


Curriculum Vitae

Personal Information	Name	Wojciech Smulek	Gender	Male	
	Academic Title	PhD			
	College	Institute of Chemical Technology and Engineering, Poznan University of Technology, Poznan, Poland			
	Discipline	chemistry			
	Email	wojciech.smulek@put.poznan.pl			
	Mail Add.	ul. Berdychowo 4, 60-965 Poznań, Poland			
Educational Background	<ul style="list-style-type: none"> • Doctor of Philosophy in Chemical Technology graduated: October 2017 Poznan University of Technology Dissertation title: Impact of the Sapindus mukorossi fruits extract on biodegradation of halogenated aromatic compounds Supervisor: Prof. Ewa Kaczorek 				
	<ul style="list-style-type: none"> • Master of Science in Chemical Technology and Engineering graduated: June 2013 Poznan University of Technology / Institute of Bioorganic Chemistry - Polish Academy of Sciences Dissertation title: Isolation and analysis of enzymes from the class of bacterial oxidoreductases Supervisors: Prof. Andrzej Olszanowski and Prof. Maciej Stobiecki 				
	<ul style="list-style-type: none"> • Bachelor of Science in Chemical Technology and Engineering graduated: February 2012 Poznan University of Technology Dissertation title: Simulation of flow phenomena in multiphase systems using CFD technique Supervisor: Maciej Staszak, PhD 				
Working Experience	<ul style="list-style-type: none"> • Assistant Professor October 2019 - present Poznan University of Technology, Institute of Chemical Engineering and Technology / Department of Organic Chemistry 				
	<ul style="list-style-type: none"> • Research assistant October 2017 – September 2019 				

	<p>Poznan University of Technology, Institute of Chemical Engineering and Technology / Department of Organic Chemistry</p> <ul style="list-style-type: none"> • PhD Student October 2013 – October 2017 <p>Poznan University of Technology, Faculty of Chemical Technology</p> <ul style="list-style-type: none"> • Internship in Research Laboratory May 2015 – July 2015 <p>“Prote – Technologies for Environment”, Poznań, Poland</p> <ul style="list-style-type: none"> • Internship in Research Laboratory April 2015 <p>Department of Biochemistry, University of Silesia in Katowice, Poland</p> <ul style="list-style-type: none"> • Internship in Research Laboratory February 2015 <p>Institute of Natural Resources and Agrobiology of Seville - IRNAS - CSIC, Sevilla, Andalusia, Spain</p>
<p>Research Interests</p>	<p>Natural surfactants of plant and bacterial origin, interfacial phenomena with surfactants, emulsions based on natural products, bacteria cell surface properties, bacterial membranes, bioremediation of persistent organic pollutants,</p>
<p>Major Publications*</p>	<ol style="list-style-type: none"> 1) A. Zdarta, <u>W. Smulek</u>, E. Kaczorek (2020) <i>Multilevel changes in bacterial properties on long-term exposure to hydrocarbons and impact of these cells on fresh-water communities</i>, Science of the Total Environment, 729, 138956 2) <u>W. Smulek</u>, A. Zdarta, A. Grzywaczyk, U. Guzik, K. Siwińska-Ciesielczyk, F. Ciesielczyk, B. Strzemiecka, T. Jesionowski, A. Voelkel, E. Kaczorek (2020) <i>Evaluation of the physico-chemical properties of hydrocarbons-exposed bacterial biomass</i>, Colloids and Surfaces B-Biointerfaces, 196, 111310-1-111310-10 3) M. Rojewska, <u>W. Smulek</u>, K. Prochaska, E. Kaczorek (2020) <i>Combined effect of nitrofurantoin and plant surfactant on bacteria phospholipid membrane</i>, Molecules, 25, 11, 2527. 4) M. Jarzębski, <u>W. Smulek</u>, H.M. Baranowska, Ł. Masewicz, J. Kobus-Cisowska, M. Ligaj, E. Kaczorek (2020) <i>Characterization of St. John's wort (Hypericum perforatum L.) and the impact of filtration process on bioactive extracts incorporated into carbohydrate-based hydrogels</i>, Food Hydrocolloids, 104, 105748 5) <u>W. Smulek</u>, A. Pacholak, E. Kaczorek (2020) <i>Modification of the Bacterial Cell Wall—Is the Bioavailability Important in Creosote Biodegradation?</i> Processes, 8, 147 6) R. Frankowski, A. Zgoła-Grześkowiak, <u>W. Smulek</u>, T. Grześkowiak (2020) <i>Removal of Bisphenol A and Its Potential Substitutes by Biodegradation</i>, Applied Biochemistry and Biotechnology https://doi.org/10.1007/s12010-020-03247-4 7) A. Zdarta, <u>W. Smulek</u>, A. Pacholak, B. Dudzińska-Bajorek, E. Kaczorek (2020) <i>Surfactant addition in diesel oil degradation – how can it help the microbes?</i> Journal of Environmental Health Science and Engineering 8) <u>W. Smulek</u>, M. Sydow, J. Zabielska-Matejuk, E. Kaczorek (2020) <i>Bacteria involved in biodegradation of creosote PAH – a case study of longterm contaminated industrial area</i>, Ecotoxicology and Environmental Safety, 187, 109843-1-10 9) E. Rykiel, <u>W. Smulek</u>, A. Zdziennicka, E. Kaczorek, B. Jańczuk (2020) <i>Wetting properties of Saponaria officinalis saponins</i> Colloids and Surfaces A, 584, 123980-1-7 10) M. Jarzębski, <u>W. Smulek</u>, P. Siejak, J. Kobus-Cisowska, D. Pieczyrak, H.M. Baranowska, J. Jakubowicz, M. Sopata, T. Białopiotrowicz, E. Kaczorek (2019) <i>Aesculus hippocastanum L. extract as a potential emulsion stabilizer</i>, Food Hydrocolloids, 97, 105237-1-10

- 11) W. Smulek, A. Zdarta, A. Pacholak, T. Runka, E. Kaczorek (2019) *Increased biological removal of 1-chloronaphthalene as a result of exposure : a study of bacterial adaptation strategies*, *Ecotoxicology and Environmental Safety*, 185, 109707-1-7
- 12) W. Smulek, Z. Cybulski, U. Guzik, T. Jesionowski, E. Kaczorek (2019) *Three chlorotoluene-degrading bacterial strains: Differences in biodegradation potential and cell surface properties*, *Chemosphere*, 237, 124452
- 13) A. Pacholak, W. Smulek, A. Zgoła-Grześkowiak, E. Kaczorek (2019) *Nitrofurantoin—Microbial Degradation and Interactions with Environmental Bacterial Strains*, *International Journal of Environmental Research and Public Health*, 16, 1526.
- 14) A. Zdarta, W. Smulek, A. Pacholak, E. Kaczorek (2019) *Environmental Aspects of the Use of Hedera helix Extract in Bioremediation Process*, *Microorganisms*, 7, 43
- 15) A. Zdarta, A. Pacholak, W. Smulek, A. Zgoła-Grześkowiak, N. Ferlin, A. Bil, J. Kovensky, E. Grand, E. Kaczorek (2019) *Biological impact of octyl D-glucopyranoside based surfactants*, *Chemosphere*, 217, 567-575
- 16) A. Zdarta, W. Smulek, A. Trzcińska, Z. Cybulski, E. Kaczorek (2019) *Properties and potential application of efficient biosurfactant produced by Pseudomonas sp. KZ strain*, *Journal of Environmental Science and Health - Part A*, 54, 2, 110-117
- 17) A. Pacholak, W. Smulek, A. Zdarta, A. Zgoła-Grześkowiak, E. Kaczorek, (2018) *Bacterial biodegradation of 4-monohalogenated diphenyl ethers in one-substrate and co-metabolic systems*, *Catalysts*, 8, 10, 472
- 18) A. Zdarta, A. Pacholak, M. Galikowska, W. Smulek, E. Kaczorek (2018) *Butylbenzene and tert-butylbenzene—sorption on sand particles and biodegradation in the presence of plant natural surfactants*, *Toxins*, 10, 9, 338
- 19) A. Grząbka-Zasadzińska, W. Smulek, E. Kaczorek, S. Borysiak (2018) *Chitosan biocomposites with enzymatically produced nanocrystalline cellulose*, *Polymer Composites*, 39, E448-E456
- 20) W. Smulek, A. Zdarta, J. Kwiczak, A. Zgoła-Grześkowiak, Z. Cybulski, E. Kaczorek (2017) *Environmental biodegradation of halophenols by activated sludge from two different sewage treatment plants*, *Journal of Environmental Science and Health - Part A*, 52, 13, 1240-1246
- 21) M. Jarzębski, W. Smulek, M. Kościński, T. Białopiotrowicz, E. Kaczorek (2018) *Verbascum nigrum L. (mullein) extract as a natural emulsifier*, *Food Hydrocolloids*, 81, 341-350
- 22) B. Jakubek, M. Jakubowicz, W. Smulek (2018) *Comparison of Rolling Bearings' Diagnosing Methods – Procedures of Damage Introduction*, *Vibrations in Physical Systems*, 29, 2018011-1-8
- 23) A. Zdarta, W. Smulek, E. Kaczorek (2018) *An Effective Production of Bacterial Biosurfactant in the Bioreactor*, in: M. Ochowiak, S. Wozniowzki, M. Doligalski, P.T. Mitkowski (Ed.) *Practical Aspects of Chemical Engineering*, Springer [ISBN 978-3-319-73977-9], pp. 409-422
- 24) A. Pacholak, W. Smulek, E. Kaczorek (2018) *Wpływ stresu metabolicznego na biodegradację chloropochodnych toluenu i modyfikację właściwości powierzchniowych komórek szczepu Raoultella planticola SA2*, *Ochrona środowiska*, 2:23-29
- 25) W. Smulek, E. Kaczorek, Z. Hricoviniová (2017) *Alkyl Xylosides: Physico-Chemical Properties and Influence on Environmental Bacteria Cells*, *Journal of Surfactants and Detergents*, 20, 6, 1269-1279
- 26) A. Marchlewicz, U. Guzik, W. Smulek, D. Wojcieszynska (2017) *Exploring the degradation of ibuprofen by Bacillus thuringiensis BI(2015b): the new Pathway and factors affecting degradation*, *Molecules*, 22, 10, 1676

	<p>27) J. Zdarta, M. Norman, <u>W. Smulek</u>, D. Moszyński, E. Kaczorek, A.L. Stelling, H. Ehrlich, T. Jesionowski (2017) <i>Spongin-based scaffolds from Hippospongia communis demosponge as an effective support for lipase immobilization</i>, <i>Catalysts</i>, 7, 5, 147</p> <p>28) A. Pacholak, <u>W. Smulek</u>, T. Jesionowski, E. Kaczorek (2017) <i>The ability of Achromobacter sp. KWI strain to biodegrade isomers of chlorotoluene</i>, <i>Journal of Chemical Technology and Biotechnology</i>, 92, 2134-2141</p> <p>29) <u>W. Smulek</u>, A. Zdarta, A. Pacholak, A. Zgoła-Grześkowiak, Ł. Marczak, M. Jarzębski, E. Kaczorek (2017) <i>Saponaria officinalis L. extract: Surface active properties and impact on environmental bacterial strains</i>, <i>Colloids and Surfaces B</i>, 150, 209-215</p> <p>30) <u>W. Smulek</u>, A. Zdarta, M. Łuczak, P. Krawczyk, T. Jesionowski, E. Kaczorek (2016) <i>Sapindus saponins' impact on hydrocarbon biodegradation by bacteria strains after short- and long-term contact with pollutant</i>, <i>Colloids and Surfaces B</i>, 142, 207-213</p> <p>31) E. Kaczorek, <u>W. Smulek</u>, A. Zdarta, A. Sawczuk, A. Zgoła-Grześkowiak (2016) <i>Influence of saponins on the biodegradation of halogenated phenols</i>, <i>Ecotoxicology and Environmental Safety</i>, 131, 127-134</p> <p>32) A. Zdarta, <u>W. Smulek</u>, E. Pietraszak, E. Kaczorek, A. Olszanowski (2016) <i>Hydrocarbons biodegradation by activated sludge bacteria in the presence of natural and synthetic surfactants</i>, <i>Journal of Environmental Science and Health, Part A</i>, 51, 14, 1262-1268</p> <p>33) <u>W. Smulek</u>, A. Zdarta, M. Milewska, E. Kaczorek (2016) <i>Alkyl polyglucosides as cell surface modification factors: influence of the alkyl chain length</i>, <i>Toxicological and Environmental Chemistry</i>, 98, 1-13</p>
<p>Research Projects*</p>	<ul style="list-style-type: none"> • “ORBIS” – Open Research Biopharmaceutical Internships Support (MSCA-RISE-2017 No 778051) July 2019 - present Position: Lead of Work Package 6 “Dissemination and Communication” Project funded by the European Research Agency, European Union Budget: 2 268 000 EUR • Biodegradation of nitrofurane derivatives by environmental bacteria - from metabolic pathways to changes in genome and proteome July 2018 – present Position: Investigator Project funded by the National Science Centre, Poland Budget: 699 999 PLN • “BIOREM” Modern technology for bioremediation of soil contaminated with creosote oil on the premises of Sleeper Treating Plant Spółka Akcyjna in Koźmin Wielkopolski” May 2018 – present Position: Investigator Project funded by the European Regional Development Fund, European Union Budget: 1 129 224.52 PLN • Environmental soil bacteria - changes in surface properties and physiology of cells in presence of chlorinated aromatic compounds July 2018 – present Position: Manager, Principal Investigator Project funded by the National Science Centre, Poland Budget: 98 000 PLN
<p>Professional Membership</p>	<ul style="list-style-type: none"> • Polish Society of Chemistry • Polish Society of Microbiologists
<p>Potential Research Projects**</p>	<p>Projects involving the study of: pharmaceutical and food application of natural surfactants, interaction of bioactive compounds with microorganisms cells, biotoxicity of new isolated and synthesized compounds</p>

* Please list achievements of recent 5 years

** This CV is intended to match Chinese and Polish Scientists within SPUC member universities, and Potential Research Projects is intended to apply for Sino-Polish or EU scientific cooperation projects.