



ACADEMIC TEACHER PROFESSIONAL EXPERIENCE

DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

1. Basic information

Name, surname:	Renata Krzyżyńska
Grade / Title:	Dr hab. inż./prof. uczelni
Scientific discipline	inżynieria środowiska, górnictwo i energetyka / environmental engineering, mining, and energy
Faculty:	W7 Wydział Inżynierii Środowiska / Faculty of Environmental Engineering
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2. Publication record

Up to 10 most important papers published over the period of previous 10 years.

No.	Description (authors, publication title, journal / conference, DOI)	Publication year
1.	Bartosz Dziejarski, Renata Krzyżyńska , Klas Andersson: <i>Current status of carbon capture, utilization, and storage technologies in the global economy: a survey of technical assessment</i> . Fuel (Guildford). 2023, vol. 342, art. 127776, s. 1-38. Wydawca: Elsevier	2023
2.	Nina Kossinińska, Renata Krzyżyńska , Heba Ghazal, Hussam Jouhara: Hydrothermal characterization of sewage sludge and resulting biofuels as a sustainable energy source. Energy. 2023, vol. 275, 127337. Wydawca: Elsevier	2023
3.	Bartosz Dziejarski, Jarosław Serafin, Klas Andersson, Renata Krzyżyńska : <i>CO₂ Capture Materials: A Review of Current Trends and Future Challenges</i> . Materials Today Sustainability (Elsevier). 2023. Available online 28 July 2023, 100483. Wydawca: Elsevier	2023
4.	Dina Czajczyńska, Renata Krzyżyńska , Heba Ghazal, Hussam Jouhara: <i>Experimental investigation of waste tyres pyrolysis gas desulfurization through absorption in alkanolamines solutions</i> . International Journal of Hydrogen Energy. 2022, s. 1-9. Wydawca: Elsevier	2022
5.	Dina Czajczyńska, Renata Krzyżyńska , Hussam Jouhara: <i>Hydrogen sulfide removal from waste tyre pyrolysis gas by inorganics</i> . International Journal of Hydrogen Energy. 2022, s. 1-15. Wydawca: Elsevier	2022
6.	Zbyszek Szeliga, Stanislav Honus, Zuzana Vávrová, Petr Jirsa, Vaclav Veselý, Milan Carsky, Milan Vujanovic, Paweł Regucki, Renata Krzyżyńska : <i>Effect of HCl on a sorption of mercury from gas evolved during incineration of hospital waste using entrained flow adsorbers</i> . Waste Management. 2022, vol. 140, s. 74-80. Wydawca: Elsevier	2022
7.	Tymoteusz Świeboda, Renata Krzyżyńska , Anna Bryszewska-Mazurek, Wojciech Mazurek, Tomasz Czaplinski, Aleksander Przygoda: <i>Advanced</i>	2020



	<i>approach to modeling of pulverized coal boilers for SNCR process optimization – review and recommendations.</i> International Journal of Thermofluids. 2020, vol. 7/8, art. 100051, s. 1-18. Wydawca: Elsevier	
8.	Tomasz Wypiór, Renata Krzyżyńska : <i>Effect of ammonia and ammonium compounds on wet-limestone flue gas desulfurization process from a coal-based power plant – Preliminary industrial scale study.</i> Fuel (Guildford). 2020, vol. 281, art. 118564, s. 1-9 Wydawca: Elsevier	2020
9.	Renata Krzyżyńska , Zbyszek Szeliga, Lukáš Pilar, Karel Borovec, Paweł Regucki: <i>High mercury emission (both forms: Hg⁰ and Hg²⁺) from the wet scrubber in a full-scale lignite-fired power plant.</i> Fuel (Guildford). 2020, vol. 270, art. 117491, s. 1-10. Wydawca: Elsevier	2020
10.	Renata Krzyżyńska , Nick D. Hutson, Y. Zhao, Zbyszek Szeliga, Paweł Regucki: <i>Mercury removal and its fate in oxidant enhanced wet flue gas desulphurization slurry.</i> Fuel (Guildford). 2018, vol. 211, s. 876-882. Wydawca: Elsevier	2019

3. Projects and grants

List of the most important 5 projects/grants with basic description including: title, source(s) of funding, name of the call, role in the project (e.g., principal investigator).

1.	Role in the project (e.g., principal investigator, work package leader, etc.)	Principal investigator
	Project title	<i>Reduction of Hg, HCl and HF Concentrations from Large Industrial Sources. Task: Mercury re-emission and its mechanisms</i>
	Sources of funding	Technology Agency in Czech Republic, program Theta, ČEZ group and VSB- Technická Univerzita Ostrava, International Industrial Project-Centrum ENET
	Name of the call	Technology Agency in Czech Republic, program Theta
	Implementation period	2018-2019
2.	Role in the project (e.g., principal investigator, work package leader, etc.)	Work package leader
	Project title	<i>Opracowanie niskonakładowej metody zwiększenia skuteczności instalacji odsiarczania spalin</i>
	Sources of funding	NCBiR-Rafako S.A.
	Name of the call	INNOCHEM
	Implementation period	2017-2020
3.	Role in the project (e.g., principal investigator, work package leader, etc.)	Work package leader
	Project title	<i>Research in the field of CO₂ capture from combustion processes (CCS-carbon capture and storage) using biomass – so-called Bio-CCS, and also with utilization of the captured CO₂ – Bio-CCU. Research Centre for Low-Carbon Energy Technologies (Bio-CCS/U)</i>
	Sources of funding	Ministry of Education, Youth and Sports; and Department of Energy Engineering, Czech Technical University in Prague



	Name of the call	
	Implementation period	2018-2023
4.	Role in the project (e.g., principal investigator, work package leader, etc.)	Contractor
	Project title	<i>The Microscopic Home Energy Recovery Unit (HERU)</i>
	Sources of funding	Manik Ventures Limited
	Name of the call	Performance and design optimisation of the HERU waste treatment system; and Design Optimisation of the HERU Waste treatment system
	Implementation period	2017-2018
5.	Role in the project (e.g., principal investigator, work package leader, etc.)	Principal Investigator
	Project title	<i>Multipollutant Scrubber Simulator (MSS)</i>
	Sources of funding	US EPA (Office of Air and Radiation (OAR) and Office of Research and Development (ORD)
	Name of the call	MSS
	Implementation period	2007-2009

4. International experience

Brief description of international cooperation and experience (e.g., research stays, cooperation with foreign entities, coordination or participation in international projects or programmes, keynote speeches and presentations delivered at renowned international conferences, visiting professor stays, invited lectures).

No.	Description	Year(s)
1.	Brunel University London, Institute of Energy Futures, College of Engineering, Design and Physical Sciences: <i>member of a research team, implementation of joint scientific projects, co-supervisor of doctoral proceedings</i>	2016- current
2.	-Chalmers University, Department of Space, Earth and Environment, Energy Technology, and - Department of Chemistry and Chemical Engineering, Division of Energy and Materials, Chalmers University of Technology, Goteborg, Sweden <i>member of a research team, implementation of joint scientific projects, co-supervisor of doctoral proceedings</i>	2020-current
3.	Czech Technical University in Prague, Faculty of Mechanical Engineering, Department of Energy Engineering <i>Part-time employment - member of a research team, implementation of joint scientific projects</i>	2017- current
4	U.S. Environmental Protection Agency (U.S. EPA), Office of Research and Development, National Risk Management Research Laboratory (NRMRL), Air Pollution Prevention and Control Division, Research Triangle Park, North Carolina, USA <i>– Postdoctoral Fellowship (POSTDOC)-financed by U.S. Department of Energy (US DOE) i The Oak Ridge Institute for Science and Education (ORISE)</i>	2007-2009 (POSTDOC)
5	U.S. Environmental Protection Agency (U.S. EPA), Office of Research and Development, National Risk Management Research Laboratory (NRMRL), Air	2010-2011 (visiting scientist)



	Pollution Prevention and Control Division, Research Triangle Park, North Carolina, USA - visiting scientist – financed by U.S. EPA and MNiSzW	
6	Stanford University, California, USA and SLAC - National Accelerator Laboratory – “Top 500 Innovators”	2013

5. Experience in teaching doctoral students

Brief description of experience in teaching doctoral students (e.g., courses in doctoral schools and PhD studies, summer/winter schools for doctoral students, tutorials, trainings, etc.).

No.	Description	Year(s)
1.	Research Skills	2018-current
2.	Business, Science, Innovation	2015-2018
3.	Cooperation of science and business	2021

6. List of supervised doctoral students

List of all supervised doctoral students that defended the PhD including: name of the student, dissertation title, year of awarding PhD.

No.	Name, surname	Dissertation title	Year of awarding PhD
	Tymoteusz Świeboda (InterDok - Interdisciplinary Doctoral Studies Programs)	Modeling of thermal-chemical phenomena in the combustion chambers of power boilers	2023
1.	Dina Czajczyńska	Desulphurization of pyrolysis gas generated as a result of thermal utilization of used tires	2022

7. Prizes and awards

The most important national and international prizes and awards related to research, development and teaching activities.

8. Other significant achievements

Information on other significant achievements related to research, development and teaching activities.