

OVERVIEW OF PROFESSIONAL ACTIVITIES 2025
INSTITUTE OF MATHEMATICS AND DESCRIPTIVE GEOMETRY, FCE BUT

April 1, 2026

Personal constitution (to December 31, 2025)

Head: Jan Holešovský

Professors: Josef Diblík, Jiří Vala

Associated Professors: Irena Hinterleitner, Vladislav Kozák, Miroslav Trcala

Asistent Professors: Hana Boháčková, Darina Brothánková, Jana Bulantová, Anna Derevianko, Jan Holešovský, Veronika Chrastinová, Eva Jansová, Kristýna Mencáková, Karel Mikulášek, Blanka Morávková, Šárka Pechancová, Kateřina Pokorová, Oto Příbyl, Jana Slaběňáková, Jan Šafařík, Pavel Špaček, Lucie Zrůstová

Lecturers: Matouš Cabalka, Marie Hartmanová

Technoeconomic workers: Zdeňka Dvorská, Alena Vlčková

Ph.D. student: Michal Jedlička (combined study, mentor Jiří Vala)

Journal articles

- [1] BEREZANSKY, L.; DIBLÍK, J.; DOMOSHNITSKY, A.; ŠMARDA, Z. [Boundedness of solutions and exponential stability for linear neutral differential systems with Volterra integral part.](#) *Chaos, Solitons and Fractals* 200 (2025), 1873–1887. ISSN 1873-2887. **WoS AIS (2024) Q1.**
- [2] BOŠANSKÝ, M.; TRCALA, M. [Numerical analysis of cross-laminated timber panels under three-point bending using laminate theory.](#) *Materials* 18 (2025), 5232 / 1–18. ISSN 1996-1944. **WoS AIS (2024) Q2.**
- [3] DEREVIANKO, A.; DIBLÍK, J. [Planar linear differential weakly delayed systems with constant matrices and equivalent ordinary differential systems.](#) *Journal of Mathematical Analysis and Applications* 552 (2025), 129740 / 1–29. ISSN 1096-0813. **WoS AIS (2024) Q2.**
- [4] DIBLÍK, J. [Representation of solutions of linear discrete systems with constant coefficients and with delays.](#) *Opuscula Mathematica* 45 (2025), 145–177. ISSN 2300-6919. **WoS AIS (2024) Q2.**
- [5] DIBLÍK, J.; BOHÁČKOVÁ, H.; RŮŽIČKOVÁ, M.; ŠAFAŘÍK, J. [General solutions of weakly delayed discrete systems in 3D.](#) *Advances in Nonlinear Analysis* 14 (2025), 20250121 / 1–49. ISSN 2191-9496. **WoS AIS (2024) Q1.**
- [6] HOLEŠOVSKÝ, J.; FUSEK, M. [Statistical inference on the local dependence condition of extreme values in a stationary sequence.](#) *Extremes* 28 (2025), 557–578. ISSN 1386-1999. **WoS AIS (2024) Q1.**

- [7] JULÍNEK, T.; ŘÍHA, J.; GREŠL, M.; HOLEŠOVSKÝ, J.; CABALKA, M. Determination of the yield of thermal mineral springs emerging into the Bečva River in the Teplice Spa. *Journal of Hydrology and Hydromechanics* 73 (2025), 95–107. ISSN 1338-4333. **WoS AIS (2024) Q3.**
- [8] KOZÁK, V.; VALA, J. Some peculiarities of using the extended finite element method in modelling the damage behaviour of fibre-reinforced composites. *Materials* 18 (2025), 1787 / 1–16. ISSN 1996-1944. **WoS AIS (2024) Q2.**
- [9] KOZÁK, V.; VALA, J.; DEREVIANKO, A. Modelling structural material damage using the cohesive zone approach under operational conditions. *Materials* 18 (2025), 4039 / 1–19. ISSN 1996-1944. **WoS AIS (2024) Q2.**
- [10] MIKEŠ, J.; HINTERLEITNER, I.; PEŠKA, P.; VÍTKOVÁ, L. Rigidity of holomorphically projective mappings of Kähler and hyperbolic Kähler spaces with finite complete geodesics. *Geometry* 2 (2025), 3 / 1–13. ISSN 3042-402X. **Dosud neindexováno na WoS.**
- [11] POBUCKÁ, S.; KUČÍREK, P.; ŠUHAJDA, K.; HOLEŠOVSKÝ, J. Foundation of timber structures – crawl space heat and moisture analysis with air age simulation and occurrence of micromycetes. *Acta Facultatis Xylogologiae Zvolen* 67 (2025), 109–124. ISSN 1336-3824. **WoS AIS (2024) ESCI Q4.**
- [12] PRŮŠA, D.; ŠŤASTNÍK, S.; ŠUHAJDA, K.; PSOTA, J.; SVOBODOVÁ, K.; SOCHOROVÁ, Z.; VALA, J. From BIM to BEM – modern thermal simulations using a building information management model: a case study. *Applied Sciences* 15 (2025), 2878 / 1–21. ISSN 2076-3417. **WoS AIS (2024) Q2.**
- [13] VALA, J.; TOMÁŠ, J. Damage behaviour of quasi-brittle composites: mathematical and computational aspects. *Applied Sciences* 15 (2025), 4214 / 1–23. ISSN 2076-3417. **WoS AIS (2024) Q2.**

Conference proceedings

- [1] DIBLÍK, J. Detecting initial data generating (b,c) -bounded solutions of scalar non-homogeneous linear discrete equations. *21st ICNAAM (International Conference of Numerical Analysis and Applied Mathematics)* in Heraklion (2023), *AIP Conference Proceedings* 3315 (2025), 260003 / 1–4. ISSN 1551-7616.
- [2] DIBLÍK, J.; BOHÁČKOVÁ, H.; ŠAFAŘÍK, J. Discrete analogue of a linear differential model with delay of the Mach number dynamics and its solution. *9th MSCl (Mathematics and Computers in Sciences and Industry)* in Rhodes (2024), *IEEE Xplore* (2025), 174–179. ISBN 979-8-3503-7722-4.
- [3] DIBLÍK, J.; HARTMANOVÁ, H. Solutions of delayed linear discrete two-dimensional systems with constant coefficients in the case of single zero eigenvalue of the matrix of non-delayed terms. *21st ICNAAM (International Conference of Numerical Analysis and Applied Mathematics)* in Heraklion (2023), *AIP Conference Proceedings* 3315 (2025), 260002 / 1–4. ISSN 1551-7616.
- [4] DIBLÍK, J.; ŠAFAŘÍK, J.; BOHÁČKOVÁ, H. Matrix solution of a weakly delayed linear discrete system. *21st ICNAAM (International Conference of Numerical Analysis and Applied Mathematics)* in Heraklion (2023), *AIP Conference Proceedings* 3315 (2025), 260004 / 1–4. ISSN 1551-7616.

- [5] [JEDLIČKA, M.](#); [NĚMEC, I.](#); [VALA, J.](#) [On the possibilities of computational modelling in interaction of a structure with subsoil.](#) *22nd PANM (Programs and Algorithms of Numerical Mathematics)* in Hejnice (2024), *Institute of Mathematics CAS* (2025), 73–83. ISBN 978-80-85823-69-1.
- [6] [KOZÁK, V.](#) [Application of the \$J\$ -integral and the cohesive approach for the creep crack modelling.](#) *21st ICNAAM (International Conference of Numerical Analysis and Applied Mathematics)* in Heraklion (2023), *AIP Conference Proceedings* 3315 (2025), 2600006 / 1–4. ISSN 1551-7616.
- [7] [VALA, J.](#) [A mathematical and computational view of non-stationary thermal transfer.](#) *29th Thermophysics* in Dalešice (2024), *AIP Conference Proceedings* 3355 (2025), 020016 / 1–8. ISSN 1551-7616.
- [8] [VALA, J.](#) [On the damage factor in the macroscopic dynamic analysis of quasi-brittle materials and structures.](#) *21st ICNAAM (International Conference of Numerical Analysis and Applied Mathematics)* in Heraklion (2023), *AIP Conference Proceedings* 3315 (2025), 2600007 / 1–4. ISSN 1551-7616.
- [9] [VALA, J.](#); [KOZÁK, V.](#) [Viscoelastic deformation with damage of quasi-brittle composites: mathematical and computational issues.](#) *11st MSMF (Materials Structure and Micromechanics of Fracture)* in Brno (2025), *Procedia Structural Integrity* 74 (2025), 91–98. ISSN 2452-3212.

Visits from abroad

- [1] [PITUK, M.](#) University of Pannonia, Veszprém, Maďarsko (25. 8. 2025 – 30. 8. 2025).
- [2] [MAJDAK, W.](#) AGH University of Krakow, Krakow, Polsko (9. 11. 2025 – 15. 11. 2025).
- [3] [JADLOVSKÁ, I.](#) Slovak Academy of Science, Mathematical Institute, Košice, Slovak Republic (30. 11. 2025 – 6. 12. 2025).

Foreign stays

- [1] [DEREVIANKO, A.](#); [DIBLÍK, J.](#) University of Białystok, Białystok, Polsko, program Erasmus+ (11. 05. 2025 – 17. 05. 2025).
- [2] [DIBLÍK, J.](#) University of Pannonia, Veszprém, Maďarsko, program Erasmus+ (30. 03. 2025 – 5. 04. 2025).
- [3] [DIBLÍK, J.](#) University of Białystok, Białystok, Polsko, development project FCE (7. 12. 2025 – 13. 12. 2025).
- [4] [DIBLÍK, J.](#) AGH University of Krakow, Krakow, Polsko, development project FCE (6. 10. 2025 – 10. 10. 2025).

Ing. Jan Holešovský, Ph.D.,
head of MAT