

Curriculum vitae

D.Sc. Ph.D. Eng. Elżbieta Jastrzębska, prof. WUT

Warsaw University of Technology, Faculty of Chemistry

Chair of Medical Biotechnology

Noakowskiego 3, 00-664 Warsaw

Personal Information:

Maiden name: Jędrych

E-mail: elzbieta.jastrzebska@pw.edu.pl

Phone: +48 22 234 7253

Researcher unique identifier(s), ORCID 0000-0002-9371-9166

URL for web site: <https://ejastrzebska.ch.pw.edu.pl/>

IF ~ 210 H-indeks = 18

Education

- | | |
|-----------------|--|
| 18.12.2018 | Habilitation in chemical sciences in the discipline of biotechnology
Faculty of Chemistry Warsaw University of Technology
Dissertation title: <i>"Investigation of cellular functions using novel Lab-on-a-chip systems and advanced in vitro cell culture models"</i> |
| 8.05.2012 | PhD degree in chemical sciences
Department of Microbioanalysis, Faculty of Chemistry Warsaw University of Technology
Dissertation title: <i>"Lab-on-a-chip microsystems for efficacy assessment of anticancer therapies" - honored by the Faculty Council</i>
Dissertation Supervisor: Prof. D.Sc. Ph.D. Eng. Zbigniew Brzózka |
| 2008-2012 | PhD studies
Department of Microbioanalysis, Faculty of Chemistry Warsaw University of Technology Specialization: microsystems dedicated for cellular engineering |
| 30.06.2008 | M.Sc. Eng. degree in chemical sciences
Department of Microbioanalysis, Faculty of Chemistry, Warsaw University of Technology
Thesis title: <i>"Research on the use of integrated microanalytical systems in cellular engineering"</i> |
| 03.2008-06.2008 | Socrates-Erasmus Studies
Paris 12 Val de Marne University, Paris, France |
| 2003-2008 | M.Sc. Eng. studies, full-time
Faculty of Chemistry Warsaw University of Technology |

Professional experience

- Since 03.2022 **Head of Department** of Medical Biotechnology, CEZAMAT at the Warsaw University of Technology
- Since 07.2019 **Professor of Warsaw University of Technology**
Faculty of Chemistry Warsaw University of Technology
Address: Noakowskiego 3, 00-664 Warsaw
- 07.2012 -06.2019 **Assistant Professor**
Faculty of Chemistry Warsaw University of Technology
Address: Noakowskiego 3, 00-664 Warsaw
- 11.2013 - 01.2014 **Foreign research internship**
Ecole Polytechnique Federale de Lausanne, Institut de Microtechnique
Adress: Station 17, 1015 Lausanne, Switzerland
- 11.2010 – 06.2012 **Independent chemist**
Faculty of Chemistry Warsaw University of Technology
Address: Noakowskiego 3, 00-664 Warsaw
- 06.2008 – 09.2008 **Analyst in instrumental analysis laboratory**
Nobilus Ent
Adress: Zegrzyńska 22a, 05-110 Jabłonna

Scientific interests

Microtechnology, medical biotechnology, cell culture, Organ-on-a-chip, Body-on-a-chip, cell engineering, cancer, cardiovascular disease

Research grants/projects

- 2023 -2025 **Grant IDUB POB BIB”Post-Doc WUT”** - “Vascularized in vitro experimental models” 460 550 PLN– **Project Head**
- 2022-2026 **Grant NCN OPUS, 2021/41/B/ST4/01725** „New bioanalytical microsystem for modeling culture of gynecological cancers.” – **Project Head**
- 2020-2024 **Grant NCN SONATA BIS, 2019/34/E/ST5/00381** “Studies on the use of Lab-on-a-chip systems to analyze the regeneration of heart cells.” – **Project Head**
- 2021-2022 **Grant IDUB POB BIB** “Body-on-a-chip systems for study the processes of cancer cells invasion and progression.” - **Researcher**
- 2017-2019 **Grant NCBiR Lider, LIDER/ 0041/L-7/2015**, "Portable microdevice for rapid and specific detection of proteins and nucleic acid fragments", **Researcher**
- 2014-2018

2014-2017	Grant NCN Sonata 5, 2013/09/D/ST5/03887 „Study on the effect of surface modification of poly(dimethylsiloxane) on its physicochemical properties and interaction with biological material” - Project Head
2012-2014	Grant NCBiR LIDER, LIDER/026/573/L-4/12/NCBR/2013 , „Lab-on-a-chip microsystem for modeling and studying cardiac muscle cell growth”, Project Head
2013-2016	Grant MNiSW Iuventus Plus, 0205/IP2/2011/714 "Development development and fabrication of an analytical microsystem for the evaluation of therapeutic effects of compounds with potential anticancer activity" - Project Head
2011-2014	Grant NCN UMO-2012/07/B/ST5/02753 , "Mechanism and efficiency of delivery of photosensitizer-filled nanocarriers under model conditions and using microsystems”, Researcher
2011-2013	Grant KBN/NCN 1450/B/H03/2011/40 , Development and fabrication of a Lab-on-a-chip microsystem for activity studies of compounds with potential cytostatic activity” - Researcher
2009-2012	Grant NCBiR LIDER, LIDER/17/202/L-1/09/NCBiR/2010 , "Multisensor tools for process control in bioreactors" - Researcher Grant NCBiR POIG.01.03.01-00-014/087 , „Mikro- i Nano-Systems in Chemistry and Biomedical Diagnostics” - Researcher

Prizes and awards

2021	Best Paper Award founded by IDUB Warsaw University of Technology
2020	II degree individual award of Rector of Warsaw University of Technology for scientific achievements in 2018
2019	Award for Outstanding Habilitation in Analytical Chemistry by the Committee on Analytical Chemistry of the Polish Academy of Sciences
2018	The People Powering the 2018 SLAS Technology Ten - SLAS Technology journal, top 10 scientists publishing innovative research in 2017 in the journal - international award
2017	Cover issue in SLAS Technology journal (IF 2,850), journal editors - international award
2015	Team Award of Rector of Warsaw University of Technology for scientific achievements in 2013-2014, Warsaw University of Technology
2014	Award for presentation at the Scientific Workshop of the Centre for Advanced Studies, Serdynia, Centre for Advanced Studies, Warsaw University of Technology
2013	Academic Travel Award at SLAS 2013 conference (Orlando, US), Association for Laboratory Automation - international award
2013	CAS/32/POKL Scholarship for Academic Teachers of Warsaw University of Technology, Centre for Advanced Studies. Warsaw University of Technology
2013	Scholarship for young outstanding scientists, Ministry of Science and Higher Education
2013	CAS/28/POKL Scholarship for Young Doctors of Warsaw University of Technology, Centre for Advanced Studies
2013	First Degree Team Prize of Rector of Warsaw University of Technology for scientific achievements in 2011-2012

- 2012 Award for oral presentation "Multidrug analysis of anticancer drugs in the microfluidic system" at the 7th International PhD Students and Young Scientists Conference Young scientists towards the challenges of modern technology, Warsaw, Poland
- 2012 Prize winner of the 20th edition of the competition in the START program awarded by the Foundation for Polish Science
- 2012 Distinction of the Council of the Faculty of Chemistry for the doctoral dissertation "*Lab-on-a-chip microsystems for efficacy assessment of anticancer therapies*", Faculty of Chemistry, Warsaw University of Technology
- 2011 Cover in *Analytica Chimica Acta* (IF 4.555), editorial board of the journal - **international distinction**
- 2011 Award for the presentation at the 6th International PhD Students and Young Scientists Conference Young scientists towards the challenges of modern technology, Warsaw
- 2011 Prize for presentation at the Spring Scientific Workshops of the Centre for Advanced Studies, Będlewo 2011, Centre for Advanced Studies, Warsaw University of Technology
- 2011 Academic Travel Award at the LabAutomation 2011 conference, (Palm Springs, US), Association for Laboratory Automation **international award**
- 2011 Scopus-Perspektywy Young Researcher Award, Elsevier B.V. and Perspektywy Educational Foundation, National competition for young scientists
- 2010 Scientific Scholarship for PhD students of Warsaw University of Technology CAS/16/POKL, Center for Advanced Studies
- 2010 Prize for the best paper at the 5th International PhD Students and Young Scientists Conference Young scientists towards the challenges of modern technology, Warsaw, Marshall of the Mazowieckie Voivodship
- 2009 Academic Travel Award at the LabAutomation 2010 conference, (Palm Springs, USA), Association for Laboratory Automation - **international award**
- 2009 Scholarship for the summer school "Highlights in Microtechnology" in Switzerland, Marie Curie Foundation, fully funded participation (as one of 24 persons from Europe) - **international award**
- 2009 Scholarship awarded in the framework of the project "Mazovian Doctoral Scholarship", Marshall of the Mazovian Voivodship

Ph.D. supervisor

Faculty of Chemistry, Warsaw University of Technology

- Since 2023 **M.Sc. Eng. Oliwia Tadko** „*Lab-on-a-chip systems for analysis of gynecological diseases*”
- Since 2021 **M. Sc. Eng. Joanna Konopka** "Lab-on-a-chip systems for angiogenesis"
- Since 2020 **M.Sc. Eng. Dominik Kołodziejek** "Research on application of Lab-on-a-chip systems for analysis of heart cell regeneration.
- Since 2020 **M.Sc. Zuzanna Iwoń** "Regenerative properties of stem cells in various models of cardiomyocyte hypoxia"
- 2015-2021 **Ph.D. Eng. Magdalena Flont** (née Bułka) - "Studies on the development of spatial models of ovarian and breast cancer with the use of Lab-on-a-chip microsystems and their application in the analysis of the effectiveness of anti-cancer therapies". (defense 09.2021) Faculty of Chemistry, Warsaw University of Technology - **awarded thesis**

2015-2021 **Ph.D. Eng. Anna Kobuszewska** "Lab-on-a-Chip flow microsystems for the study of myocardial cell hypoxia" (Defense 09.2021) Faculty of Chemistry, Warsaw University of Technology

2014-2019 **Ph.D. Eng. Agnieszka Żuchowska** "Research on the application of graphene derivatives in anticancer therapy using Lab-on-a-Chip systems" (defense - 12.2019), Faculty of Chemistry, Warsaw University of Technology, assistant supervision - **awarded thesis**

Supervision of Postdoctoral fellow

Since 2023 – 2 Postdocs (1 Postdoc position is opened now), Faculty of Chemistry, Warsaw University of Technology, Poland

Participation in expert and competition teams

Since 2021 Officer/Director of The Chemical and Biological Microsystems Society (CBMS)

Since 2022 Executive Technical Program Committee Member of International Conference on Miniaturized Systems for Chemistry and Life Sciences

Since 2018 Technical Program Committee Member of International Conference on Miniaturized Systems for Chemistry and Life Sciences

2017 MicroTAS 2017 Poster Judging Committee of 21 International Conference on Miniaturized Systems for Chemistry and Life Sciences, Savannah, USA

Functions performed in the workplace

Since 03.2022 Head of Department of Medical Biotechnology , CEZAMAT at the Warsaw University of Technology

Since 2019 Member of the Scientific Board of POB BIB at the Warsaw University of Technology IDUB

Since 10.2016 Representative of the Dean for Scientific Information at the Faculty of Chemistry, Warsaw University of Technology

ORGANISATION OF SCIENTIFIC MEETINGS

Co-chair of the 27th International Conference on Miniaturized Systems for Chemistry and Life Sciences, MicroTAS 2023, 1200 of participants, 15-19 October 2023, Katowice, Poland

TEACHING ACTIVITIES

Since 2012 - employment in a research/teaching position – Miniaturization, Analytical Chemistry, Lab-on-a-chip Microtechnology, medical biotechnology, (laboratories, lectures, supervision of master and engineer thesis)

Reviewing activities

2023 – Two PhD Thesis (SGGW and Institute of physical chemistry in Warsaw)

2021, 2022 – Editorial Board, Biosensor Journal, Switzerland

2020, 2021, 2022 - Review Board/ Member of POB BIB at the Warsaw University of Technology IDUB, Poland

Since 2022 – Executive Technical Program Committee Member of International Conference on Miniaturized Systems for Chemistry and Life Sciences, US

Since 2018 - Technical Program Committee Member of International Conference on Miniaturized Systems for Chemistry and Life Sciences, US

2017 - MicroTAS 2017 Poster Judging Committee of 21 International Conference on Miniaturized Systems for Chemistry and Life Sciences, Savannah, US

Since 2012 - Reviewer in international journals from JCR list: (i.e. Sensors & Actuators Chemical B, : Biomicrofluidics, Biosensors, Biomaterials Science, Biosensors, Organs-on-a-chip, Materials Science & Engineering C, Analyst, Biofabrication, Biomaterials)

Major collaborations

Prof. P. Renaud, Prof. M. Brugger, impedance spectroscopy in microfluidics, EPFL, Switzerland

Prof. A. Dobrzyń, Ph.D E. Krogulec, Prof. P. Dobrzyń, islet, stem and cardiac cell culture - Nencki Institute of Experimental Biology, Poland

Prof. S Flis – cell culture and analysis, Warsaw University of Life Sciences, Faculty of Animal Sciences, previous National Institute of Medicines, Poland

Prof. K. Wilk – encapsulated photosensitizers, Wroclaw University of Technology, Poland

Ph.D. I. Lasocka (Jesion) – cardiac cell culture - Warsaw University of Life Sciences, Poland

Prof. T. Ciach, Dr M. Wojasinski – nanofibers fabrication, Warsaw University of Technology, Poland

Prof. K. Pyrc, Dr M. Lenart – lab-on-a-chip for virus studies - Jagiellonian University, Poland

Career breaks

two maternity leaves (06.2015-05.2016, 01.2019-01.2020)

I hereby agree for processing the following personal information strictly for recruitment purposes in accordance with the regulation regarding the protection of personal data passed on the following date: 29.08.1997 (Dz.U.Nr 133 poz.883)