

Prof. RNDr. Šárka Mayerová, Ph.D.

She publishes under the name **Hošková-Mayerová**

Personal data

Date and place of birth	1. 6. 1966, Brno
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Nationality	CR
Personal identification number	665601/0361

Education

Achieved qualifications	Graduation
Name and type of organization that provided the education	UJEP Brno, Faculty of Science, now Masaryk University Brno
Field of education	Mathematics and physics

Achieved qualifications	Ph.D., Thesis: "Abelizations of weakly associative hyperstructures and their proximal modifications"
Name and type of organization that provided the education	Masaryk University, Brno, Faculty of Education
Field of education	Discrete mathematics

Scientific-pedagogical rank

Title	Professor
Name and type of organization for which the appointment procedure took place	University of Defense in Brno
Branch of appointment procedure	Protection of troops and population

Title	Docent
Name and type of organization for which the habilitation procedure took place	habilitation thesis: "Binary hyperstructures determined by relational and transformation systems"
Field of habilitation proceedings	Faculty of Science of the University of Ostrava

Work experience and professional activity

Name and address of the employer	Ministry of Defense - University of Defense, Kounicova 65, 66210 Brno
Function and period of its performance	Vice-dean for FVT UO for public relations and development 2016-2017 Professor at the Department of Mathematics and Physics, 28 November 2019 – until now Head of the Department of Mathematics and Physics 2021-until now
Fields of activity, main job description and responsibility	Mathematics teaching at all levels of education, participation in scientific and research tasks of the department and faculty, specialization: algebra, mathematical modelling, probability and statistics.

Professional and scientific activity

Number and character of publications	Approximately 180 articles in professional journals focusing on discrete mathematics, mathematical modeling, decision processes and education. Of these, 135 documents are in the SCOPUS database and 119 on WoS.
H-index - SCOPUS	20
Citations without self-citations	960
H-index - WoS	18
Citations without self-citations - WoS	788
Other results of scientific activity	<p><u>Editor in chief:</u> Ratio Mathematica, ISSN 2282-8214</p> <p><u>Associative editor:</u></p> <ol style="list-style-type: none"> Advances in Military Technology, (Scopus). ISSN 1802-2308. Journal of Intelligent & Fuzzy Systems (IF 1,737), ISSN 1064-1246, (till 2024) <p><u>Member of the editorial board:</u></p> <ol style="list-style-type: none"> Italian Journal of Pure and Applied Mathematics, Italy, ISSN 2239-0227 (Web of Science and Scopus) Mathematics, EISSN 2227-7390, IF 2,592 Land Forces Academy Review, Review of the NICOLAE BALCESCU Land Forces Academy, Romania. ISSN 2247-840X. Scientific Bulletin, ISSN 2247-8396, NICOLAE BALCESCU Land Forces Academy, Romania Journal of Hyperstructure, ISSN 2251-8436.

	<p>6. Science & Philosophy – Journal of Epistemology, Science and Philosophy, ISSN 2282-7765.</p> <p>7. Housing Policies and Urban Economics, ISSN: 2385-1031.</p> <p><u>Member of the reviewer team:</u> Mathematics (IF 2,592), (ISSN 2227-7390)</p>
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The most important projects - researcher:

- NATO: Evaluation of Czech Republic Tree Data as a Basis for a New US Forest Maneuverability Model, code: FY20 FTAS, 2020 – 2021,
- NATO: Determination of the trafficability of military vehicles in typical Central European forest, code: NATO - STO Support Project (CZE-AVT-2019), 2020-2023
- GAČR, Reliability assessment of integrated digital spatial data, GA205/09/1198
- Grant ESF: Operational program Development of human resources CZ.04.1.03/3.2.15.1/0016- Study supports with predominant distance elements for subjects of the theoretical basis of study.

Present projects:

- 2024 – 2025 Research, Innovation, and Impact Grant, Abu Dhabi University, grant number: 19300884.
- 2021 – 2031 Ministry of Defence of the Czech Republic: Organization Development Project: Military Autonomous and Robotic Systems, code: VAROPS (DZRO FVT 3),

Organization of an worldwide conference in the position of Vice-Chairman in the last 5 years:

- *Challenges to National Defence in Contemporary Geopolitical Situation* CNDCGS`2024. Brno, Czech Republic, 11–13. 9. 2024
- *Challenges to National Defence in Contemporary Geopolitical Situation* CNDCGS`2022. Vilnius, Lithuania. 15–16. 9. 2022
- *Challenges to National Defence in Contemporary Geopolitical Situation* CNDCGS`2020. Vilnius, Lithuania. 31. 3–2. 4. 2020

Dissertation reviews in 2021-2024: 7x abroad

Habilitation thesis review: 2020 – Mgr. Hasilová: Neparametrické metody pro posuzování, modelování a simulaci dat v oblasti ochrany vojsk a obyvatelstva

5 most significant results in the last 3 years:

1. Nikitin, A., Bekesiene, S., Hošková-Mayerová, Š., Krasiuk, B.: Multidimensional Model of Information Struggle with Impulse Perturbation in Terms of Levy Approximation. *Mathematics*, 2024, 2024(12), 1263. doi:10.3390/math12081263
2. Al-Tahan, M., Hošková-Mayerová, Š., Davvaz, B., Sonea, A. On subpolygroup commutativity degree of finite polygroups. *AIMS Mathematics*, 2023, **8**(10), 23786-23799. doi:10.3934/math.20231211
3. Bakare, E.A., Hoskova-Mayerova, S., Numerical treatment of optimal control theory applied to malaria transmission dynamic model, *Quality and Quantity*, 2023, 57, pp. 409–431
4. Bakare, E. A., Hošková-Mayerová, Š.: Modelling the impact of interventions against malaria-schistosomiasis co-infection dynamics. *Italian Journal of Pure and Applied Mathematics*, 2022, 47(47), 271-302.

5. Hošková-Mayerová, Š., Kalvoda, J., Bauer, M., Račková, P. Development of a Methodology for Assessing Workload within the Air Traffic Control Environment in the Czech Republic. *Sustainability*, 2022, 14(13), „7858“. doi:10.3390/su14137858

Co-author of the monograph:

Talhofer, V., Hošková-Mayerová, Š., Hofmann, A. Quality of Spatial Data in Command and Control System. Gewerbestr. 11, 6330 Cham, Switzerland: Springer International Publishing, 2019. 192 p. Studies in Systems, Decision and Control 168. ISBN 978-3-319-94561-3.

Book editor:

1. Hošková-Mayerová, Š., Flaut, C., Maturo, F., Algorithms as a Basis of Modern Applied Mathematics; Studies in Fuzziness and Soft Computing 404. Cham: Springer, 2021, 553 p., ISBN 978-3-030-61333-4.
2. Hošková-Mayerová, Š., Maturo, F., Kacprzyk, J., Mathematical-Statistical Models and Qualitative Theories for Economic and Social Sciences, Book of series: Studies in Systems, Decision and Control 104. Springer International Publishing, 2017, 437 p., ISBN 978-3-319-54819-7.
3. Tušer, Irena, Hošková-Mayerová, Š., Trends and Future Directions in Security and Emergency Management. Cham: Springer Science and Business Media Deutschland GmbH, 2022, ISBN 978-3-030-88906-7.
4. Soitu, D., Hošková-Mayerová, Š., Maturo, F., Decisions and Trends in Social Systems: Innovative and Integrated Approaches of Care Services. Book of Series: Lecture Notes in Networks and Systems 189, Springer International Publishing, 2021, 428 p., ISBN 978-3-030-69093-9.
5. Sarasola Sánchez-Serrano, J. L., Maturo, F., Hošková-Mayerová, Š., Qualitative and Quantitative Models in Socio-Economic Systems and Social Work, Book of series: Studies in Systems, Decision and Control 208. Cham: Springer, 2020, 518 p., ISBN 978-3-030-18592-3.
6. Flaut, D., Hošková-Mayerová, Š., Maturo, F., Flaut, C., Ispas, C., Decision Making in Social Sciences: Between Traditions and Innovations Book of Series: Studies in Systems, Decision and Control 247. Springer, 2020, 543p., ISBN 978-3-030-30658-8
7. Flaut, C., Hošková-Mayerová, Š., Flaut, Daniel. Models and Theories in Social Systems, Book of series: Studies in Systems, Decision and Control 179. Springer International Publishing, 2018, 576 p. ISBN 978-3-030-00083-7.

Editor of journal special volume

Smaliukiene, R., Bekesiene, S., Hošková-Mayerová, Š., *Editorial: Emotional Resilience For Wellbeing And Employability: The Role Of Learning And Training Ii*. Front. Psychol., 2024,

Smaliukiene, R., Bekesiene, S., Hošková-Mayerová, Š., *Editorial: Emotional Resilience For Wellbeing And Employability: The Role Of Learning And Training*. Front. Psychol., 2024,

Bekesiene, S., Hošková-Mayerová, Š., Sedlačik M., *Data-Driven Decision Making for Complex Systems, Systems, 2024*