



## ACADEMIC TEACHER PROFESSIONAL EXPERIENCE

### DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

#### 1. Basic information

Name, surname:	Magdalena Kasprowicz
Grade / Title:	DSc, PhD
Scientific discipline	<b>inżynieria biomedyczna/ biomedical engineering</b>
Faculty:	W11 Wydział Podstawowych Problemów Techniki / Faculty of Fundamental Problems of Technology
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Link to home page and/or research profiles (Google Scholar, ResearchGate, etc.)	www.brainlab.pwr.edu.pl

#### 2. Publication record

*Up to 10 most important papers published over the period of previous 10 years.*

No.	Description (authors, publication title, journal / conference, DOI)	Publication year
1.	Kazimierska, A., Uryga, A., Mataczyński, C., Czosnyka, M., Lang, E.W., <b>Kasprowicz, M.</b> , & CENTER-TBI high-resolution sub-study participants and investigators (2023) Relationship Between the Shape of Intracranial Pressure Pulse Waveform and Computed Tomography Characteristics in Patients After Traumatic Brain Injury. <i>Critical Care</i> , 27 art. 447. <a href="https://doi.org/10.1186/s13054-023-04731-z">https://doi.org/10.1186/s13054-023-04731-z</a>	2023
2.	Kazimierska, A., Manet, R., Vallet, A., Schmidt, E., Czosnyka, Z., Czosnyka M., & <b>Kasprowicz, M.</b> (2023) Analysis of Intracranial Pressure Pulse Waveform in Studies on Cerebrospinal Compliance: a Narrative Review. <i>Physiological Measurement</i> , 44 art. 10TR01. <a href="https://doi.org/10.1088/1361-6579/ad0020">https://doi.org/10.1088/1361-6579/ad0020</a>	2023
3.	Ziółkowski, A., <b>Kasprowicz, M.</b> , Czosnyka, M., & Czosnyka, Z. (2023) Brain Blood Flow Pulse Analysis May Help to Recognize Individuals Who Suffer from Hydrocephalus. <i>Acta Neurochirurgica</i> , publikacja online. <a href="https://doi.org/10.1007/s00701-023-05839-5">https://doi.org/10.1007/s00701-023-05839-5</a>	2023
4.	Uryga, A., Kazimierska, A., Popek, M., Dragan, B., Burzyńska, M., Masalski, M., & <b>Kasprowicz, M.</b> (2023) Applying Video Motion Magnification to Reveal Spontaneous Tympanic Membrane Displacement as an Indirect Measure of Intracranial Pressure in Patients with Brain Pathologies. <i>Acta Neurochirurgica</i> , 165(8), 2227-2235. <a href="https://doi.org/10.1007/s10072-022-06579-7">https://doi.org/10.1007/s10072-022-06579-7</a>	2023
5.	Uryga, A., Ziółkowski, A., Kazimierska, A., Pudełko, A., Mataczyński, C., Lang, E. W., Czosnyka, M., <b>Kasprowicz, M.</b> , & CENTER-TBI High-resolution Sub-study participants and investigators. (2023) Analysis of Intracranial Pressure Pulse Waveform in Traumatic Brain Injury Patients: a CENTER-TBI Study. <i>Journal of Neurosurgery</i> , 139(1), 201-211. <a href="https://doi.org/10.3171/2022.10.JNS221523">https://doi.org/10.3171/2022.10.JNS221523</a>	2023
6.	Mataczyński, C., Kazimierska, A., Uryga, A., Burzyńska, M., Rusiecki, A., & <b>Kasprowicz, M.</b> (2022) End-to-End Automatic Morphological Classification of Intracranial Pressure Pulse Waveforms Using Deep Learning. <i>IEEE Journal of</i>	2022



	Biomedical and Health Informatics, 26(2), 494-504. <a href="https://doi.org/10.1109/JBHI.2021.3088629">https://doi.org/10.1109/JBHI.2021.3088629</a>	
7.	Ziółkowski, A., Pudełko, A., Kazimierska, A., Czosnyka, Z., Czosnyka, M., & <b>Kasprowicz, M.</b> (2021) Analysis of Relative Changes in Pulse Shapes of Intracranial Pressure and Cerebral Blood Flow Velocity. <i>Physiological Measurement</i> , 42(12), 125004. <a href="https://doi.org/10.1088/1361-6579/ac38bf">https://doi.org/10.1088/1361-6579/ac38bf</a>	2021
8.	Kazimierska, A., <b>Kasprowicz, M.</b> , Czosnyka, M., Placek, M. M., Baledent, O., Smielewski, P., & Czosnyka, Z. (2021) Compliance of the Cerebrospinal Space: Comparison of Three Methods. <i>Acta Neurochirurgica</i> , 163(7), 1979-1989. <a href="https://doi.org/10.1007/s00701-021-04834-y">https://doi.org/10.1007/s00701-021-04834-y</a>	2021
9.	Uryga, A., Kaczmarska, K., Burzyńska, M., Czosnyka, M., & <b>Kasprowicz, M.</b> (2020) A Comparison of the Time Constant of the Cerebral Arterial Bed Using Invasive and Non-invasive Arterial Blood Pressure Measurements. <i>Physiological Measurement</i> , 41(7), 075001. <a href="https://doi.org/10.1088/1361-6579/ab9bb6">https://doi.org/10.1088/1361-6579/ab9bb6</a>	2020
10.	Placek, M. M., Smielewski, P., Wachel, P., Budohoski, K. P., Czosnyka, M., & <b>Kasprowicz, M.</b> (2019) Can Interhemispheric Desynchronization of Cerebral Blood Flow Anticipate Upcoming Vasospasm in Aneurysmal Subarachnoid Haemorrhage Patients?. <i>Journal of Neuroscience Methods</i> , 325, 108358. <a href="https://doi.org/10.1016/j.jneumeth.2019.108358">https://doi.org/10.1016/j.jneumeth.2019.108358</a>	2019

### 3. Projects and grants

List of the most important 5 projects/grants with basic description including: title, source(s) of funding, name of the call, role in the project (e.g., principal investigator).

1.	Role in the project (e.g., principal investigator, work package leader, etc.)	Project Leader
	Project title	Development of brain compliance monitoring methods by means of intracranial pressure pulse waveform analysis in traumatic brain injury
	Sources of funding	OPUS 18 programme, National Science Centre, Poland
	Name of the call	
	Implementation period	2020-2024
2.	Role in the project (e.g., principal investigator, work package leader, etc.)	Work package leader
	Project title	International Academic Partnerships programme: physics and engineering for future electronic, optical and medical technologies
	Sources of funding	Polish National Agency for Academic Exchange
	Name of the call	
	Implementation period	2019-2022
3.	Role in the project (e.g., principal investigator, work package leader, etc.)	Project Leader
	Project title	Analysis of dynamic cerebral autoregulation in joint time and frequency domain
	Sources of funding	SONATA BIS 3 programme, National Science Centre, Poland
	Name of the call	
	Implementation period	2014-2018



4.	Role in the project (e.g., principal investigator, work package leader, etc.)	Principal investigator
	Project title	The role of cerebral autoregulation, cardiovascular function and severity of brain damage in delayed cerebral ischemia following aneurysmal subarachnoid haemorrhage
	Sources of funding	OPUS 9 programme, National Science Centre, Poland
	Name of the call	
	Implementation period	2014-2018
5.	Role in the project (e.g., principal investigator, work package leader, etc.)	Project Leader
	Project title	Development of advanced methods for assessing cerebrovascular hemodynamics based on multimodal, computer-supported brain monitoring
	Sources of funding	KOLUMB programme (supporting grant), Foundation for Polish Science, Poland
	Name of the call	
	Implementation period	2011-2012

#### 4. International experience

*Brief description of international cooperation and experience (e.g., research stays, cooperation with foreign entities, coordination or participation in international projects or programmes, keynote speeches and presentations delivered at renowned international conferences, visiting professor stays, invited lectures).*

No.	Description	Year(s)
1.	Department of Clinical Neurosciences, University of Cambridge Clinical School, UK, post-doctoral research stay	2009-2010
2.	Neural Systems and Dynamics Laboratory, Division of Neurosurgery, David Geffen School of Medicine, University of California, Los Angeles (UCLA), USA, post-doctoral research stay	2008-2009
3.	Kasprwicz, M. Novel temporal approaches to capture the impact of ANS on the cerebral vessels. 24th Congress of the European Federation of Autonomic Societies (EFAS), 5–7.10.2023, Dubrovnik, Croatia. [invited lecture]	2023
4.	Kasprwicz, M. ICP is not only a number: waves morphology for clinical assessment. Conference Management of Severe Traumatic Brain Injury organized by the Lithuanian Society of Neurosurgeons (LND), 19–22.05.2023, Vilnius, Lithuania. [invited lecture]	2023
5.	Kasprwicz, M. Brain compliance monitoring by means of intracranial pressure pulse waveform analysis in traumatic brain injury. XXXIII Konferencja Postępy w Anestezjologii i Intensywnej Terapii / IV Polski Kongres Pokonać Sepse, 9–11.06.2022, Wrocław, Poland. [invited lecture]	2022
6.	Toulouse University Hospital (Toulouse, France)	2022-now
7.	Poitiers University Hospital (Poitiers, France)	2021-now
8.	Department of Clinical Neurosciences, University of Cambridge Clinical School, UK	2008-now



## 5. Experience in teaching doctoral students

*Brief description of experience in teaching doctoral students (e.g., courses in doctoral schools and PhD studies, summer/winter schools for doctoral students, tutorials, trainings, etc.).*

No.	Description	Year(s)
1.		
2.		
3.		

## 6. List of supervised doctoral students

*List of all supervised doctoral students that defended the PhD including: name of the student, dissertation title, year of awarding PhD.*

No.	Name, surname	Dissertation title	Year of awarding PhD
1.	Michał Placek	The analysis of biosignals in the joint time and frequency domain.	2019
2.	Agnieszka Uryga	Modeling studies of the dynamics of cerebral blood flow	2019
3.	Agnieszka Kazimierska	Assessment of cerebrospinal compliance based on analysis of the shape of intracranial pressure pulse waveform	2022

## 7. Prizes and awards

*The most important national and international prizes and awards related to research, development and teaching activities.*

No.	Description	Year
1.	Rector's Awards Wrocław University of Science and Technology	2015, 2016, 2021, 2023
2.	Bronze medal for longtime service	2017
3.	Scholarship for young scientists MENTORING programme Foundation for Polish Science, Poland	2012
4.	Scholarship for young scientists Ministry of Science and Higher Education, Poland	2011
5.	Supporting grant for the KOLUMB programme laureates Foundation for Polish Science, Poland	2011
6.	KOLUMB scholarship for postdoc outgoing fellowship Foundation for Polish Science, Poland	2008
7.	Scholarship for young scientists START programme - extension Foundation for Polish Science, Poland	2007
8.	Scholarship for young scientists START programme Foundation for Polish Science, Poland	2006
9.	Scholarship for Ph.D. students Czesław M. Rodkiewicz Scholarship Foundation, Canada	2006
10.	Stay with us (Zostaniec z nami) scholarship	2001



	POLITYKA magazine	
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## 8. Other significant achievements

*Information on other significant achievements related to research, development and teaching activities.*

Appointment to the Polish Academy of Sciences Committee of Biocybernetics and Biomedical Engineering for the 2024-2027 term