

PERSONAL INFORMATION



Bogdan-Gabriel BURDUHOS

✉ bogdan.burduhos@unitbv.ro

Sex M | Date of birth  | Nationality Romanian

WORK EXPERIENCE

01.10.2006 - present

Assistant Professor, Lecturer, Postdoctoral Researcher, PhD. Student

Transilvania University of Braşov / Product Design and Environment Faculty / Product Design, Environment and Mechatronics Department

Business or sector Education and Research

EDUCATION AND TRAINING

01.10.2006 - 30.10.2009

PhD. Degree

Transilvania University of Braşov

- Tracking systems for photovoltaic modules

01.10.2007 - 15.02.2008

Master Degree

Transilvania University of Braşov / Technological Engineering Faculty

- Engineering Design and Management of Renewable Energy Systems

01.10.2001 - 01.06.2006

Bachelor Degree

Transilvania University of Braşov / Electrical Engineering and Computer Science Faculty / Applied Electronics Specialization

PERSONAL SKILLS

Mother tongue(s)

Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
German	C1	C1	B2	B2	B2
Replace with name of language certificate. Enter level if known.					
English	B2	B2	B2	B2	B2
Replace with name of language certificate. Enter level if known.					

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

[Common European Framework of Reference for Languages](#)

Digital competences

- Operating systems: MS-DOS, Windows 9x / Me / NT / 2000 / XP / 7, Linux Ubuntu
- Programming languages: Turbo Pascal, C, Visual C++, Java, SQL, Assembler (ASM), LISP
- Design: Modelsim (Verilog), Orcad, Pspice, MatLab, MSC Adams / Easy5, Autocad
- MS-Office: Word, Excel, Powerpoint, Acces
- Webdesign: MS Frontpage, Macromedia Dreamweaver

Other skills

- German Certificate: "Deutsches Sprachdiplom – Zweite Stufe", German Culture Ministry, 2001;
- English Certificate: "First Certificate" Grade A, Cambridge University, 2000;
- Programming Certificate, Teoretic Highschool Brukenthal, Sibiu, 2001.

Driving license

Category B

ADDITIONAL INFORMATION

Publications (selection out of 58)

1. **Burduhos B.G.**, Visa I., Neagoe M., Devetakovic M., Cretescu N.R., *Comparative Analysis of Software Accuracy in Photovoltaic Energy Estimation for a Temperate Mountain Climate*. In: Solar Energy Conversion in Communities. Springer Proceedings in Energy, 2020, pp. 125-139
2. Devetaković M., Djordjević D., Radojević M., Krstić-Furundžić A., **Burduhos B.G.**, Martinopoulos G., Neagoe M., Lobaccaro G., *Photovoltaics on Landmark Buildings with Distinctive Geometries*, Appl. Sci. 2020, 10(19), 6696; <https://doi.org/10.3390/app10196696> (FI 2020 = 2,474)
3. Neagoe M., **Burduhos B.G.**, Mohammadi F., Cretescu N.R., *A Comparative Analysis of the Solar Energy Receiving Share Using Four Tracking System Types at Mid-Latitude Regions*. In: Solar Energy Conversion in Communities. Springer Proceedings in Energy, 2020, pp. 93-110
4. **Burduhos B.G.**, Ion VIȘA, Mircea NEAGOE, Nadia-Ramona CRETESCU, *Simulated vs. Produced electrical energy of a 9.6 kWp PV system installed in a temperate mountain climate*, Journal of Science and Arts, No. 1(50), pp. 215-224, 2020
5. **Burduhos B.G.**, Vișa I., Duță A., Neagoe M., *Analysis of the conversion efficiency of 5 types of photovoltaic modules during high relative humidity time periods*, Journal of Photovoltaics, DOI: 10.1109/JPHOTOV.2018.2861720 (FI 2017=3,075)
6. Vișa I., **Burduhos B.G.**, Neagoe M., Moldovan M.D., Duță A., *Comparative analysis of the in-field response of five types of photovoltaic modules*, Renewable Energy 95 (2016) 178-190 (FI=4,357)
7. Vișa I., Duță A., Comsit M., Moldovan M.D., Ciobanu D., Saulescu R.G., **Burduhos B.G.**, *Design and experimental optimisation of a novel flat plate solar thermal collector with trapezoidal shape for facades integration*, Applied Thermal Engineering 90 (2015), 432-443, DOI: 10.1016/j.applthermaleng.2015.06.026 (FI=2,739)
8. Comsit M., Vișa I., Duță A., Neagoe M., **Burduhos B.G.**, *Providing electrical energy autonomy of agriculture applications by using mobile deployable photovoltaic units*, Proceedings of the Sixth International Conference on Energy Efficiency and Agricultural Engineering, 11-12 noiembrie 2015, "Angel Kanchev" University of Ruse, Bulgaria, ISBN 1311-9974, pg. 573-580
9. Vișa I., Duță A., Moldovan M.D., **Burduhos B.G.**, *Conceptual design of renewable-based energy mixes for sustainable communities*, Buletinul AGIR, Supliment 1 / 2015, pg. 117-127
10. **Burduhos B.G.**, M. Neagoe, A. Duta, *Adaptive Stepwise Orientation Algorithm for Non-concentrated Dual-axis Solar Tracking Systems*, 14th World Congress in Mechanism and Machine Science, Taipei, Taiwan, 25-30 October, 2015, paper nr. OS16.006, DOI: 10.6567/IFToMM.14TH.WC.OS16.006
11. **Burduhos B.G.**, Visa I, Neagoe M., Badea M., *Modeling and optimization of the global solar irradiance collecting efficiency*, International Journal of Green Energy, ID: 884499 DOI:10.1080/15435075.2014.884499, accepted (FI=1,469)
12. Neagoe M., Vișa I., **Burduhos B.G.**, *Increasing the tracking efficiency of photovoltaic systems*, Ed. Springer 2014, ISBN print: 978-3-319-09706-0, ISSN: 2352-2534, pg. 443-460
13. Neagoe M., Visa I., **Burduhos B.G.**, Moldovan M.D., *Thermal Load based Adaptive Tracking for Flat Plate Solar Collectors*, Energy Procedia, 2014, vol. 48, pg. 1401-1411
14. **Burduhos B.G.**, Diaconescu D.V., Morar S., Badea M., Grigorescu C., *Dual-Axis Tracked vs. Fixed PV: Energetic Response of One-Year Testing Period in Romania*, 13th International Conference on Optimization of Electrical and Electronic Equipment OPTIM 2012, 2012, Brasov, Romania, ISSN: 978-1-4673-1653-8/12, pg. 979-986
15. **Burduhos B.G.**, Toma C., Neagoe M., Moldovan M.D., *Pseudo-Equatorial Tracking Optimization for Small Photovoltaic Platforms from Toronto/Canada*, Environmental Engineering and Management Journal, 2011, 10(8), ISSN 1582-9596, pg. 1059-1068 (FI=1,258)
16. Moldovan M.D., Vișa I., **Burduhos B.G.**, *Energetic Autonomy for a Solar House*, Environmental Engineering and Management Journal, 2011, 10(9), ISSN 1582-9596, pg. 1283-1290 (FI=1,258)
17. Vătășescu, M.M., Diaconescu, D.V., Duță, A., **Burduhos B.G.**, *Atmospheric Pollution Evaluation Based on Turbidity Factor Analysis*, Environmental Engineering and Management Journal, 2011, 10(2), ISSN 1582-9596, pg. 251-256 (FI=1,258)
18. Vișa I., Diaconescu D.V., Saulescu R.G., Vătășescu M. M., **Burduhos B.G.**, *A New Linkage with Linear Actuator for Tracking PV Systems With Large Angular Stroke*, Chinese Journal of Mechanical Engineering, 2011, 24(5), ISSN 1000-9345, pg. 744-751 (FI=0,454)
19. **Burduhos B.G.**, Vătășescu M.M., Saulescu R.G., Tatu I., *Energy Comparison of PV Systems with Mono- and Bi-axial Pseudo-equatorial Tracking Mechanisms*, Proceedings of the 13th World Congress in Mechanism and Machine Science, Guanajuato, México, 19-25 iunie 2011, ISBN: 978-607-441-131-7, no. A29_596
20. **Burduhos B.**, Diaconescu D., Vișa I., Badea M., *The Influence of the Atmospheric Temperature and of the Solar Radiation on the Efficiency of Photovoltaic Modules with Controlled Orientation*, EEA – Electrotehnică, Electronică, 59 (2011), nr. 4, ISSN: 1582-5175, pg. 26-30
21. **Burduhos B.G.**, Vișa I., Diaconescu D.V., Saulescu R.G., *The Influence of the Orientation Axis Number on the Efficiency of a Pseudo-Equatorial Tracker in Brasov – Romania*, 25th EU PVSEC – 25th European Photovoltaic Solar Energy Conference and Exhibition, Valencia Spain, 2010, ISBN 3-936338-26-4, pg. 4491-4496
22. **Burduhos B.G.**, Diaconescu D.V., Vișa I., Duță A., *Electrical Response of an Optimized Oriented Photovoltaic System*, OPTIM 2010 – 12th International Conference on Optimization of Electrical and Electronic Equipment, Brașov, Romania, 2010, ISBN 978-973-131-080-0, pg. 1138-1145. DOI: 10.1109/OPTIM.2010.5510520
23. **Burduhos B.G.**, Vișa I., Diaconescu D.V., Saulescu R.G., *Novel Orientation Step-Program of a Pseudo-Equatorially Tracked PV Panel*, 24th EU PVSEC - 24th European Photovoltaic Solar Energy Conference and Exhibition, Hamburg, Germany, 2009, ISBN 3-936338-25-6, pg. 3835-3843. DOI: 10.4229/24thEUPVSEC2009-4BV.1.76
24. Vișa I., Diaconescu D.V., Popa V.M., **Burduhos B.G.**, *Quantitative Estimation of the Solar Radiation Loss in the Brașov Area*, Environmental Engineering and Management Journal, 2009, 8 (4), ISSN 1582-9596, pg. 843-847 (FI=1,258)
25. **Burduhos B.G.**, Diaconescu, D., Saulescu R., *Comparison Between Single-Axis PV Trackers of Pseudo-Equatorial and Azimuthal Type*, Bulletin of the Transilvania University of Brasov, Romania, 2008, Vol.15(50), ISSN 2065-2119 (Print), ISSN 2065-2127 (CD-ROM), pg. 81-86
26. **Burduhos B.G.**, Diaconescu D., Saulescu, R., *The Synthesis of a Planar Linkage Used to Drive the Daily Motion of a Solar Tracker*, MTM 2008 - International Conference on Mechanisms and Mechanical Transmissions, Timisoara, Romania, 8-10 octombrie, ISSN 1224-6077, pg. 17-20

Projects (5 director out of 18)

1. *Maximizing the energy produced by building integrated photovoltaic systems according to the climatic profile, modules type and tracking algorithm*, UEFISCDI, PN-II-RU-TE-2014-4-1763, contract nr. 131 / 01.10.2015, value 550.000 RON, director / 1.10.2015-30.11.2017;
2. *Effect of clouds on solar radiation (ECSOL – PROGNOISIS)*; UEFISCDI, Capacități, Modulul III – Cooperări Bilaterale, contract nr. 765/30.04.2014, value: 42.620 RON, director / 1.05.2014-31.12.2015;
3. *Experimental Study Regarding the Increase of Received Solar Energy through Orientation; user of the THEMIS Facility at 'PROMES-CNRS' Institute, France, within the framework of the EU-DG RTD's Solar Facilities for the European Research Area (SFERA) project; European Commission grant agreement n° 228296; (€ 28,248.61); coordinator / October 2012;*
4. Postdoctoral research program entitled: *Sequential tracking algorithm for photovoltaic systems*, funded between 01.06.2010 - 05.31.2013 by the European Social Fund, Human Resources Development Operational Programme 2007 - 2013, in the frame of the Postdoctoral Fellowships in Sustainable Development Project – POSTDOC- DD, contract number POSDRU / 89/1.5/S/59323, budget: € 39,386.36

Patents

5. *Optimization of pseudo-equatorial tracking mechanisms used for increasing the conversion efficiency of individual photovoltaic modules, developed in the Transilvania University of Braşov, CNCSIS, TD: 149/2007; contract nr. 137/01.10.2007; value 33.138,00 RON; director / 2007-2009;*
1. *Monoaxial tracking mechanism with two linear actuators in parallel for photovoltaic strings, Patent no. 128315 / 30.12.2020.*
2. *Modular solar thermal collector for optimizing through conversion efficiency testing and increasing architectural acceptance, Patent no. 130275 / 30.06.2020.*
3. *Articulated steering mechanism with gear wheels, Patent no. 126230 / 30.12.2016.*
4. *Monoaxial tracking mechanism with two linear actuators, Patent no. 127979 / 30.05.2016.*
5. *Planetary transmissions with double satellite and chains, Patent no. 126694 / 28.08.2015.*
6. *Tracking mechanism, Patent no. 126335 / 30.05.2014.*
7. *Tracking mechanism, Patent no. 125253 / 30.12.2011.*
8. *Bimobile articulated parallel type mechanism for tracking solar converters at any latitude, Patent proposal no. A/00080 / 09.02.2018*
9. *Stand with controlled climate parameters for testing solar converters, Patent proposal no. A1001009 / 29.11.2017*
10. *System of modular polygonal planar solar panels for integration into facades, Patent proposal no. A/00156 / 18.02.2013.*
11. *Tracking mechanism with articulated bars and planetary gear, Patent proposal no. A/00391 / 01.06.2012.*

Monographies

1. Vişa I., Duţă A., Moldovan M.D., Burduhos B.G., Neagoe M., *Solar Energy Conversion Systems in the Built Environment*, Springer, 2020, ISBN 978-3-030-34829-1
2. Burduhos B.G., Moldovan M.D., *Controlul sistemelor de energii regenerabile*, Editura Universităţii Transilvania, Braşov, 2016, ISBN 978-606-19-0731-1
3. Vişa I., Jaliu C., Duta A., Neagoe M., Comsit M., Moldovan M., Ciobanu D., Burduhos B., Saulescu R., *The Role of Mechanisms in Sustainable Energy Systems*, Ed. Universitatii Transilvania din Brasov, 2015, ISBN 978-606-19-0571-3, co-autor la capitoul 3.3.1, 3.3.2.
4. Maria Monica VĂTĂŞESCU, Macedon Moldovan DUMITRU, Bogdan Gabriel BURDUHOS, *Sisteme articulate pentru orientare solară*, Editura Universităţii Transilvania, Braşov, 2011, ISBN 978-973-598-946-0
5. Ion VIŞA, Anca DUŢĂ, *Sustainable Energy*, Editura Universităţii Transilvania, Braşov, 2008, ISBN 978-973-598-454-0, co-author at chapter 2.2.1.3