Candidate supervisor's information summary form
maximum 2 pages – it should be a summary of most important achievements

Magdalena Michel, PhD, DSc, prof. WULS	
Academic discipline/disciplines	environmental engineering, mining and energy
Professional development (degrees and titles) in chronological order	2022 – university professor position 2019 – DSc in the field of environmental engineering, mining and energy 2008 – PhD in the field of environmental improvement
Most important publications/ patents in the last 3 years (maximum 10)	• Michel MM, Azizi M, Mirosław-Świątek D, Reczek L, Cieniek B, Sočo E. Significance of MnO2 Type and Solution Parameters in Manganese Removal from Water Solution. International Journal of Molecular Sciences. 2023; 24(5):4448. https://doi.org/10.3390/ijms24054448 • Sočo E., Domoń A., Papciak D., Michel M., Pająk D., Cieniek B., Azizi M.: Characteristics of Adsorption/Desorption Process on Dolomite Adsorbent in the Copper(II) Removal from Aqueous Solutions, Materials vol. 16, nr 13, 2023, DOI:10.3390/ma16134648 • Sočo, E., Domoń, A., Papciak, D., Michel, M., Cieniek, B., Pająk, D. (2022). Characteristics of the Properties of Absodan Plus Sorbent and Its Ability to Remove Phosphates and Chromates from Aqueous Solutions. Materials, 15, 1–21. https://doi.org/10.3390/ma15103540 • Procesy technologiczne oczyszczania wody i ścieków. Laboratorium. Lidia Reczek, Magdalena M. Michel, Tadeusz Siwiec. Wydawnictwo SGGW, Warszawa 2022, ISBN 978-83-8237-136-9 • Sočo E, Papciak D, Michel M, Pająk D, Domoń A, Kupiec B. Characterization of the Physical, Chemical, and Adsorption Properties of Coal-Fly-Ash–Hydroxyapatite Composites, Minerals, 2021;11(7):1–19 • Trach Y, Tytkowska-Owerko M, Reczek L, Michel M. Comparison the adsorption capacity of ukrainian tuff and basalt with zeolite-manganese removal from water solution. Journal of Ecological Engineering. 2021;22(3):161–168 • Trach Y, Melnychuk V, Michel M, Reczek L, Siwiec T, Trach R. The Characterization of Ukrainian Volcanic Tuffs from the Khmelnytsky Region with the Theoretical Analysis of Their Application in Construction and Environmental Technologies, Materials, 2021;14(24):1–19
Experience in work with doctoral students (defended doctoral	doctoral dissertation in progress "Nickel adsorption in the processes of iron and manganese removal from groundwater"

dissertations, initiated doctoral procedures) in chronological order	doctoral dissertation in progress “Role of manganese dioxide polymorphs in heavy metals removal from groundwater”
Achievements in the area of projects/grants (in the last 5 years)	• „The significance of MnO_x type in removal of manganese from water” NCN project, Miniatura 4, Nr 2020/04/X/ST8/00554, 2020-2021, finished • „Improving the auto-activation of deposits treating groundwater through the use of melaphyre”, pre-implementation project in "Inkubator Innowacyjności+" Programme, No. MNISW/2017/DIR/36/II+, • „Application of advanced oxidation processes in the technology of water recovery from industrial wastewater”, internship research project for research workers in enterprises No. UDA-POKL.08.02.01-14-021/12-00, • COST Action ES1403 “New and emerging challenges and opportunities in wastewater reuse – NEREUS” • „The use of advanced oxidation for flowback treatment”, SGGW research project for young scientists No. 505-10-052500-K00333-99 • 10 scientific and technical expertise relating to water and wastewater treatment on order from external entities: municipalities, industrial enterprises (PKN Orlen S.A., Synthos S.A., Döhler), foundations (Greenpeace Polska), • 2 implementation of technological studies at the groundwater treatment plants in Seroczyn and in Roztropna, the implementation in water-sewage management in Döhler industrial plant
Subject area of the research project for which the candidate student is being recruited	Research topics in the field of technological processes of water and wastewater treatment and issues related to water recovery: • natural mineral materials in water and wastewater technology • the role of manganese dioxide polymorphs in the groundwater purification from organic pollutants in AOPs • conditions of heavy metal and organic compounds desorption from mineral sorbents • process conditions of quaternary wastewater treatment systems
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