

Universitatea POLITEHNICA București
Facultatea Energetică
Departamentul Hidraulică, Mașini Hidraulice și Ingineria Mediului
Grad didactic, Nume prenume [Conferentiar univ dr. ing. Sanda Budea](#)

L I S T A

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

Curgerea permanentă, spațială, cu simetrie axială a unui fluid vâcos în pompe cu canale laterale, conducător științific prof. dr. ing. M.D. Cazacu, Universitatea Politehnica din București, 1999.

B. Cărți și capitole în cărți publicate

1. **Sanda Budea** – Ghid de proiectare al pompelor centrifuge – proceduri și programe de calcul, Ed. Printech, București, 2006, 102 pag. format electronic pe Moodle.
2. M.D. Cazacu, **Sanda Budea**, Noi tehnologii de conversie a energiilor și de protecție a mediului, Ed. Politehnica Press, 2008, ISBN 978-973-7838-94-0, 210 pag.
3. **Sanda Budea** – Măsurări hidraulice și încercarea unor mașini hidraulice din categoria pompe, ventilatoare și suflante – lucrări de laborator - Ed Printech, București, 2010, ISBN 978-606-521-559-7, 150 pag.
4. M.D. Cazacu, **Sanda Budea**, Curgeri tridimensionale ale lichidelor vâscoase prin mașini și echipamente, Editura Printech, ISBN 978-606-521-924-3, 2012. 260 pag.

Capitole de cărți

5. **Sanda Budea**, V Bădescu, [Capitalizing on Solar Energy in Romania and Improving the Thermal Comfort of Buildings with Solar Air Collectors](#), Energy Efficient Building Design, 75-94, **Springer**, Cham., 2020.
6. **Sanda Budea**, Viorel Badescu, Adrian Ciocanea, Iuliana Soriga, Literature Review on Thermo Solar Air Collectors for Conditioning of Space in Buildings, Energia și mediul în context contemporan, Author: Simpozioanele CSAU coord. Prof.dr.arh. Ana Maria Dabija, Publisher Ion Mincu University Press, Bucharest, 2018, 18-39, ISBN 978-606-638-171-0.
7. **Sanda Budea**, Carmen Anca Safta, [Maintenance of Renewable Energy Systems - A Challenge in Academic Education](#), Nearly Zero Energy Communities, Springer Volume1, 686-698, **Springer**, 2017.

C. Lucrări indexate ISI/BDI publicate

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2. **Sanda Budea**, ȘM Simionescu, Performances of a Savonius-Darrieus Hybrid Wind Turbine 2023 11th International Conference on ENERGY and Environment, CIEM 2023, <https://ieeexplore.ieee.org/abstract/document/10349366>, IEEEExplore.

3. **Sanda Budea**; Adrian Ciocănea; Florin Opreș, Natural Ventilation of Buildings by Using Venturi Devices Placed on the Rooftops, CIEM 2023, <https://ieeexplore.ieee.org/abstract/document/10349752>, IEEEExplore.
4. Sanda Budea, Ion-Bogdan Iordan, Radial Centrifugal Fan Redesign and New Technologies Using CFD Applications, Jurnal Technium, Volumul 14, Data publicării 2023/10/1, EBSCO
5. **Sanda Budea**, Assessments regarding the performances of wind turbines from the roofs of buildings, E3S Web Conf. Volume 404, Article number 02005, 2023, International Conference on Electronics, Engineering Physics and Earth Science (EEPES 2023), Article Number 02005 DOI <https://doi.org/10.1051/e3sconf/202340402005> Published online 24 July 2023.
6. **Sanda Budea** , Mechanical Frontal Seals Used in Centrifugal Pumps-From Theory to Experiment - Hidraulica nr 4, 58-64, 2023, ISSN 1453 – 7303 <https://www.proquest.com/openview/8aa84fd6fcc4ba3350da95312434e64c/1?pq-origsite=gscholar&cbl=136245>, PROQUEST
7. Paulescu M, Badescu V, **Budea S.**, Dumitrescu A., Empirical sunshine-based models vs online estimators for solar resources, Renewable & Sustainable Energy Reviews, 168(art 112868), oct 2022, ISSN 1364-0321, WOS:000862370700005 **Q1**
8. Paulescu M, Badescu V, **Budea S.**, Dumitrescu A., What Angstrom-Prescott equation tells us about the cloud and clear-sky climatologies?; Theoretical and Applied Climatology, Volume147 Issue1-2, Page 239-250, WOS:000710049700003, ISSN 0177-798X, eISSN 1434-4483, 2022. **Q2**
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10. **Sanda Budea**, V. Bădescu, A. Ciocanea, C Croitoru, I Năstase, The stability of the radiative regime in Bucharest during 2017-2018, Conference on Sustainable Solutions for Energy and Environment (EENVIRO) Location: Cluj Napoca, ROMANIA Date: OCT 09-13, 2018 Book Series: E3S Web of Conferences Volume: 85 Article Number: 04001 Published: 2019, WOS:000468021200034
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12. **Sanda Budea**, Adrian Ciocanea, Control of the Suction Recirculation Flow to Reduce the Cavitation in Centrifugal Impellers, International Conference on ENERGY and ENVIRONMENT (CIEM), DOI: 10.1109/CIEM46456.2019.8937647, IEEE 2019, WOS:000630902700064, ISBN:978-1-7281-1532-0
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16. Iordache S.M., Ciocănea A., Stamatin I., Bălan A., **Budea S.**, Ceaus C., Trefilov A.M.I., Recovering hydrogen sulfide from sulfurous waters with PEM fuel cells/ <http://dx.doi.org/10.1016/j.egypro.2015.12.252>, Energy Procedia, Vol. 85, ISSN 1876-6102, pp. 273-278, WOS 000377911100035
17. Bădescu V., Rotar N., **Budea S.**, Simple rule to estimate the changes in the heating demand of the German Passivhaus when accomodating the climate of Eastern Europe, SUSTAINABLE CITIES AND SOCIETY, 24, 2016, pp.20-32, ISSN 2210-6707, WOS 000389319900003. **Q2**
18. **Budea Sanda**, Optimization of the Impeller Geometry and its Coating with PTFE to Improve the Hydraulic Performances, REVISTA DE CHIMIE 67(7), 2016, pp. 1322-1326, ISSN 0034-7752, WOS 000385513000018, 2016.
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20. **Sanda Budea**, Cornelia Chiujea, Polymer Additives in Hydro Pressure Instalations and Hydraulic Machines, Materiale Plastice, 52(1) 2015, 65-68, FI 0.824 , ISSN 0025-5289, (WOS 000351194900017 .
21. **Sanda Budea**, Solar Air Collectors for Space Heating and Ventilation Applications—Performance and Case Studies under Romanian Climatic Conditions, Energies 7(6), 2014, 3781-3792, FI 2.072, ISSN 1996-1073, (WOS 000338557600016; WOS 000343111600034) **Q2**
22. Cristina Modrogan, Irina Pincovschi, **Sanda Budea**, Depollution of Acid Waste Waters Containing Cadmium Ions Using Liquid-Liquid Extraction, Revista de Chimie, 65(10) 2014, 1235-1237, FI 0.810, 0034-7752, (WOS 000344719500024).
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24. **Sanda Budea**, Stefan-Mugur Simionescu, Octavian Lambescu, Experimental Research on a Savonius Helical Turbine with Integrated Transparent PV Cells, Hidraulica 1/2022, 7-13, ISSN 1453-7303, ProQuest, <https://hidraulica.fluidas.ro/2022/nr1/07-13.pdf>
25. **Sanda Budea**, Ștefan-Mugur Simionescu, Adrian Ciocănea, Experimental Research on the Operation of a PVT Hybrid Solar System, 2021 10th International Conference on ENERGY and ENVIRONMENT (CIEM), Pagini 1-4, Editor IEEE, <https://ieeexplore.ieee.org/abstract/document/9614793>
26. Adrian Ciocănea, Eugeniu Vasile, **Sanda Budea**, Mihai Bădic, Șerban N Stamatin, A Hydrodynamic Cavitation-High Voltage Discharge in Water Procedure for Recycling Platinum Group Metals Contained in Three-way Catalyst Converters, 2021 10th International Conference on ENERGY and ENVIRONMENT (CIEM) , Pagini 1-5, Editor IEEE, <https://ieeexplore.ieee.org/abstract/document/9614749>
27. A Ciocănea, **S Budea**, Ș M Simionescu, O Lambescu, Experimental research on increasing the static torque for a small Savonius rotor of helical type, IOP Conference Series: Earth and Environmental Science, 664 (2021) 012033, IOP Publishing, doi:10.1088/1755-1315/664/1/012033, 2021, <https://iopscience.iop.org/article/10.1088/1755-1315/664/1/012033/pdf>
28. **S Budea**, CA Safta, Review on Modern Photovoltaic Panels–Technologies and Performances, IOP Conference Series: Earth and Environmental Science 664 (1), 012032, doi:10.1088/1755-1315/664/1/012032, 2021. <https://iopscience.iop.org/article/10.1088/1755-1315/664/1/012032/pdf>
29. **Sanda Budea**, Analysis of Vibrations and Noise in a Centrifugal Pump for Predictive

- Maintenance, Hidraulica 3/2020, 25-32, ISSN 1453 – 7303, ProQuest, <https://www.proquest.com/openview/a65bb44f2fed67acfd8111970282925/1?pq-origsite=gscholar&cbl=136245>
30. **Sanda Budea**, Study of Mass Water Oscillations and Water Hammer Occurrence in Hydraulic Installations. Hidraulica, vol 2, 2019, Hidraulica , 4/1/2019, Issue 2, p29-35. 7p, <https://hidraulica.fluidas.ro/2019/nr2/29-35.pdf>
 31. **Sanda Budea**, V. Bădescu, Fluid Flow Control in Domestic Hot Water Systems During Days with Different Radiative Stability Levels, Annals of West University of Timisoara - Physics 60(1):88-96, August 2018, DOI: 10.2478/awutp-2018-0009, LicenseCC BY-NC-ND 4.0, <https://sciendo.com/pdf/10.2478/awutp-2018-0009>
 32. A.Ciocanea, V. Bădescu, **Sanda Budea**, A numerical analysis on increasing the heat-exchange efficiency for unglazed transpired solar collectors, 18th International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM 18(4.1), pp. 81-88, <https://www.proquest.com/openview/7ce5a77814da9f7a0e0a6079a91a0a0e/1?pq-origsite=gscholar&cbl=1536338>
 33. **Sanda Budea**, Lucian Mândrea, Ramona Elena Huluba, Micro smart grid to increase the efficiency of electrical power supply for university campus, International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM 18(4.1), pp. 449-456, <https://www-scopus-com.am.e-nformation.ro/record/display.uri?eid=2-s2.0-85058897095&origin=resultslist&sort=plf-f&src=s&st1=Budea+S&sid=763085cf12bd326dd1f672a32e89efd6&sot=b&sdt=b&sl=20&s=AUTHOR-NAME%28Budea+S%29&relpos=10&citeCnt=0&searchTerm=>
 34. M Panaitescu, V Panaitescu, **S Budea**, I Anton, Relevant Statistic Data and Probabilistic Assessment Regarding the Waves in Black Sea at Isobath of 50M, International Journal of Scientific Research & Growth SGEM, 2017(42), 505-512, <https://www.proquest.com/openview/1aa9375594839afe99ecd90156455d0f/1?pq-origsite=gscholar&cbl=1536338>
 35. A. Ciocanea, R. Sauciu, C. Cristescu, **S. Budea**, L. Dumitrescu, The Influence of Hydrodynamics Cavitation on Cleaning of Hollow Fiber Membranes Used for Ultrafiltration , 17th International Multidisciplinary Scientific GeoConference, SGEM 2017. <https://www-scopus-com.am.e-nformation.ro/record/display.uri?eid=2-s2.0-85063075644&origin=resultslist&sort=plf-f&src=s&st1=Budea+S&sid=763085cf12bd326dd1f672a32e89efd6&sot=b&sdt=b&sl=20&s=AUTHOR-NAME%28Budea+S%29&relpos=13&citeCnt=0&searchTerm=>
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 37. **S. Budea**, A. Ciocanea, I. Şişman, A Direct method for the re-engineering by simulation of radial or mixed flow impellers 2016 14th International Industrial Simulation Conference, ISC 2016 pp. 73-77, <https://www-scopus-com.am.e-nformation.ro/record/display.uri?eid=2-s2.0-85011114089&origin=resultslist&sort=plf-f&src=s&st1=Budea+S&nlo=&nlr=&nls=&sid=763085cf12bd326dd1f672a32e89efd6&sot=b&>

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38. **BUDEA S**, PANAITESCU M, PANAITESCU V, The Analysis of the Black Sea Waves Features in order to Capitalize their Hydropower Potential, *HIDRAULICA - Magazine of Hydraulics, Pneumatics, Tribology, Ecology/ EBSCO, ProQuest*, 3(7), pp. 48-53, ISSN 1453 – 7303, 2016. https://hidraulica.fluidas.ro/2016/nr3/HIDRAULICA_Magazine_no3-2016.pdf#page=47
39. **Sanda BUDEA**, Axial Balance in Centrifugal Pumps – Back Labyrinth Versus Dorsal Vanes, *HIDRAULICA (No. 1/2015) Magazine of Hydraulics, Pneumatics, Tribology, Ecology, Sensorics, Mechatronics*, ISSN 1453 – 7303, 19-24, 2015, <http://hidraulica.fluidas.ro/2015/nr1/19-24.pdf>
40. **Sanda BUDEA**, Mircea Dimitrie CAZACU, Velocity spectrum and blade's deformation of horizontal axis wind turbines, *INCAS BULLETIN*, Volume 6, Special Issue 1/ 2014, pp. 35 – 40, ISSN 2066 – 8201, DOI: 10.13111/2066-8201.2014.6.S1.4, 2014, http://bulletin.incas.ro/files/budea_s_cazacu_m_vol_6_spec_iss_1.pdf
41. **Sanda BUDEA**, S. Simionescu, M.D. Cazacu, Experimental Research on Viscous Fluid Flow through Sealing Labyrinths, *Hidraulica (no.4/2014)*, ISSN 1453-7303, 18-21, 2014, <http://hidraulica.fluidas.ro/2014/nr4/18-21.pdf>
42. **Sanda BUDEA**, Șt. SIMIONESCU, NUMERICAL MODELING OF VISCOUS FLUID FLOW BY SEALING LABYRINTHS, *HIDRAULICA (No. 1/2014) Magazine of Hydraulics, Pneumatics, Tribology, Ecology, Sensorics, Mechatronics*, ISSN 1453 – 7303, 19-24, 2014, <http://www.hidraulica.fluidas.ro/2014/nr1/32-38.pdf>
43. **Sanda BUDEA**, Mircea Dimitrie CAZACU, Experimental research regarding the performance of small axial turbines, *INCAS BULLETIN*, Volume 5, Issue 3/ 2013, pp. 13 – 20 ISSN 2066 – 8201, DOI: 10.13111/2066-8201.2013.5.3.2, 2013, http://bulletin.incas.ro/files/budea_cazacu_v5_iss_3_full.pdf
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45. A. Ciocanea, **Sanda Budea**, A. Dragomirescu, Hydraulic Installation for Water Aeration, *Journal of Mechanics Engineering and Automation* 3 (2013) 141-145, ISSN 2159-5275, 2013, <http://www.davidpublishing.com/show.html> 12595
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47. A. Ciocanea, A. Dragomirescu, **Sanda Budea** – INSTALLATION FOR GAS MIXTURE HOMOGENIZATION IN PULVERIZED COAL COMBUSTION, *JESR Issue No. 1 - Volume 18 (2012)*. <http://pubs.ub.ro/?pg=revues&rev=jesr&num=201201&vol=18&aid=3594>
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49. **Sanda Budea**, M.D.Cazacu, Cornelia M. Chiujea - Analiza fluxului termic in captori solari plani, Conferinta Nationala si Expozitia de Energetica, CNEE 2011, Sinaia 26-28 oct, sectiunea V.

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51. Cornelia Marieta CHIUJDEA, **Sanda BUDEA** - Flow of non-newtonian fluid in a pipe and considerations regarding dynamics of dilute polymer solutions, Ed. Politehnica Press ISSN 2067-0893, 4-th International Conference of Energy and Environment, CIEM 12-14 november 2009, section 6, Bucharest, Romania.
52. **Sanda Budea.**, Ciocănea, A., F.Oprescu, P.Berbec, C.Chiujdea, "Increasing the efficiency of centrifugal pumps by optimising the impeller design and controlling the working point position", Conferința Energeticienilor 2010, UPB, Buletinul UPB 8 pag, ISSN1454-2331;
53. A. Ciocanea, A. Dragomirescu, **Sanda. Budea** – „On Using Double Air Curtains for Ventilation of Urban Road Tunnels”, Conference on Modelling Fluid Flow CMFF'09 Budapesta, 9-12 set. 2009, pag.525-532, ISBN 978-963-420-986-7.
54. A. Ciocanea, **Sanda Budea**, A survey on optimal selection of air blowers for wastewater treatment plants, revista HIDRAULICA nr.2 (24) iulie 2009, ISSN 1453-7303, 29-33, 2009, <http://hidraulica.fluidas.ro/archive/>
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58. **Sanda Budea**, A.Ciocanea, A qualitative analyze of flow spectrum through work machines with lateral channel using numerical methods, Journal of Engineering Studies and Research, MOCM, 13(II), 142-149, ISSN1224-7480, OPROTEH 2007, Bacău, MOCM200713V02S014A0024[0001739], 2007, <http://pubs.ub.ro/?pg=revues&rev=mocm&num=200713&vol=2&aid=1739>
59. Adrian CIOCANEA, **Sanda BUDEA** - HYDRAULIC INSTALLATION WITH ENERGETIC AUTONOMY FOR LAKES AERATION Proceedings of 2012 International Conference of Hydraulics and Pneumatics - HERVEX 7 - 9 November, Calimanesti-Caciulata, Romania, ISSN 1454 – 8003.
60. **Sanda Budea**, Cornelia M. Chiujdea - The contribution of the polymer additives on the performances of water plant and hydraulic machines - International Conference INCER 2012, Bucharest, 2-4 iulie.

D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)

- Reviste

1. **Sanda Budea** – Application of solar Photovoltaic Energy in Systems of Irrigations, Water services and the new energy challenges Conference, 10-12 iunie 2013, Parliament Palace, Bucharest, ISBN 978-606-8284-66-8, pp.98-103.
2. **Sanda Budea**, M.D.Cazacu - Experimental research regarding the performance of small axial turbines, EENVIRO Sustainable Solutions for Energy and Environment, 19-20 sept. 2013, Bucharest, ISBN
3. **Sanda BUDEA**, Iulian CARCIOG - THE ANALYSE OF MECHANICAL BEHAVIOUR FOR A MULTIBLADES WIND TURBINE WITH SMALL DIMENSIONS , High Performance Computer Engineering Solution, Scientific Conference, Sinaia 21-23 mai 2012, ISBN 978-973-0-11025-8.
4. **Sanda Budea**, MD Cazacu – Horizontal axis wind turbine. Velocity spectrum, a 22-a Conferinta Nationala SPERIN, 26 oct. 2013, pp10-11.
5. **Sanda BUDEA**, Florin OPRESCU, Paul BERBEC - INCREASING THE EFFICIENCY ENERGY FOR GROUPS OF PUMPS IN CASCADE WITH PERFORMANCE AUTOMATION - EXPERIMENTAL RESEARCHES – Conf. Energeticienilor, Dorin Pavel, mai 2012.
6. **Sanda Budea**, Iulian Carciog - MECHANICAL BEHAVIOUR FOR A SMALL WIND TURBINE, a 23-a Conf.Nationala SPERIN, sept. 2012.
7. **Sanda Budea**, SOLAR PHOTOVOLTAIC APPLICATIONS IN IRRIGATION SYSTEMS, a 23-a Conf.Nationala SPERIN, sept. 2012

E. Brevete în întreaga activitate

1. A.Ciocanea, **Sanda Budea** – Instalație pentru aerarea apei din lacuri, rezervoare și râuri cu viteze reduse de curgere, RO129465-A2/30.05.2014, Derwent Class Code(s): Q42 (Hydraulic engineering, soil shifting and sewerage (E02, 3)); Q46 (Building aids, special structures, ladders (E04G,H, E06C)), nr 129645 B1 / 28.12.2018

Cereri de brevet:

2. M.D. Cazacu, **Sanda Budea** – Metoda si instalatie de cogenerare a energiilor din surse inepuizabile A00566 / 16.06.2011
3. M.D. Cazacu, **Sanda Budea** – Metoda si instalatie de captare eficienta a energiei cinetice a valurilor calatoare A01173 / 16.11.2011
4. M. D. Cazacu, **Sanda Budea**- Turbomasini cu canal lateral, OSIM A 00812/16.09.2009.
5. Berbec Paul, Florin Oprescu, **Sanda Budea** – Modul electronic pentru automatizarea grupurilor de pompare, OSIM A 00818/12.10.2009.Brevet omologat

Proiecte

Director/Responsabil UPB

1. **Sanda Budea**, Instalatie pilot pentru aerarea apelor lacurilor-IPALAC -, PNII Cecuri de inovare, ctr 119CI/2012, UEFISCDI, Aquatherm, 2012-2013.
2. **Sanda Budea**, Modul electronic specializat pentru comanda, controlul și monitorizarea grupurilor de pompare în scopul îmbunătățirii eficienței lor energetice AQUAMOD, Inovare, contr. 231/2008, responsabil UPB, Uefiscdi, Aquatherm, 2008-2011.
3. **Sanda Budea**, Suflanta centrifuga cu turatie ridicata pentru statii de epurare a apelor uzate SCSEAU, Inovare 78/2007, Director de proiect, UEFISCDI, Armax Gaz Medias, 2007-2009.

Membru în echipă

1. Antreprenoriat Competent în rândul Tinerilor – Învățământ Inovativ pentru Viitor – ACTIV POCU/379/6/21/-124635, PROIECT COFINANȚAT DE UNIUNEA EUROPEANĂ DIN FONDUL EUROPEAN STRUCTURAL ȘI DE INVESTIȚII PRIN PROGRAMUL OPERAȚIONAL CAPITAL UMAN 2014 - 2020, membru in echipa, expert consiliere 3
2. Asigurarea acCESului la învățământ de calitate în domeniul ingineriei ENERGetice ACE ENERGY, Acord de grant nr. 366/SGU/SS/III / 10.09.2020, membru in echipa, formator workshop
3. Tehnologii ecoinovative de recuperare a grupului de metale platinice din convertorii catalitici auto uzati - ECOTECH-GMP, PN III-P1-1.2-PCCDI - 2017-0185, ctr 76 PCCDI, 2018-2020
4. Colector solar inteligent cu materiale cu schimbare de faza, SCOPE, ctr 83 PED / 2017
5. Instalație hibridă pentru potabilizarea apei prin osmoză inversă de presiune scazută și denitrificarea cu pile de biocombustie a apei reziduale-IPOIDEN, Parteneriate, 75/2014, 2014-2017.
6. Instalatie pentru uniformizarea amestecului aer-gaze recirculate in scopul reducerii emisiilor de NOx la cazanele de abur-IUAAGR, UPB, Icemenerg, Parteneriate, contr 32171/2008, 2008-2011
7. Tehnologie si dispozitiv de incercare pentru cresterea randamentului pilelor de combustie functionand cu combustibili slab concentrati - TDRPC, UPB, IHP, ICSI, Parteneriate, contr 22136/2008, 2008-2011.
8. Cercetarea si dezvoltarea unor echipamente pentru diminuarea noxelor de esapament din spatiile deschise sau inchise ale aglomerarilor urbane-DEPOLURB, CEEX 288/2006, 2006-2008.
9. Cercetare, dezvoltare si tehnologii pentru celula de combustie cu hidrogen sulfurat lichid in scopul producerii de energie electrica curata- CCH2SEE, CEEX 320/2006, 2006-2008.

Martie 2024

Conf.dr.ing. Sanda Budea