

Katarzyna Maksymow

PhD

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Multidisciplinary qualified in materials science, experienced in hemocompatibility assessment

Uses common sense and analytical skills to devise solutions for research tasks, goal oriented

Wants to become a dynamic team player, who supports others to increase project team performance

Education

PhD studies

2009–2013 **Discipline: Materials Science**, Polish Academy of Sciences, Cracow, Poland.
Institute of Metallurgy and Materials Science

Dissertation title *Modification of biomaterials surfaces for a cardiovascular system therapy.*

Professional studies

2011/2012 **Field of studies: Team Leadership**, Tischner European University, Cracow, Poland.

Studies program interpersonal communication, time management, public presentations, team management.

MSc studies

2003–2008 **Field of studies: Materials Science**, Jagiellonian University, Cracow, Poland.
The Faculty of Physics, Astronomy and Applied Computer Science

Specialization: Photonics and Nanotechnology

Thesis title: *Atomic Force Microscope as a tool for direct surface modification.*

Trainings and workshops

- *Science busking, live science presentation* – workshop in Centre for Innovations, Technology Transfer and University Development (CITTRU), Cracow [16h]
- *Project manager* course [60h] - CITTRU,
- *University Center of Academic Initiative* - trainings cycle [60h], Economic University Foundation in Cracow,
- *Coaching course* - methods of courses design and evaluation [50h], Center IB Cracow,
- *The art of auto-presentation* [8h] - workshops in CITTRU,
- *Printing materials preparation* [8h] - workshops in CITTRU,
- *Public science presentation* [16h] - workshops in CITTRU,
- 39th IFF Spring School 2008 *From Synthetic to Biological Materials*, Jülich, Germany,
- 38th IFF Spring School 2007 *Probing the nanoworld*, Jülich, Germany,

Experience

Laboratory experience

- 2013–Present **eXcorLab GmbH**, MARIE CURIE POSTDOCTORAL RESEARCH FELLOWSHIP, Obernburg, Germany.
Detailed task:
- developed and expanded hemocompatibility protocols according to ISO 10993-4 as main task in the project,
 - developed a number of *in vitro* biomedical tests,
 - analysed membrane performance and blood parameters important in dialysis.
- 2009–2013 **Polish Academy of Sciences**, INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, Cracow, Poland.
Detailed tasks:
- assessed hemocompatibility of cardiovascular prosthesis according to ISO 10993-4,
 - analysed blood-surface interaction by means of microscopic techniques,
 - seeded endothelial cells (HUVEC) cultures on different surfaces and analysed cellular structures using scanning laser confocal microscopy,
 - performed novel arterial flow simulating tests for flat and tube-like elements,
 - developed surface engineering methods for biomedical applications,
 - evaluated electron and atomic force microscopy images,
 - used immunofluorescent staining methods and biochemical procedures and protocols in research,
 - worked in Accredited Testing Laboratories including measurements of chemical and physical properties of materials,
 - participated and performed in CardioBioMat MNT Era-net project and Polish Artificial Heart Program.
- Aug.2010–
Oct.2010 **Jagiellonian University Collegium Medicum**, II DEPARTMENT OF INTERNAL MEDICINE, Cracow, Poland.
Detailed tasks:
- performed a direct and indirect staining methods applied in clinical diagnostic laboratory.
- Feb.2010,
Oct.2011 **Joanneum Research**, INSTITUTE OF SURFACE TECHNOLOGY AND PHOTONICS, Leoben, Austria .
Detailed tasks:
- prepared samples covered by thin layers using plasma assisted chemical vapour deposition.
- 2007–2009 **Jagiellonian University**, DEPARTMENT OF PHYSICS OF NANOSTRUCTURES AND NANOTECHNOLOGY, Cracow, Poland.
Detailed tasks:
- developed an atomic force microscopic (AFM) methods in ambient conditions, contact, tapping mode, and lateral force measurements,
 - researched on mechanical and electrical surface modifications improvement,
 - performed a gold film scratching and electrodeposition of gold on silicon substrate.
- Aug.2007 **WAT Military University of Technology**, INSTITUTE OF OPTOELECTRONICS, Cracow, Poland.
Detailed tasks:
- materials engineering methods in optoelectronic materials investigation.

Other

2012-2013 **Wrocław Research Centre EIT+**, DEPARTMENT OF NANOTECHNOLOGY, Wrocław, Poland.

Detailed tasks:

- analysed a clusters activity in photonics and nanotechnology,
- worked in European projects: CLUSTERS CORD and ASPICE,
- participated in workshops and network meetings with clusters managers.

2011-Present **volunteer**, FOUNDATION OF NANOSCIENCE AND NANOTECHNOLOGY SUPPORT NANONET, Cracow, Poland.

Detailed tasks:

- performed a concepts of projects for future foundation development,
- designed a promotion materials and participated in nanotechnology related events,
- built up contacts and positive working relationships with scientists and business leaders,
- Coordinated and consulted website development and information and technology brokering.

Apr.2011– **editor**, VERSITA PUBLISHING, Cracow, Poland.

Oct.2012 Detailed tasks:

- edited a scientific articles in TeX/LaTeX and Adobe InDesign software environment.

Apr.2011– **coach**, JAGIELLONIAN UNIVERSITY, Cracow, Poland.

Oct.2012 Detailed tasks:

- designed and conducted a workshop about nanotechnology for youths [8h].

Publications

R. Major, J.M. Lackner, P. Wilczek, **K. Maksymow**, and B. Major. Titanium and carbon layers structure influence on biophysical properties of biomaterials for direct blood contact [Wpływ struktury powłok na bazie tytanu i węgla na własności biofizyczne biomateriałów do kontaktu z krwią]. *Inżynieria Materiałowa [Materials Engineering]*, 176:1085–1090, 2010.

R. Major, J.M. Lackner, P. Wilczek, M. Sanak, B. Jakieta, B. Stolarzewicz, M. Kowalczyk, M. Sobota, **K. Maksymow**, M. Spisak, and B. Major. Functional cardio-biomaterials. *Advances in Materials Science*, 28:5–25, 2011.

R. Major, J.M Lackner, P. Wilczek, M. Sanak, M. Sobota, M. Kowalczyk, J. Marczak, **K. Maksymow**, and B. Major. Surface functionalization for tissue analogue of blood contacting materials. *Inżynieria Materiałowa [Materials Engineering]*, 182:545–548, 2011.

R. Major, **K. Maksymow**, J. Marczak, J.M. Lackner, M. Kot, and B. Major. Migration channels produced by laser ablation for substrate endothelialization. *Bull Pol Acad Sci-Te*, 60(2):337–342, 2012.

B. Major, R. Major, P. Wilczek, J. Marczak, M. Sanak, B. Jakieta, **K. Maksymow**, and M. Spisak. *Materials science and metrological technologies for polish prosthesis of heart [Technologie inżynierii materiałowej i technologie metrologiczne dla potrzeb polskich protez serca]*, (in polish) Surface functionalization for tissue analogues [Funkcjonalizacja powierzchniowa pod analogi tkankowe], pages 67–86. Polish Artificial Heart Program, 2012.

Conferences and seminars

- 2012 *Surface modification of polymeric components for the cardiovascular therapy*, seminar of Institute of Metallurgy and Materials Science Polish Academy of Sciences, Cracow, Poland **(oral presentation)**
- 2012 *Nanostructural materials for direct contact with blood*, New trends in toxicology: nanoparticles and nanomaterials, conference, Łódź, Poland **(poster)**
- 2011 *Nanostructural materials based on titanium and carbon and their biomedical application* - BioMedTech Silesia Doctor conference, Zabrze, Poland **(oral presentation)**
- 2011 *Nanostructural materials for biomedical cardiovascular systems* - seminar of Micro-electronic Department of Institute of Electronic Technologies, Cracow, Poland **(oral presentation)**
- 2010 *Nanostructural materials for implants and cardiovascular biomedical devices - PhD thesis executed in the field of the CardioBioMat project*, CardioBioMat conference, Zabrze, Poland **(oral presentation)**
- 2009 *Scanning Probe Lithography – gold nanostructures fabrication on silicon substrate and Nanostructural materials for biomedical application*, seminar of Institute of Metallurgy and Materials Science, Polish Academy of Sciences, Cracow, Poland **(oral presentation)**
- 2009 *Nanotechnology for beginners* - Students Conference *NANO is huge*, Cracow, Poland **(oral presentation)**
- 2009 *Big steps in nanotechnology*, educational lectures for secondary school students, Kolbuszowa, Poland **(oral presentation)**
- 2008 *Scanning Probe Microscopy as a good tool for modification and investigation semi-conducting surface*, Department of Physics of Nanostructures and Nanotechnology seminars, Institute of Physics, Jagiellonian University, Cracow, Poland **(oral presentation)**

Languages

Polsih	Mothertongue	
English	Advanced	<i>European level C1</i>
German	Basic	<i>European level A2</i>

Other Activities

- 2012–Present member of government of Foundation of Nanoscience and Nanotechnology Support Nanonet
- 2011–Present member of the Scientific Board of Institute of Metallurgy and Materials Science Polish Academy of Sciences
- 2011–2013 member of the PhD students association in Institute of Metallurgy and Materials Science Polish Academy of Sciences
- 2005–2007 president of the Scientific Association for Materials Science Students at the Jagiellonian University
- 2003–2007 assistant at Days of Science, organized by universities in Cracow to promote science