

Curriculum Vitae

Personal data

Name and surname: Agnieszka Węgrzyn, Ph.D., D.Sc

Workplace: Jagiellonian University in Krakow
Faculty of Chemistry
Department of Chemical Technology
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Diplomas and academic degrees

1994 – 1997 Bachelor studies at the Faculty of Chemistry, Jagiellonian University in Krakow.
Major: environmental studies.
Bachelor thesis: “Preliminary evaluation of the enzymatic activity of *Micrococcus* species” prepared at the Faculty of Biochemistry, Biophysics and Biotechnology of the Jagiellonian University in Krakow, Department of Microbiology.
Supervisor: dr Jacek Międzobrodzki.

08.09.1997 Degree: Bachelor of Science in environmental studies

1997 – 1999 Master studies at the Faculty of Chemistry, Jagiellonian University in Krakow.
Major: environmental studies.
Master thesis: “Application of nanocomposite MnO_y-C catalysts supported on montmorillonite pillared with zirconium on complexes in nitrogen oxides removal from exhaust gases” prepared in Department of Chemical Technology.
Supervisor: Prof. dr hab. Roman Dziembaj.

23.06.1999 Degree: Master of Science in environmental studies, specialization: environmental chemistry.

2000 – 2005 Doctoral Studies at the Faculty of Chemistry, Jagiellonian University in Krakow.

- 30.06.2005 PhD thesis: "Study on oxidative dehydrogenation of n- and iso-butane using N₂O and O₂ on hydrotalcite-derived oxide catalysts obtained by different procedures" prepared in Department of Chemical Technology.
Supervisor: Prof. dr hab. Roman Dziembaj.
Degree: PhD in chemistry.
Doctoral dissertation distinguished by the Council of the Faculty of Chemistry of the Jagiellonian University.
- 13.09.2018 Academic degree: Doctor of Science, habilitation thesis in chemical sciences: "Synthesis, characterization and application of new materials obtained from natural and synthetic layered minerals in environmentally friendly adsorption and catalytic processes",
Field: chemical sciences, Discipline: chemistry,
Specialty: heterogeneous catalysis, materials engineering, adsorption,
Institution awarding the title: Jagiellonian University in Krakow, Faculty of Chemistry.

Employment in scientific institutions

- 10.1999 – 09.2000 Jagiellonian University in Krakow, Faculty of Chemistry, Department of Chemical Technology, Assistant trainee.
- 10.2005 – 09.2008 Jagiellonian University in Krakow, Faculty of Chemistry, Department of Chemical Technology, Assistant.
- 05 – 07.2010 Ecole Nationale Supérieure des Mines de Saint-Etienne, Saint-Etienne, France, Assistant Professor (contract number: 10/057).
- 10.2008 – 09.2017 Jagiellonian University in Krakow, Faculty of Chemistry, Department of Chemical Technology, Assistant professor.
- 10.2017 – 02.2019 Jagiellonian University in Krakow, Faculty of Chemistry, Department of Chemical Technology, Scientific and technical specialist.
- Since 03.2019 Jagiellonian University in Krakow, Faculty of Chemistry, Department of Chemical Technology, Associate professor.

Functions held at the Jagiellonian University

- 08.2009 – 09.2012 Jagiellonian University in Krakow, Quality Manager for the Faculty of Chemistry and the Faculty of Physics, Astronomy and Applied Computer Science in the project "Increasing of the number of Jagiellonian University science graduates with extra competences", UDA – POKL.04.01.02-00-097/09-00 (Human Capital Operational Programme, Priority IV., project budget: 15 759 639 PLN).

- 07.2012 – 08.2016 Jagiellonian University in Krakow,
Institutional Coordinator at the Jagiellonian University in
Krakow of the project "Erasmus Mundus ELECTRA - Enhancing
Learning in ENPI Countries through Clean technologies and
Research related Activities" (Erasmus Mundus, Action 2, Lot 05 -
ENPI States; Grant Agreement No. 2012 - 2738 / 001 - 001
EMA2, project budget: 3 959 725 EUR).
- 07.2009 – still Jagiellonian University in Krakow, Faculty of Chemistry,
Erasmus/Erasmus+ Coordinator.

Scholarships, stays in scientific institutions abroad, certificates

- 11.2004 – 08.2005 Marie Curie Fellowship, University of Leipzig, Germany (10
months).
- 06.2007 – 08.2007 Young Scientists Programme (British Council fellowship,
WAR/342/105), "Developing Tailored Synthesis of Porous
Materials", United Kingdom, Coventry, University of Warwick (3
months).
- 12 – 16.07.2007 Second Residential Summer School for Newly Appointed
University Chemistry Teaching Staff (European Chemistry
Thematic Network) Malta.
- 1 – 2.10.2009 Chemepass Workshop – Lyon, France.
- 05.2011 Chemical Engineering Department, Politecnico do Porto, Porto,
Portugal, lectures (1 week).
- 06.2012 Chemical Engineering Department, Politecnico do Porto, Porto,
Portugal, lectures (1 week).
- 09.2014 Universitat Politècnica de Valencia, Spain, lectures (1 week).
- 09.2015 Cranfield University, United Kingdom, lectures (1 week).
- 05.2017 Chemical Engineering Department, Politecnico do Porto, Porto,
Portugal, lectures (2 weeks).
- 24.04.2012 Certificate: "Internal audit of the quality management system in
accordance with the requirements of ISO 9001: 2008".

Membership in Scientific Associations

1. Polish Zeolite Association: since 25.09.2002.
2. Polish Mineralogical Association: since 15.12.2016.
3. Polish Chemical Association: Krakow Branch, Member of the Board, 20.01.2016-
31.12.2018; Member of the Board – Treasurer, since 1.01.2019.
4. Association Internationale pour l'Etude des Argiles (AIPEA), International
Association for the Study of Clays: since 15.12.2016.

Invited lectures

- 05.2011, Portugal, Porto, Chemical Engineering Department, Politecnico do Porto,
 - “Water treatment: General concepts, mechanical, physico-chemical, biological methods”,
 - “Water treatment: Advanced Oxidation Processes (AOP)”,
 - “Water treatment: Simulation and control of pH in a multi-CFSTR wastewater treatment plant”,
 - “Water treatment: phenol – toluene – humic acids removal, adsorption & catalytic oxidation”,
 - “Water treatment: Emerging Contaminants”.
- 06.2012, Portugal, Porto, Chemical Engineering Department, Politecnico do Porto,
 - “Water treatment technologies”,
 - “Clays and clay minerals – synthesis, modification and application in pollutants removal”.
- 09.2014, Spain, Universitat Politècnica de Valencia, “Clays and clay minerals in environmental applications (adsorption & catalysis)”.
- 05.2017, Portugal, Porto, Chemical Engineering Department, Politecnico do Porto,
 - “Natural clay minerals - their role in nature and remediation technologies”,
 - “Modifications of layered clays resulting in formation of efficient and sustainable catalysts and adsorbents”.

Invited keynotes

"The activity of hydrotalcite-derived mixed oxides doped with copper or iron in the reaction of catalytic oxidation of phenol", XLIII Polish National Catalytic Colloquium, Kraków, 16-18.03.2011 r.

"Modified vermiculites as efficient adsorbents for removal of heavy metals and industrial dyes from wastewater", Symposium of the Clay Minerals Section of the Polish Mineralogical Society, Krakow, 24.11.2017.

Supervision of theses and individual projects – a summary

I. postdoctoral training:	scientific supervisor	1
II. PhD thesis:	co-promotor	1
III. Master's thesis:	scientific supervisor	13
	promotor	11
IV. Bachelor's thesis:	scientific supervisor	6
	promotor	5
V. scientific and research internship:	scientific supervisor	2
VI. individual students research project:	scientific supervisor	22
	total:	61

Supervision of theses and individual projects

The list contains the following data: first and last name of the trainee/student, work/project title, specialization/field of study, function/supervision role, length of work/project, year of completion, type of work/project, parent University and country/Faculty (if different from the Faculty of Chemistry of the Jagiellonian University) .

I. postdoctoral training

1. Tatevik Derdzyan, Assessment of the level of environmental awareness among students, Environmental Protection, **scientific supervisor**, 8 months, 2016, postdoctoral training, Yerevan State University, Armenia,

II. PhD thesis

2. Wojciech Stawiński, Modified clay minerals as high-effective adsorbents for wastewater laden with heavy metals and textile dyestuffs, Sustainable Chemistry, **co-promotor**, 4 years, 2017, PhD thesis, a) Universidade do Porto, Porto, Portugal, b) REQUIMTE/LAQV at Instituto Superior de Engenharia do Porto, Porto, Portugal, c) Universidade Nova de Lisboa, Lisboa, Portugal,

III. Master's thesis

3. Izabela Wałkowska, Layer minerals intercalated with ions and organic complexes - applications in catalysis, adsorption and health protection, Environmental Protection, **scientific supervisor**, 1 year, 2007, Master's thesis,
4. Bożena Miga, Comparison of the properties of copper catalysts obtained in microemulsions and from hydrotalcite precursors, Chemistry, **scientific supervisor**, 1 year, 2008, Master's thesis,
5. Łukasz Wawaszczak, Cerium catalysts obtained by substitution of the hydrotalcite structure with Ce³⁺ cations and immobilization of the nanocrystalline CeO₂ in the silica matrix, Environmental Protection, **scientific supervisor**, 1 year, 2009, Master's thesis,
6. Monika Sawicka, Oxidation of organic compounds with H₂O₂ using hydrotalcite-derived catalysts, Environmental Protection, **scientific supervisor**, 1 year, 2010, Master's thesis,
7. Małgorzata Sznerich, Stability of hydrotalcite-derived catalysts in the reaction of wet oxidation of organic substances, Environmental Protection, **promotor**, 1 year, 2010, Master's thesis,
8. Katarzyna Guzik, Oxide catalysts for removing organic pollutants from water and air, Environmental Protection, **scientific supervisor**, 1 year, 2011, Master's thesis,
9. Paula Zybura, The use of catalytic methods to remove organic pollutants from coke-plant wastewater, Environmental Protection, **promotor**, 1 year, 2011, Master's thesis,

10. Paweł Zjeżdżałka, Optimization of parameters of the removal of selected inorganic impurities from water on the example of Cr (VI) ion reduction processes, Chemistry, **scientific supervisor**, 1 year, 2011, Master's thesis,
11. Paweł Szoldruk, Adaptation and use of a microwave oven in research on the disposal of organic water pollutants, Environmental Protection, **promotor**, 1 year, 2011, Master's thesis,
12. Tomasz Fiszer, Water and air purification processes - catalytic, photocatalytic and microwave-assisted, Environmental Protection, **promotor**, 1 year, 2011, Master's thesis,
13. Agata Zych, Application of advanced oxidation methods of model organic pollutants in wastewater, Environmental Protection, **promotor**, 1 year, 2012, Master's thesis,
14. Rafał Konik, Reduction of contamination level in coke-plant wastewater using layered aluminosilicates of natural origin, Environmental Protection, **promotor**, 1 year, 2012, Master's thesis,
15. Piotr Boczar, Removal of contaminants dissolved in water by oxidation with H₂O₂ and by adsorption on vermiculite-derived materials, Chemistry, **promotor**, 1 year, 2013, Master's thesis,
16. Ewelina Paż, Materials based on natural and synthetic silicates for adsorption of organic compounds vapors, Chemistry, **promotor**, 1 year, 2014, Master's thesis,
17. Avtandil Tsurtsunia, Chemical and biological methods of environmental pollution determination, Environmental Protection, **scientific supervisor**, 1 year, 2014, Master's thesis, Ilia State University, Georgia,
18. Karol Sielezin, Synthesis and characterization of hydrotalcites modified with dodecylsulfate anions, Chemistry, **promotor**, 1 year, 2015, Master's thesis,
19. Monika Skoczek, Vermiculite-based catalysts with a nanometric active oxide phase for oxidation of phenols, Chemistry, **promotor**, 1 year, 2015, Master's thesis,
20. Marcelina Radko, Synthesis of hybrid organic-inorganic adsorbents for environmental processes, Chemistry, **scientific supervisor**, 1 year, 2015, Master's thesis,
21. Mateusz Przeklasa, Synthesis and characterization of mesoporous adsorbents of pollutants using natural minerals as a source of building components, Environmental Protection, **promotor**, 1 year, 2016, Master's thesis,
22. Tomasz Dańko, Catalysts based on modified vermiculites for the conversion of organic molecules, Chemistry, **promotor**, 1 year, 2016, Master's thesis,
23. Anna Rochowiak, The use of natural silicates modified with organic compounds in the pro-ecological processes of water treatment, Environmental Protection, **scientific supervisor**, 1 year, 2016, Master's thesis,
24. Natalia Wdówka, Application of composite chelating ionites in pro-ecological water treatment processes, Environmental Protection, **scientific supervisor**, 1 year, 2016, Master's thesis,
25. Karolina Grzybowska, Design of catalysts active in pinene isomerization based on natural and modified silicates, Chemistry, **promotor**, 1 year, 2017, Master's thesis,
26. Zülfiye Ahan, Synthesis and characterization of properties of adsorbents obtained using natural and modified carbon and silicate materials, Nanotechnology, **scientific supervisor**, 1 year, 2019, Master's thesis, Istanbul Teknik Universitesi, Turcja.

IV. Bachelor's thesis

27. Edyta Pięta, Application of polymer and surfactant templates to obtain porous SiO₂ and TiO₂ oxides, Environmental Protection, **scientific supervisor**, 1 year, 2008, Bachelor's thesis,
28. Marta Janiga, Application of hydrotalcite-derived copper catalysts in methanol reforming reaction, Applied Chemistry, **scientific supervisor**, 1 year, 2009, Bachelor's thesis, Państwowa Wyższa Szkoła Zawodowa w Tarnowie,
29. Agnieszka Olechowska, Preparation of catalysts for oxidation processes by incorporation of manganese ions (II) into the structure of mixed hydroxides, Applied Chemistry, **scientific supervisor**, 1 year, 2010, Bachelor's thesis, Państwowa Wyższa Szkoła Zawodowa w Tarnowie,

30. Ksenia Łyczko, Preparation of catalysts for oxidation processes by intercalation of permanganate anions or manganese (II) complexes in interlayer spaces of hydrotalcite, Applied Chemistry, **scientific supervisor**, 1 year, 2010, Bachelor's thesis, Państwowa Wyższa Szkoła Zawodowa w Tarnowie,
31. Karolina Kapica, Isomerization of pinenes on silicate catalysts, Chemistry, **promotor**, 1 year, 2014, Bachelor's thesis,
32. Anna Rochowiak, Characterization of iron catalysts for removal of phenol from wastewater, Environmental Protection, **promotor**, 1 year, 2014, Bachelor's thesis,
33. Natalia Wdówka, Decontamination of polluted waters using adsorbents based on natural minerals, Environmental Protection, **promotor**, 1 year, 2014, Bachelor's thesis,
34. Mateusz Przekłasa, Adsorption on modified mineral materials of model chemical compounds that pose a threat to the environment, Environmental Protection, **promotor**, 1 year, 2014, Bachelor's thesis,
35. Anna Sacha, Removal of dyes from contaminated waters by sorption methods using natural layered minerals, Environmental Protection, **promotor**, 1 year, 2015, Bachelor's thesis,
36. Simone Navarro Gómez, Synthesis of clay/polymer composites, their characterization and application in adsorption, Chemistry, **scientific supervisor**, 1 year, 2016, Bachelor's thesis, Universidad de Murcia, Spain,
37. Eva Maria Zamora Galvez, Characterization of modified nail polish formulas containing commercial and modified clay-based pigments, Chemistry, **scientific supervisor**, 1 year, 2019, Bachelor's thesis, Universidad de Murcia, Spain,

V. scientific and research internship

38. Daniel Jakubiec, Vermiculites decorated with iron oxide nanocrystals for catalytic removal of phenolic compounds in liquid phase, Biophysics, **scientific supervisor**, 1 miesiąc, 2015, scientific and research internship, WFAIS UJ,
39. Sara Rozas Azcona, Design of porous materials for application in catalysis and adsorption processes, Chemistry, **scientific supervisor**, 1 semester, 2017, scientific and research internship, Universidad de Burgos, Spain,

VI. individual students research project

40. Piotr Janicki, Klasyka i nowoczesność. O zastosowaniu metod analizy chemicznej do identyfikacji produktów utleniania fenolu, Chemistry, **scientific supervisor**, 1 year, 2010, individual students research project,
41. Gonzalo Suarez Janieiro, Catalytic oxidation of phenol in water, Chemistry, **scientific supervisor**, 1 year, 2011, individual students research project, Universidade de Santiago de Compostela, Spain,
42. Manuel Vázquez Sulleiro, Vermiculite-based catalysts for oxidation of organic pollutants in water and wastewater, Chemistry, **scientific supervisor**, 1 year, 2012, individual students research project, Universidade de Santiago de Compostela, Spain
43. Xavier Baldrich Tolosa, Adsorbents for iron removal obtained from vermiculite, Chemistry, **scientific supervisor**, 1 year, 2012, individual students research project, Universitat de Barcelona, Spain,
44. Julien Toussaint, Preparation of acid treated vermiculites, Chemistry, **scientific supervisor**, 1 semester, 2012, individual students research project, HAUTE ECOLE LOUVAIN en HAINAUT – HELHa, Belgium,
45. Beatriz Tilve-García, Vermiculite-based materials for adsorption of organic contaminants, Chemistry, **scientific supervisor**, 1 year, 2013, individual students research project, Universidade de Santiago de Compostela, Spain,
46. Kader Balta, The influence of calcination temperature on CEC (cation exchange capacity) of bentonites, Chemistry, **scientific supervisor**, 1 semester, 2013, individual students research project, Gaziosmanpaşa Üniversitesi, Turkey

47. Asli Inbaşı, Characterisation of vermiculites from different deposits, Chemistry, **scientific supervisor**, 1 semester, 2013, individual students research project, Gaziosmanpaşa Üniversitesi, Turkey,
48. David Luaces Fernández, Adsorption of heavy metals using silicate materials, Chemistry, **scientific supervisor**, 1 year, 2014, individual students research project, Universidade de Santiago de Compostela, Spain,
49. Raquel Muino Souto, Different aspect of adsorption process, determination of adsorption isotherms of Cu complexes on modified silicates, Chemistry, **scientific supervisor**, 1 semester, 2016, individual students research project, Universidade de Santiago de Compostela, Spain,
50. Melania Rogowska, Otrzymywanie, charakteryzacja i zastosowania katalityczne struktur PCH, Zaawansowane materiały i nanotechnologia, **scientific supervisor**, 1 year, 2016, individual students research project, WFAIS UJ,
51. Ana Estévez González, Application of Al-doped MCM-41-like materials for α -pinene catalytic isomerization, Chemistry, **scientific supervisor**, 1 year, 2017, individual students research project, Universidade de Santiago de Compostela, Spain,
52. Anastasiya Krech, Layered clays used in catalytic processes, Chemistry, **scientific supervisor**, 1 semester, 2017, individual students research project, Belarusian State University, Belarus,
53. Mehmet Kılıçarslan, Application of solid acid catalysts in conversion of organic compounds, Chemistry, **scientific supervisor**, 1 semester, 2017, individual students research project, Recep Tayyip Erdoğan Üniversitesi, Turkey,
54. Pelin Birinci, Combined adsorption and bioadsorption of heavy metals by vermiculite and yeast, Chemistry, **scientific supervisor**, 1 semester, 2017, individual students research project, Recep Tayyip Erdoğan Üniversitesi, Turkey,
55. Adrián Martínez Castrillón, Determination of adsorption and catalytic properties of modified clays, Porosity of solid adsorbents studied using non-usual methods, Chemistry, **scientific supervisor**, 1 year, 2018, individual students research project, Universidade de Santiago de Compostela, Spain,
56. Itziar Prieto de la Vega, Removal of heavy metals from environment using organo-modified porous materials, Chemistry, **scientific supervisor**, 1 semester, 2018, individual students research project, University of Basque Country, Spain,
57. Anna Lamprecht, Synthesis of L-proline derivatives and their application for catalysis of enantioselective aldol reactions, Chemistry, **scientific supervisor**, 1 semester, 2018, individual students research project, University of Würzburg, Germany,
58. Gaspard Journet, Intercalation of new metal complexes into interlayer gallery of clays, Inżynieria chemiczna, **scientific supervisor**, 1 semester, 2018, individual students research project, École nationale supérieure des mines de Saint-Étienne, France.
59. Inés Seijo Touceda, Catalytic activity of DPCH materials and modified vermiculites in isomerization of terpenes, **scientific supervisor**, 1 year, 2019, individual students research project, Universidade de Santiago de Compostela, Spain.
60. Carmen Loscertales Garcia, Organofunctional materials and its application in catalysis and adsorption, **scientific supervisor**, 1 semester, 2019, individual students research project, Universidad Complutense de Madrid, Spain.
61. Amaia Sangroniz, Organofunctional materials - preparation and their physicochemical characterisation, **scientific supervisor**, 1 semester, 2019, individual students research project, Universidad del País Vasco, Spain.