



**Magdalena Ziabka**

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**AFFILIATION:**

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and Technology  
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**RESEARCH INTERESTS:**

Composites, Polymers,  
Ceramics, Biomaterials for  
bone replacement and  
osteosynthesis,  
Medical Devices, Implants,  
Scanning Electron  
Microscopy,  
Chemical analysis.

**EDUCATION**

**2019-Nov - DSc, (Habilitation)** AGH-UST, Krakow, Poland, Faculty of Materials Science and Ceramics; Dissertation: Polymeric otolaryngological implant modified with silver nanoparticles in the aspect of selected physicochemical and biological properties.

2017-Jul - Postgraduate studies: Clinical research - methodology, organization and management at Jagiellonian University, Krakow, Poland.

2015-Apr - Postgraduate studies: Rhetoric at Jagiellonian University, Krakow, Poland

**Related prizes:** the 3year scholarship from Ministry of Science and Higher Education for outstanding young scientist under 35 years old (2013-2016).

**2012-Mar - PhD,** AGH-UST, Krakow, Poland, Faculty of Materials Science and Ceramics; Dissertation: Multifunctional polymer composites with antibacterial properties for laryngological reconstructions, supervisor: Prof. Jan Chłopek

**Related prizes:** Diploma of Ministry of Science and Higher Education for contribution in technical development of innovative, multifunctional laryngological implants made of polymer composites.

Diploma of Rector of AGH-UST for development of laryngological implants and distinction of doctoral thesis awarded by Council of Faculty of Science and Ceramics; I-level Team Award of Rector of AGH UST for scientific activity.

**2005-Sept - MSc,** Diploma, AGH-UST, Krakow, Poland, Faculty of Materials Science and Ceramics Dep. of Biomaterials, Dissertation: The use of polymer-ceramic composites in maxillofacial and spinal surgery.

**CURRENT POSITION**

2020-Dec – University Professor position, AGH-UST, Krakow, Poland, Faculty of Materials Science and Ceramics.

**PREVIOUS POSITIONS**

2019-Mar-2020-Nov – Assistant Professor, AGH-UST, Krakow, PL, Faculty of Materials Science and Ceramics.

2016-Feb-2019-Feb - Senior Specialist in science and technology, AGH-UST, Krakow, Poland, Faculty of Materials Science and Ceramics.

2014-Apr-2016-Jan - Specialist in science and technology, AGH-UST, Krakow, Poland, Faculty of Materials Science and Ceramics.

2011-Jan-2014-Mar - Technologist, AGH-UST, Krakow, PL, Faculty of Materials Science and Ceramics.

2011 Jagiellonian University, Department of Pharmacy, Krakow two-months internship; examination methods: cytotoxicity, histology, histochemistry.

2008-2009 Hokkaido University; Sapporo, Japan; 4-months scholarship from HU for PhD researcher working on chemistry of polymers, supervisor: Prof. Toyoji Kakuchi

**FELLOWSHIPS AND AWARDS**

**2021** Distinction of habilitation thesis by the Prime Minister of the Council of Ministers, Poland.

**2020** Main prize for Otoimplant© - a middle ear prosthesis with bactericidal effect" in the 22nd edition of the Polish Product of the Future competition in the category Product of the future of higher education and science institutions.

**2020** Special award of the Ministry of Science and Higher Education for Otoimplant© in the 22nd edition of the Polish Product of the Future competition in the product of the future category.

2019-2020 I-level and II-level Team Award of Rector of AGH-UST for scientific activity.

**2019** I Award for Otoimplant© in a competition "Krakow without barriers " in the area of innovation project.

**2018** First prize for the video "Otoimplant©-will I hear again?", (<https://youtu.be/oxLTeahDjCI>) during the exhibition: "Science is Freedom" organized by the Embassy of the Republic of Poland in Tokyo.

**2017** 4th place in the international campaign "Bringingtech&science closer to people" promoting the best innovative technology projects, <https://interne.st/closetopeople/project/otoimplant/>

2017 Winner of the Success Doctors plebiscite organized by the Association for the Career Development of PhD Students and Doctors PolDoc.

2015-2017 II and twice III-level Team Award of Rector of AGH-UST for scientific activity.

2013-2016-the 3year scholarship from Ministry of Science and Higher Education for outstanding young scientist under 35 years old.

2010 I-level Team Award of Rector of Medical University of Silesia for scientific activity.

2008 scholarship within 'InnoGrant' project – support program for young doctoral students.

### **SUPERVISION OF GRADUATE STUDENTS & POSTDOCTORAL FELLOWS**

2021–1PhD-K. Szmuc, 2019–1PhD-A. Kurowska, 2019-1MSc-J. Kiszka, 2018-4BSc – J. Kiszka E, Pałka, N. Gierczak, M. Pieńkosz.

### **TEACHING ACTIVITIES**

2020 – Lecturer, MSc level course on Functional materials,

2011-2020 – Lecturer, MSc level course on Research methods with the use of Scanning Microscopy and Microanalysis,

2008-2010 – Lecturer, BSc level course on Materials Science - for students of the Interdepartmental School of Biomedical Engineering,

2006-2010 – Lecturer, MSc level course on Biomaterials - Materials for Medicine,

2009-2010 – Lecturer, BSc & MSc level course on Artificial organs &Plastic processing,

### **INSTITUTIONAL RESPONSIBILITIES**

Since 2018- Member of the Polish Accreditation Committee /discipline ; Biocybernetics and Biomedical Engineering,

2019 – Member of Faculty of Materials Science and Ceramics Science Council AGH-UST,

2020 – Member of the Faculty Exam Committee for BSc students in the Materials Science discipline.

### **REVIEWING ACTIVITIES**

Up to Feb 2021 I reviewed more than 20 papers for many journals, such as Journal of Tissue Engineering, Polymers, Nanomaterials, Materials. Since 2014 reviewer of grant proposals for the National Centre for Research and Development, Poland. 2013-2020 reviewer of 4 BSc and 1 MSc thesis: **1)** M Ślęzak at AGH-UST, **2)** K. Chyży at AGH, **3)** S. Salagierski at AGH, **4)** P. Gaćkowska,**1)** A. Flis at AGH.

### **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2006-2012-Member of the Polish Society of Biomaterials,

Since 2011-Member of the Polish Ceramics Association,

Since2014 -Member of the Polish Society of Composite Materials,

### **MAJOR COLLABORATIONS**

Ongoing collaboration: University of Gdansk, Academy of Technology and Humanities, Collegium Medicum UJ. Recent collaboration: Department of Electrocardiology at the John Paul II Hospital, PL, Papal University of John Paul II, Silesia Medical University, 5th Military Hospital, Dep. of Otolaryngology, Jagiellonian University, Chemistry dep. Lodz University of Technology, Foundry Institute.

### **RESEARCH PROJECTS**

In the years 2006-2021 I was a contractor in 23 research projects, including being PI of 3 national projects.

1. Production and modification of composite layers with antibacterial properties used for medical implants, Ministry of Science and Higher Education "Innovation Incubator 4.0., – PI,

2. Project LIDER/154/L-6/14/NCBR/2015 " Development of the composite middle ear prosthesis with bactericidal properties – PI,

3. Project Patent Plus PP2/W-06/D-2108/2014 – International protection and support for the commercialization of the invention "Process for the preparation of the middle ear prosthesis" – PI,

4. PhD Promotional grant: Polymer composites containing antibacterial and bioactive modifiers used for implants in ENT. "MNiSW 2010-2012- research leader,
5. National Program for the Development of the Humanities – Preparation of interdisciplinary database documenting silk materials from the church resources from XV-XVII basing on stocktaking and data digitalization – researcher,
6. Research Project in cooperation with John Paul II Hospital in Krakow, Department of Electrocardiology to assess the degree of wear and causes abrasions on the electrodes for pacemakers 2013-2015- researcher,
7. Research Project Targeted polymeric implants supporting the regeneration of damaged peripheral nerves (continued research) – researcher,
8. Research Project Preparation of hydroxyapatite-based composites – researcher,
9. Research Projects Composite materials with osteoconductive and osteoinductive properties with bone tissue regeneration –researcher,
10. R & D project "Development and implementation of innovative production technologies bone implants of polymer composites," financed by the European Union under the PARP Innovative Economy Operational Programme, Measure 1.4 "Support for special projects." –researcher,
11. EU Grant: New environmentally friendly polymer composites using renewable raw materials.. – research executor,
12. Technology Foresight in the field of polymeric materials (biopolymers, polymer composites, polymers for medicine). – contractor,
13. Development project: Design and development of manufacturing technology of functionally graded materials for biomedical engineering. – researcher,
14. Polish-Greek project: Preparation of porous titanium biomaterials for medical implant applications. 2007-2008- researcher,
15. Development grant: Development and implementation of implants prototypes made with restorable materials. – researcher,
16. Innovative materials technology of magnezia- cyrkonia with calcium oxide.-researcher,
17. Formation of slime made of submicron and nanometric powders  $MgAl_2O_4$  and  $Y_2O_3$  for development process of finely transparent ceramics.- researcher,
18. Modified  $TiO_2$  nanoparticles nanostructures.- researcher,
19. Research on durability of fiber carbon-ceramic composites exposed to cyclic strain. – researcher,
20. Carrying out tests on provided samples to determine the properties of the hydrophilic surfaces of the glaze; analysis of results collected in the report - Contracting Authority: Cersanit, - research contractor,
21. New Straumann Glassceramic, international project AGH WIMiC - Institut Straumann AG, Basel, Swizerland. - research contractor,
22. Multifunctional bone cements based on polyurethane saccharides with controlled cross-linking temperature. –research contractor,
23. Multifunctional composite materials enriched with natural polyphenolic compounds for potential tissue engineering applications. - research contractor.