2013, Iasi Romania
15. N. Angelescu, *The evaluation of the quality metrics in 3D images*, International Conference on Control Systems and Computer Science (CSCS 19)
16. Fl. Ion, *Automation system of a greenhouse vegetable*, IEEE.DAC 2013 Conference on Design Automation, Austin, Texas, June 2-6, 2013

17. Fluieraru C., Sachelarie D., Predusca G., *Aplicatii in Matlab pentru caracterizarea celulelor solare cu siliciu*, The 2nd International Conference on Microelectronics, Optoelectronics and Nanoelectronics (ICMON 2013) Beijing, China, September 1-2, 2013
18. Dan Puchianu, Codarea video utilizand coduri LDPC pentru retelele video wireless, ICSTCC 2013 The 17th International Conference on System Theory, Control and Computing, 11 – 13 October 2013, Sinaia
19. ANDREI Horia, DIACONU Mihai Emil, *Mathematical Model and Experimental Results of Charging Electronic Vehicles Batteries using PV panels.*, „The 8th International Symposium on Advanced Topics In Electrical Engineering 23-25 mai 2013 ” Bucuresti-Romania
20. DIACONU Mihai Emil, ANDREI Horia, *Electronic Management System of an Urban Car Parking*, „The 5th edition of the International Conference Electronics, Computers and Artificial Intelligence, ECAI 2013 27-29 iunie 2013” Pitesti-Romania
21. H. Andrei, P. C. Andrei, Gh. Nicolaescu, S. Radulescu, *New Approach of PV Cell Efficiency*, IEEE-EEEIC, Wroclaw, 5-8 Mai,, 2013
22. H. Andrei, P. C. Andrei, S. Radulescu, *Power Factor and Principle of Minum Absorbed Active and Reactive Power in AC Circuits*, IEEE-ATEE, Bucharest, 23-25 mai, 2013
23. E. Diaconu, L. Constantinescu, H. Andrei, *Evaluation of the Charging Characteristics of Electric Vehicles Batteries*, IEEE-ECAI, Pitesti, 27-29 iunie, 2013

Contracte de cercetare științifică, Granturi

1. *Noi metode optice si protocoale de investigatie micro si nano pentru eficientizarea diagnosticului timpuriu, monitorizarii, prognosticului si terapiei in cazul cancerului de piele non-melonic*, UEFISCDI, PN-II-PT-PCCA-2011-3.2-1162, D. Coltuc - responsabil partener UVT
2. *Advanced Adaptive Algorithms for Digital Hearing Aids*, UEFISCDI, PN-II-ID-PCE-2011-3-0097, F. Albu - director, www.adaptive.valahia.ro
3. *REversible Watermarking: Algorithms, Results, Data* – REWARD, UEFISCDI, PN-II-ID-PCE-2012-4-0460, D. Coltuc - director, In evaluare
4. *Study on Multi-non-binary turbo codes and Reed Solomon turbo codes*, UEFISCDI. PN-II-RU-PD-2012-3-0122, D. Coltuc - tutore
5. *Dispozitive avansate pentru manipulare si caracterizare la micro si nanoscala*, PN-II-RU-TE-2011—0299, www.adman.valahia.ro
6. *MicroElectroMechanical Generators Based on High Performance Piezoelectric Materials*, FP7-PEOPLE-ERG 276991/2010, A. Ivan – director
7. *Microassembling Reconfigurabl and Self-Actuating Micro-Opto-Electro-Mechanical Systems*, PN-II-RU-PD-2012-3, A. Ivan – tutore
8. *A New On-Chip Magnetically-Actuated Mobile Microrobotic Agent and Embedded Control System*, PN-II-RU-PD-2012-3, A. Ivan – tutore
9. *Definirea, analiza și aplicarea profilelor de consum statistice în vederea participării la plata de energie electrică cu decontare orară* (propunere de proiect), Electrica – Bucuresti
10. *Sisteme de alimentare a motoarelor de curent continuu*, IPA Buresti coordonator, UVT partener
11. *Sistem Stand Alone de iluminare a indicatoarelor rutiere de localitate*, Romlux beneficiar, UVT executant

Cărți, manuale, monografii, culegeri de probleme, caiete de laborator

1. Andrei, H., Fluierasu, C., Enescu, D., Virjoghe, E.O., *Metode numerice, modelări și simulări cu aplicații in ingineria electrică/Numerical Methods, Modelling and Simulation Applied in Electrical Engineering*, Editura Electra ICPE Bucuresti, 2013
2. Enescu, D., Virjoghe, O., *The freezing propagation in the homogeneous media*, site:www.intechopen.com/books/heat_transfer
3. Enescu, D., Nedelcu, O., *Conducția, convecția și radiația termică* – culegere de probleme, VUP, Targoviste
4. N. Angelescu, *Semnale – aplicatii si probleme*, Ed. Bibliotheca, Targoviste
5. Fl. Ion, *Aplicații cu Microcontrolere PIC – Îndrumar de laborator*, Ed. Bibliotheca, Targoviste
6. Fl. Ion, *Implementarea automatelor cu circuite logice programabile – lucrări de laborator*, Ed. Bibliotheca
7. O. Nedelcu, *Bazele hidraulicii*, VALAHIA University Press
8. Sachelarie D., Predusca G., *Caracterizarea tranzistoarelor cu heterojonctiune*, Ed. MatrixRom, Bucuresti
9. Coanda H., Puchianu D., *Proiectarea si Codarea Informatiei in Retelele de Comunicatii*, Ed. Bibliotheca
10. Coanda H., Albu F., *Sisteme Integrate pentru Procesare de Semnale*, Ed. Bibliotheca, Targoviste
11. H. Andrei-coordonator, C. Fluierasu, Elena Virjoghe, Diana Enescu, Corina Fluierasu, P. C. Andrei, Adela Husu, G. Predusca, Dorina Popovici, E. Diaconu, *“Metode numerice, modelări și simulări cu aplicații in ingineria electrică/Numerical Methods, Modelling and Simulation Applied in Electrical Engineering”*-editie bilingva, Electra, Bucuresti