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Short Biography

Penka Zlateva is an Associate Professor of Industrial Thermal Engineering at the Technical University of Varna, Bulgaria. She obtained her master's degree in Marine Technology from the Nikola Vaptsarov Naval Academy. She completed her Ph.D. in Theoretical Thermal Engineering at the same university in 2009. In 2010, she assumed the role of Chief Assistant in the Department of Thermal Engineering and Management at the Technical University, Varna. From 2015 to 2023, she served as the Vice Dean of the Shipbuilding Faculty, and she has been the Dean of the Shipbuilding Faculty since 2023. Her areas of expertise include materials engineering, porous materials, gasification, combustion, heat and mass transfer, thermodynamics, renewable energy resources, and energy efficiency. She has pursued specializations in materials, fuel technology, energy efficiency, and renewable energy resources in France, Greece, and Romania. She has also contributed as a guest lecturer at Constantin Brancusi University of Tg-Jiu, Romania, and served as a member of the review committee for the journal Sustainability and Resources. She is the author of more than 120 scientific publications, with over 50 indexed in Scopus, Web of Science, and other databases.

Research Keywords

Combustion

Energy Efficiency

Gasification

Porous Materials

Thermodynamics

energy efficiency

Heat & Mass Transfer

Renewable Energy Resources

Career Timeline



Others

Technical University of Varna

March 2010 - Present



Publications



Journal Article

Optimizing Sunflower Husk Pellet Combustion for B2B Bioenergy Commercialization

07 August 2025

Energies



Journal Article

Methods for Enhancing Energy and Resource Efficiency in Sunflower Oil Production: A Case Study from Bulgaria

06 August 2025

Eng



Journal Article

Market Research on Waste Biomass Material for Combined Energy Production in Bulgaria: A Path Toward Enhanced Energy Efficiency

05 August 2025

Energies



Conference Paper

An analysis of the physicochemical properties of wheat straw pellets for bioenergy applications

01 August 2025

IOP Conference Series: Earth and Environmental Science



Conference Paper

CFD-based analysis of wood pellet combustion in a domestic boiler (small-scale)

01 August 2025

IOP Conference Series: Earth and Environmental Science



Journal Article

Numerical Study on Tree Belt Impact on Wind Shear on Agricultural Land

02 July 2025

Applied Sciences



Journal Article

Research on the Combustion of Mixed Biomass Pellets in a Domestic Boiler

21 May 2025

Fuels



Journal Article

Research on the Efficiency of Solid Biomass Fuels and Consumer Preferences in Bulgaria

03 March 2025

Fuels



Conference Paper

CFD modeling of airflow distribution in high-rise warehouse

22 January 2025

E3S Web of Conferences



Journal Article

Influence of Limestone Dust on PV Panel Efficiency in a Small Solar Park in Bulgaria

09 January 2025

Eng



Conference Paper

Analysis of the Bulgarian Heating Fuel Market, with Focus on Hydrogen Use

20 November 2024



Journal Article

Consumer preferences for solid biomass fuels for energy purposes

16 November 2024

International Journal of Renewable Energy Development



Journal Article

NUMERICAL SIMULATION OF DOUBLE SKIN FACADES IN WINTER CLIMATES

06 November 2024

Journal of Chemical Technology and Metallurgy



Journal Article

REDUCING THE CARBON FOOTPRINT IN THE CONSTRUCTION SECTOR BY REPLACING CERAMIC BRICKS WITH ALTERNATIVE MATERIALS

06 November 2024

Journal of Chemical Technology and Metallurgy



Journal Article

Sustainable Solutions for Energy Production from Biomass Materials

05 September 2024

Sustainability



Conference Paper

Analyses of the energy efficiency enhancement in Bulgarian health care premises

17 July 2024

E3S Web of Conferences



Preprint

Research on Solid Biomass Fuels Efficiency and Consumer Pref-Erences in Bulgaria

14 May 2024

Preprints.org



Journal Article

Enhancing the Fermentation Process in Biogas Production from Animal and Plant Waste Substrates in the Southeastern Region of Bulgaria

29 March 2024

Fermentation



Other

Evaluation of the Effect of Energy Efficient Measures Applied in Public-Service Buildings

16 January 2024

Engineering Proceedings



Conference Paper

Energy Characteristic Analyses of Waste Wood Pellets

23 November 2023



Conference Paper

Energy use Assessment, After the Implementation of Energy-Saving Measures in School Buildings

26 October 2023



Conference Paper

Thermal characteristics analyses of clay bricks with wheat straw additives

01 August 2023

IOP Conference Series: Earth and Environmental Science



Conference Paper

Research of the energy parameters of the most demanded wood biomass pellets on Bulgarian market

01 August 2023

-  Conference Paper
Methodology for energy savings assessment, at engine oil change of road vehicles
24 July 2023
-  Conference Paper
Methodology for energy savings estimation, resulting from the development of a procedure for air pressure check in vehicle tires
01 May 2023
IOP Conference Series: Earth and Environmental Science
-  Conference Paper
Analysis of the opportunities for using energy from renewable sources in Bulgaria
01 January 2023
IOP Conference Series: Earth and Environmental Science
-  Journal Article
Influence of the polyester non-wovens production type on their thermal and flammability properties
13 June 2022
Journal of Engineering and Applied Science
-  Conference Paper
Electronic measuring system design for photovoltaic panels analysis
22 November 2021
E3S Web of Conferences
-  Conference Paper
Determination of the optimal air-fuel ratio for upgraded biogas engine operation
22 November 2021
E3S Web of Conferences
-  Conference Paper
Cost analysis at different energy sources for heating of an air-supported dome for indoor tennis
12 July 2021
-  Conference Paper
Study of regime parameters of the fermenter in the production of biogas from animal liquid waste materials
12 July 2021



Conference Paper

Study of the possibilities for using methane as a transport fuel through biomass gasification process

24 March 2021



Conference Paper

A SI engine performance parameters determination for gasoline and methane operation

01 January 2021

IOP Conference Series: Materials Science and Engineering



Conference Paper

An analysis of the potential use of waste materials for biogas plant development

01 January 2021

IOP Conference Series: Materials Science and Engineering



Journal Article

A Comparative Thermal Analysis of Walls Composed of Traditional and Alternative Building Materials

01 December 2020

Civil and Environmental Engineering



Conference Paper

Research on the performance characteristics of rapeseed oil for its use as a diesel fuel additive

01 December 2020

IOP Conference Series: Materials Science and Engineering



Conference Paper

Electronic equipment measuring device for heat quantity through a flat wall

18 November 2020



Conference Paper

A study of the thermal properties of an alternative straw-containing building material

18 November 2020



Conference Paper

Analysis of combustion efficiency at boilers operating on different fuels


12 November 2020



Conference Paper

An Analysis of Energy Resources in Bulgaria and Romania

01 June 2020

-  Conference Paper
Investigation the influence of surface topography on scattering ability of aluminium reflectors from infrared quartz heater
01 October 2019
IOP Conference Series: Materials Science and Engineering
-  Conference Paper
Comparative analysis of the study of microclimate parameters in wooden houses in North-Eastern Bulgaria
01 September 2019
IOP Conference Series: Materials Science and Engineering
-  Conference Paper
Possibilities of using algae for renewable energy production in the Black sea region
01 September 2019
-  Conference Paper
Possible Uses of Biogas for Power Purposes
01 September 2019
-  Conference Paper
Experimental study of heat pump type air-water for heating system performance
20 August 2019
E3S Web of Conferences
-  Conference Paper
Optimization of biogas composition in experimental studies
20 August 2019
E3S Web of Conferences
-  Journal Article
An Analysis of the Structure and Thermal Conductivity of Hollow Microsphere Filled Syntactic Foams
01 June 2019
Civil and Environmental Engineering
-  Journal Article
Thermal Properties of a New Pavement Material for Using in Road Construction
01 December 2018
Civil and Environmental Engineering
-  Other

ENERGY MANAGEMENT IN PELLETS PRODUCTION PLANTS

20 June 2018



Conference Paper

Testing and clearing the high temperature module error from 0 to 1250°C for measurement with 16 K-type thermocouples

01 June 2018



Book Chapter

An Approach for Monitoring Transport and Delivery Chain of Liquid Fuels in Bulgaria

30 September 2017



Book Chapter

Determination of the Temperature of Cathode Unit of Indirect Plasma Burner Through a Computer Simulation Model

30 September 2017



Journal Article

Thermal Insulating Properties of Straw-Filled Environmentally Friendly Building Materials

01 June 2017

Civil and Environmental Engineering



Contributions



Reviewed Papers

Sensors

Number of Total Reviewed Papers in Each Journal: **1**

Energies

Number of Total Reviewed Papers in Each Journal: **5**

Sustainability

Number of Total Reviewed Papers in Each Journal: **4**

Buildings

Number of Total Reviewed Papers in Each Journal: **4**

Applied Sciences

Number of Total Reviewed Papers in Each Journal: **4**

Agriculture

Number of Total Reviewed Papers in Each Journal: **5**

ChemEngineering

Number of Total Reviewed Papers in Each Journal: **1**

Processes

Number of Total Reviewed Papers in Each Journal: **2**

Horticulturae

Number of Total Reviewed Papers in Each Journal: **1**

Modelling

Number of Total Reviewed Papers in Each Journal: **1**

Fire

Number of Total Reviewed Papers in Each Journal: **1**

AgriEngineering

Number of Total Reviewed Papers in Each Journal: **1**

Hydrogen

Number of Total Reviewed Papers in Each Journal: **1**

Thermo

Number of Total Reviewed Papers in Each Journal: **2**

Resources

Number of Total Reviewed Papers in Each Journal: **1**

Dynamics

Number of Total Reviewed Papers in Each Journal: **1**

