ORCID: https://orcid.org/0000-0002-3839-459X

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SCOPUS: https://www.scopus.com/authid/detail.uri?authorId=55913254800

LIST OF PUBLICATIONS AFTER DOCTORATE

1. *The Model of Possible Web Data Retrieval*. Proceedings of 2nd IEEE International Conference on Cybernetics CYBCONF 2015, pp. 348 – 353, ISBN 978-1-4799-8320-9, Gdynia 2015.
2. *Intelligent search for diagnostic knowledge using fuzzy descriptive logic on the example of a selected class of diagnosed objects (in Polish)*, chapter in "Innovative solutions in the area of automation, robotics and measurements" edited by J. Kacprzyk, pp. 23-38, Warszawa 2015.
3. *Identification of language activity of the brain (in Polish).* In the monograph "Contemporary problems in the field of biomedical engineering and neurosciences" edited by Sz. Paszkiel, J. Sadecki, pp. 77-82, Opole University of Technology, Opole 2016
4. *An Uncertain Diagnostic System of the Constructional and Technological Preferences.* Proc. Of The 21st International Conference on Methods and Models in Automation and Robotics MMAR 2016, pp. 256 – 260, Międzyzdroje 29.08-1.09.2016.
5. *Rough Search of Vague Knowledge.* Bryniarski E., Bryniarska A., In *Thriving Rough Sets*, Studies in Computational Intelligence 708, Editors: G. Wang, A. Skowron, Y. Yao, D. Ślęzak, L. Polkowski, Chapter 14, Springer, pp. 283 - 309, Springer, 06.2017.
6. *A data granulation model for searching knowledge about diagnosed objects.* In Trends in Advanced Intelligent Control, Optimization and Automation - Proceedings of KKA 2017 in AISC series, v. 577, pp. 681-690, Springer, 2017.
7. *Autodiagnosis of Information Retrieval on the Web as a Simulation of Selected Processes of Consciousness in the Human Brain.* In Biomedical Engineering and Neuroscience, W. P. Hunek, S. Paszkiel eds., Advances in Intelligent Systems and Computing 720 pp. 111-120, Springer 2018
8. *Fuzzy granular calculations for the Sematic Web using some mathematical morphology methods* – in R. Matousek (Ed.): Recent Advances in Soft Computing, MENDEL 2017, pp 233-244. Springer 2018, doi: https://doi.org/10.1007/978-3-319-97888-8_20
9. *Basics of the theory of fuzzy systems with tasks (in Polish).* **Monograph** A. Walaszek-Babiszewska, A.Bryniarska, ISBN 978-83-66033-054-4, OW Opole University of Technology, Opole 2018
10. ***Certain information granule system as a result of sets approximation by fuzzy context,* International Journal of Approximate Reasoning 111, Elsevier, pp. 1-20, https://doi.org/10.1016/j.ijar.2019.04.012 , 2019 (140pkt)**
11. *Information granule system induced by a perceptual system,* Proceedings of the Federated Conference on Computer Science and Information Systems pp. 19–27, Leipzig 2019. DOI: http://dx.doi.org/10.15439/2019F147
12. Anna Bryniarska, Andrzej Lewiński, Adrian Markiewicz, Kamil Noworolski, Rafał Oleksik, Patryk Szczęśniak: *Algorithms used in machine learning (in Polish).* Scientific Journals of the Opole University of Technology, OW Opole University of Technology, Opole 2020.
13. *The Auto-Diagnosis of Granulation of Information Retrieval on the Web*. Bryniarska, A. Algorithms 2020, 13, 264, https://doi.org/10.3390/a13100264.
14. The n-Pythagorean Fuzzy Sets. Bryniarska, A., Symmetry 2020, 12, 1772, https://doi.org/10.3390/sym12111772.
15. *General Environment Description Language*. Zatwarnicki, K.; Pokuta, W.; Bryniarska, A.; Zatwarnicka, A.; Metelski, A.; Piotrowska, E. , Appl. Sci. 2021, 11, 740. https://doi.org/10.3390/app11020740
16. *Granulation of technological diagnosis in the algebra of the n-Pythagorean fuzzy sets*. Bryniarska A., AINA 2021, Proc in: Lecture Notes in Networks and Systems, vol. 226, Springer, pp. 358-369, https://doi.org/10.1007/978-3-030-75075-6
17. *The Primary Command Dictionary for the Flexible Database.* Pokuta W., Bryniarska A., the 38th IBIMA Conference on 23-24 November 2021 Seville, Spain, pp. 5299-5308, ISBN: 978-0-9998551-7-1, 2021
18. *Mathematical models of diagnostic information granules generated by scaling intuitionistic fuzzy sets*, Bryniarska A., Appl. Sci. 2022, 12(5), 2597; https://doi.org/10.3390/app12052597

19. *Survey on the Most Current Image Processing Methods in Huntington's Disease Diagnostics and Progression Assessment*, Kawala-Sterniuk A. et al., Computer Science Journal, 2023, in print

DOCTORATE

Dissertation topic: Intelligent search for diagnostic knowledge using fuzzy descriptive logic on the example of a selected class of diagnosed objects.

Supervisor: Professor Anna Walaszek-Babiszewska

Defense of doctoral dissertation on December 11, 2014, Field of technical sciences, scientific discipline: Automation and Robotics, Opole University of Technology, Obtained degree PhD

MEMBERSHIP IN SOCIETIES
since 2011 - Membership in PTI - Polish IT Society

ADDITIONAL POSITIONS AT WORK

1. from 2016 to 2020 – member of the **Faculty Council** of Faculty of Electrical Engineering, Automatic Control and Informatics, Opole University of Technology
2. from 2017 to 2020 – member of the **faculty publication team**
3. from January 2017 to April 2017 – member of the **Faculty Committee for the Preparation of the Faculty Parametric Assessment**
4. from 2017 to 2020 – member of the **faculty committee for educational programs**
5. from 2017 to 2020 - responsible for comparing documentation and education programs, among others. Ukraine and Poland 2nd degree studies and double diplomas in Computer Science.
6. from 2017 to 2020 - **deputy director of the Institute of Computer Science**
7. 2019 - member of the **program committee at the Fedcsis'2019 conference**
8. from 2019 to 2020 – member of the team preparing the self-assessment report in the field of IT for **PKA 2020** accreditation
9. from 2019 to 2020 – **chairman of the Teaching Council of the Computer Science** field
10. from 2019 to 2020 – member of the **Dean's Council of the Faculty of Electrical Engineering, Automatics and Computer Science**
11. from 2020 to 2022 - operation of the Didacticos program, workload management in the field of Computer Science for the Department of Computer Science

AWARDS

1. July 30, 2021 - **bronze medal** for long-term service awarded by the President of the Republic of Poland, Andrzej Duda, ID no. 234-2021-100.
2. December 20, 2021 - **Rector's Award** of the Opole University of Technology - individual award for other achievements.

GRANTS AND PROJECTS

1. 11/2022-05/2023 - **grant** from the Rector of the Opole University of Technology in the GAMMA competition entitled: "Application of data granulation to detect the deadly browning disease of palm trees using an electronic nose" - trip for a research internship to the USA, February 5-20, 2023, manager, Ph.D. Eng. Anna Bryniarska.

2. 1/10/2021 – 30/06/2024 – member (contractor, collaborator) of the Project in the 4th CyberSecIdent competition entitled "System assessing and monitoring the level of cybersecurity of IoE/IoT devices of citizens of the Republic of Poland" CyberEva 2021-2024, project manager Dr. Eng. Adam Czubak.

3. 1/02/2023 - current: Horizon 2020 FET program of the European Union through the ERA-NET Cofund funding grant CHIST-ERA-20-BCI-001 and the National Science Center, Poland, under Grant Agreement no. 2021/03/Y/ST7/00008 - "Brainsourcing for Affective Attention Estimation" - contractor/collaborator, project manager: dr hab. engineer Aleksandra Kawala-Sterniuk.

COURSES

Courses thought with students in academic years from 2015 to 2023:

- Artificial inteligence tools (in Polish and English)
- Artificial inteligence basis (in Polish and English)
- Database basics (in Polish and English)
- Elective course IX - Database applications (in Polish and English)
- Software engineer
- Elective subject II - Testing of applications and systems
- Internet techniques
- Modeling using fuzzy systems and neural networks
- Databases I
- Basics of Databases
- Artificial intelligence methods in automation
- Computer science I
- Programming III
- Database Design

COOPERATION WITH OTHER UNIVERSITIES

Cooperation with Professor Jose A. Ramos, PhD and with Professor Mercedes Fernandez PhD from Nova Southeastern University in Fort Lauderdale, Florida, USA from April 23, 2022 – now

COURT EXPERT AT THE DISTRICT COURT IN OPOLE

Scope: computer science with a specialization:

research of IT databases,

obtaining information from databases,

analysis of programs in cases of copyright infringement,

analysis of source codes of programs and websites

LIST OF PARTICIPATION IN CONFERENCES AND WORKSHOPS

1. Opole University of Technology, Environmental Workshops for Doctoral Students of the Opole University of Technology, 18-20.05.2011, Pokrzywna, Poland
2. I Conference ICT Young 2011, 28-29.05.2011, Gdańsk University of Technology, Poland
3. XIII International Phd Workshop OWD, 22-25.10.2011, Wisła, Poland
4. VI International Scientific Conference of the Series Computer Science in the 21st Century on the topic: Computer Technologies in the Development of Science, Technology and Education, 24-25.05.2012, Jedlnia-Letnisko, Poland
5. Seminar at the University of Zielona Góra, Faculty of Mathematics, Computer Science and Econometrics on the topic: Searching for Fuzzy Knowledge in Semantic Networks, Poland 13.06.2012
6. Opole University of Technology, Environmental Workshops for Doctoral Students of the Opole University of Technology, 20-22.06.2012, Pokrzywna, Poland
7. Wrocław University of Science and Technology, 33rd International Conference Information Systems Architecture and Technology, 16-18.09.2012, Szklarska Poreba, Poland
8. Opole University of Technology, Environmental Workshops for Doctoral Students of the Opole University of Technology, 12-14.06.2013, Pokrzywna, Poland
9. IADIS International Conference Intelligent Systems and Agents 2013, 22-24.07.2013, Prague, Czech Republic
10. Opole University of Technology, Environmental Workshops for Doctoral Students of the Opole University of Technology, 4-6.06.2014, Pokrzywna, Poland
11. FIT Theoretical Informatics Forum 2015 (with the paper: The t-norm valuation-based system for the database attributes configuration in the Dempster-Shafer's theory of evidence), Warszawa, Poland 30-31.01.2015.
12. National Automation Conference KKA 2017, Cracow, Poland 19-21.06.2017
13. Mendel - 23rd International Conference on Soft Computing, Brno, Czech Republic 20-22.06.2017
14. Fedcsis 2019 - 14th FEDERATED CONFERENCE ON COMPUTER SCIENCE AND INFORMATION SYSTEMS, Leipzig University, Leipzig, Germany, 1-4 September, 2019.
15. AINA 2021 The 35-th International Conference on Advanced Information Networking and Applications (AINA-2021) – Canada - online 12-14.05.2021 r.
16. the 38th IBIMA International Conference, Seville, Spain – online 11.2021
17. **Guest lectures** 30.05-02.06.2022 - Portugalia, Coimbra, POLYTECHNIC INSTITUTE OF COIMBRA, Coimbra Institute of Engineering
18. **Research internship, Nova Southeastern University in Fort Lauderdale, Florida, USA, 05-20.02.2023**

REVIEWS FOR JOURNALS

1. Symmetry, MDPI https://www.mdpi.com/journal/symmetry since 2019

2. Axioms, MDPI, https://www.mdpi.com/journal/axioms, since 2021

3. Electronics, MDPI, https://www.mdpi.com/journal/electronics, since 2021

4. International journal of fuzzy system applications, IGI Global, https://www.igi-global.com/journal/international-journal-fuzzy-system-applications/41876, since 2021

5. Mathematics, MDPI, https://www.mdpi.com/journal/mathematics, since 2021

6. Information Sciences, https://www.sciencedirect.com/journal/information-sciences, since 2023

COMPETITIONS
Juror in the Engineer 4 Science 2023 competition organized by the 4 Science Institute under the patronage of IEEE and NCBR.

LIST OF PUBLICATIONS PRIOR TO DOCTORATE

1. *The problem of the evolutionary searching the Web by fuzzy automata.* Elektryka z. 66 Scientific Journals of the Opole University of Technology, 342/2011, pp. 13-14, OW Opole University of Technology, Opole 2011.
2. *Fuzzing and searching for fuzzy knowledge in semantic networks (in Polish).* Scientific Journals of the Faculty of Electronics, Telecommunications and Computer Science of the Gdańsk University of Technology, vol 1, pp. 389-394, Gdańsk 2011.
3. *Adequate defuzzification of fuzzy knowledge in semantic networks (in Polish).* Conference materials, XIII International PhD Workshop OWD, s. 249-254, Wisła 2011.
4. *Dynamic system searching for fuzzy knowledge in the semantic network (in Polish),* Elektryka z. 67 Scientific Journals of the Opole University of Technology, OW Opole University of Technology, Opole 2012.
5. *Fuzzy knowledge searched in semantic networks and its model in data systems (in Polish).* Computer Technologies in the Development of Science, Technology and Education, Monograph publishing series Computer science in the 21st century, pp. 13-23, Radom 2012.
6. *The structure of the semantic network applied in searching fuzzy knowledge.* Works of PhD students Članky Doktorandů, Scientific Journals of the Opole University of Technology, pp. 19-24, Opole 2012.
7. *Fuzzing and defuzzing knowledge in selected semantic networks of production systems* (in Polish), PAR 4/2012, pp. 98-104, 2012.
8. *Application of the fuzzy sets method for production systems description.* Elektryka z. 68 Scientific Journals of the Opole University of Technology, OW Opole University of Technology, Opole 2012.
9. *The algorithm of knowledge defuzzification in semantic network.* Information Systems Architecture and Technology, Networks Design and Analysis, pp. 23-32, Wrocław, 2012.
10. *Rule systems for sharpening fuzzy knowledge (in Polish).* Scientific Journals of the Opole University of Technology, OW Opole University of Technology, Opole 2012.
11. *Diagnostic reasoning using fuzzy descriptions of knowledge.* Elektryka z. 69 Scientific Journals of the Opole University of Technology, OW Opole University of Technology, Opole 2013.
12. *An Information Retrieval Agent in Web resources.* Proceedings of IADIS International Conference Intelligent Systems and Agents 2013, pp. 121-125 , Prague, Czech Republic 2013.
13. *The Paradox of the Fuzzy Disambiguation in the Information Retrieval.* (IJARAI) International Journal of Advanced Research in Artificial Intelligence, pp. 55-58, Vol 2 No 9, 09.2013.
14. *Decision table for diagnostic system of gas boilers.* Elektryka Scientific Journals of the Opole University of Technology, OW Opole University of Technology, Opole 2014.

SCHOLARSHIPS FOR DOCTORAL STUDIES