



BARTOSZ STANEK

Renewable Energy Engineer / Researcher

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SUMMARY STATEMENT

Enthusiast of renewable energy sources, energy storage and new technologies, power engineer with specialisation in solar PV and thermal. Five years of experience working in an international group as a researcher and collaborating with industry, with practical and theoretical skills in research and modelling of renewable energy technologies. Author of a PhD thesis, whose public defence is soon about to take place. An ambitious engineer who values collaboration, development and constant learning.

CORE QUALIFICATIONS

- Theoretical and practical knowledge of renewable energy sources and technologies
- Energy systems modelling
- Energy systems algorithms development
- Optimisation and feasibility studies
- Theoretical and practical expertise in assessing energy potential
- Experience in processing data primarily weather for RES calculation algorithms
- Experience in data visualisation supported by numerous scientific articles
- Experience in conducting long-term analyses
- Practical measurement knowledge and an interest in working in the field
- Strong knowledge of engineering principles and practices (thermodynamics, heat transfer)
- A logical mindset supported by solid technical knowledge
- Experience in cooperation with the industry sector
- Thinking out of the box
- Proficiency in spoken and written English
- Teamwork skills in large and small groups
- Experience in international cooperation
- Willingness to work with specialists and seek continuous development and learning
- Fundamentals of programming (VBA and Matlab)
- Desire for ongoing development and further qualification

EDUCATION

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| 2019 - now | Doctor of Philosophy (Candidate) / Environmental Engineering, Mining and Energy Silesian University of Technology, PL, Doctoral School, Department of Power Engineering and Turbomachinery Doctoral thesis title: "Multi-variant experimental and numerical analysis of selected design and energetic aspects of parabolic trough collectors" - Submitted, waiting for defence date |
| 2018 - 2019 | Master of Science / Power Engineering Silesian University of Technology, PL, Faculty of Energy and Environmental Engineering |
| 2014 - 2018 | Bachelor of Science / Power Engineering Silesian University of Technology, PL, Faculty of Energy and Environmental Engineering |

WORK EXPERIENCE

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| 2019 - now | Energy Researcher and Lecturer Silesian University of Technology, PL <ul style="list-style-type: none">• conducting research on renewable energy sources and energy storage systems• comprehensive design and construction of test stands and conduction experimental research• development and validation of mathematical models of various energy technologies• evaluation studies of renewable technology applications• research results presentation at national and international conferences• providing lectures and laboratory classes on renewable energy topics |
| 2022 - 2022 | Visiting Researcher KTH Royal Institute of Technology, SE <ul style="list-style-type: none">• 3 - months visiting research at Department of Energy Technology• development of a method to reduce the investment cost of solar parabolic trough collectors• scientific consultant for the design of a solar simulator for testing photovoltaic panels |

PROJECTS AND GRANTS

- 2019 - 2023 **Research on the absorption phenomenon in the aspect of optimization of constructional features of absorbers and their configuration in the system of solar parabolic through collectors / Contractor**
Project OPUS15, National Science Centre, Krakow, PL
- 2019 - 2023 **Interdisciplinary doctoral school, P4S Power for Student Staff Science / Contractor**
European Social Fund
- 2021 - 2022 **Compressed carbon dioxide energy storage system using a ground-based isobaric tank installation / Principal Investigator**
Silesian University of Technology, BKM Project
- 2019 - 2020 **Experimental studies of heat recovery from grey water through a heat exchanger with a displacement element - based on SUT patent / Principal Investigator**
Silesian University of Technology, IDUB Project

PUBLICATIONS

I am the author of 12 scientific articles on renewable energy and energy storage topic. The most significant papers published in highly valuable scientific journals are:

- **B. Stanek**, W. Wang, Ł. Bartela; *A potential solution in reducing the parabolic trough based solar industrial process heat system cost by partially replacing absorbers coatings with non-selective ones in initial loop sections*; Applied Energy; 2023
- **B. Stanek**, K. Grzywnowicz, Ł. Bartela, D. Węcel, W. Uchman; *A system analysis of hybrid solar PTC-CPV absorber operation*; Renewable Energy; 2021
- **B. Stanek**, D. Węcel, Ł. Bartela, S. Rulik; *Solar tracker error impact on linear absorbers efficiency in parabolic trough collector - Optical and thermodynamic study*; Renewable Energy; 2022
- Ł. Bartela, A. Skorek-Osikowska, S. Dykas, **B. Stanek**; *Thermodynamic and economic assessment of compressed carbon dioxide energy storage systems using a post-mining underground infrastructure*; Energy Conversion and Management; 2021

CONFERENCES

I participated in 8 international scientific conferences, which resulted in 17 conference presentations. The selected conferences are as follows:

- 17th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES22), Cyprus
- 7th International Conference Contemporary Problems of Thermal Engineering : Towards sustainable & decarbonized energy system (CPOTE22), Warsaw, Poland
- XV Research and Development in Power Engineering Conference (RDPE21), Warsaw, Poland
- 34th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS21), Taormina, Italy
- 15th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES20), Cologne, Germany

LICENSES AND CERTIFICATIONS

- G1/D+E Supervision and exploitation -ELECTRICAL-
- G2/E Exploitation -HEAT-
- G3/E Exploitation -GAS-
- Autodesk: Certified User Inventor

SOFTWARE

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|-------------------------------|-------------------|
| • SolidWorks | • MS Office + VBA |
| • APEX - ray tracing software | • EES |
| • AutoCAD | • Matlab |

HOBBIES

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| • Gravel cycling | • 3D printing |
| • Scuba diving | • Travels |