DEPARTMENT OF MATHEMATICS
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Head of Department
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I. STAFF

Professors	Prof. RNDr. Igor Bock, PhD., Prof. RNDr. Zdenka Riečanová, PhD.
Associate Professors	Doc. RNDr. Jana Galanová, PhD., Doc. Mgr. Gejza Jenča, PhD.,
	Doc. RNDr. Ľubomír Marko, PhD., Doc. RNDr. Vladimír Olejček, PhD.,
	Doc. RNDr. Ladislav Satko, PhD., Doc. RNDr. Peter Volauf, PhD.,
	Doc. RNDr. Michal Zajac, PhD., Doc. RNDr. Igor Zuzčák, PhD.
	RNDr. Igor Brilla, PhD., RNDr. Karla Čipková, PhD.,
	RNDr. Mária Kečkemétyová, PhD., RNDr. Hana Lichardová, PhD.,
	RNDr. Ivica Marínová, PhD., Mgr. Dávid Pancza, PhD.,
	RNDr. Elena Pastuchová, PhD., Mgr. Marcel Polakovič, PhD.,
	RNDr. Boris Rudolf, PhD.
Research Worker	RNDr. Anton Galan
Technical Staff	Gabriela Grúňová (secretary)

II. EQUIPMENT

None

III. TEACHING

III.1 Undergraduate Study (Bc.)

Subject, semester, hours per week for lectures and for seminars or practical exercises, name of the lecturer:

Calculus I	(1st sem., 4-1h)	M. Kečkemétyová
	Ľ. Marko	
		L. Satko
		M. Zajac
		I. Zuzčák
Logic Systems	(1st sem., 4-1h)	J. Galanová
		V. Olejček
	M. Polakovič	
		I. Zuzčák
Calculus II	(2nd sem., 4-1h)	
I. Brilla		
		B. Rudolf

L.
Satko

Linear Algebra I	(1st sem., 2-2h)	M. Zajac
Linear Algebra II	(2nd sem., 2-2h)	M. Zajac
Calculus III	(3rd sem., 3-2h)	I. Brilla
		Ľ. Marko
Numerical and Statistical Computations	(3rd sem., 3-2h)	P. Volauf
	(4th sem., 3-2h)	V. Olejček
Discrete Mathematics and Logic	(3rd sem., 3-2h)	M. Kochol
Numerical and Statistical Computations	(4th sem., 3-2h)	V. Olejček
Statistical Methods in Informatics	(4th sem., 2-2h)	E. Pastuchová
Ordinary Differential Equations	(3rd sem., 2-2h)	Ľ. Marko
Partial Differential Equations	(4th sem., 2-2h)	I. Bock
Matrix Algorithms	(4th sem., 2-2h)	P. Volauf
Probability and Statistics P. Volauf		(4th sem., 2-2h)
Operational Systems	(5th sem., 2-2h)	G. Jenča
Linear Algebra and Linear Programming	(6th sem., 2-2h)	M. Zajac
Discrete Mathematics	(6th sem., 3-2h)	J. Galanová

III.2 Graduate Study (Ing.)

Coding Theory	(1st sem., 3-1h)	K. Čipková
Differential and Difference Equations	(1st sem., 2-2h)	B. Rudolf
Differential Systems and Stability	(1st sem., 2-2h)	I. Bock
Partial Differential Equations	(1st sem., 3-1h)	I. Bock
Mathematical Logic	(1st sem., 3-1h)	J. Galanová
Theory of Fuzzy Systems	(1st sem., 3-1h)	P. Volauf
Graph Theory	(2nd sem., 3-1h)	J. Galanová
Differential and Difference Systems	(2nd sem., 2-2h)	I. Bock
Stochastic Models	(2nd sem., 2-2h)	V. Olejček

III.3 Undergraduate Study (Bc. Distance Education Method)

Mathematics I	(1st year)	Ľ. Marko
Logic Systems	(1st year)	D. Pancza
Mathematics II	(1st year)	I. Brilla
Mathematics III	(2nd year)	Ľ. Marko
Mathematics IV	(2nd year)	Ľ. Marko
Mathematics V	(3rd year)	I. Brilla
Mathematics VI	(3rd year)	J. Galanová

III.4 Graduate Study (Ing. Distance Education Method)

   Mathematics   (1st year)   I. Bock

IV. RESEARCH PROJECTS

- Study of algebraic and topological properties of quantum structures and their sets of states.
  G 1/3025/06, Z. Riečanová
- Quantum logics and effect algebras with applications in quantum computing. APVV(SK-CN-01706), Z. Riečanová
- Probabilistic and algebraic uncertainty methods for quantum structures APVV-0071-06
  (A. Dvurečenskij, MU SAV; deputy Z. Riečanová)
- Quantum logics and effect algebras with applications in the foundation of quantum computing.
  SK-CN-01706, Z. Riečanová
- The analysis of dynamical mathematical models of elastic and viscoelastic structures acting under contact conditions. G 1/4214/07, I. Bock

V. COOPERATION

V.1 Cooperation in Slovakia

- Mathematical Institute, Slovak Academy of Sciences, Bratislava
- Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava
- Department of Mathematics, Faculty of Civil Engineering, STU, Bratislava
- Department of Mathematics, Faculty of Mechanical Engineering, STU, Bratislava
- Institute of Information Engineering, Automation and Mathematics, Faculty of Chemical and
  Food Technology, STU, Bratislava
- Faculty of Informatics and Information Technology, STU, Bratislava
- Military Academy, Liptovský Mikuláš
- Faculty of Natural Sciences, University of Transport and Communications, Žilina
- Faculty of Natural Sciences, Matej Bel University, Banská Bystrica

V.2 International Cooperation

- Abt. für Mathematik III, Universitaet Ulm, Germany
- Institut für Algebra und Computermathematik TU Vienna, Austria
- Department of Mathematics, FEE CTU, Prague, CzR
- Academy of Sciences of the Czech Republic, Prague, CzR
- Department of Mathematics, Faculty of Natural Sciences of MU, Brno, CzR
- Department of Mathematics, Univ. Louis Pasteur, Strasbourg, France
- Math. Institute, Polish Academy of Sciences, Warsaw, Poland
- Zhejiang University, Hangzhou, China

V.3 Membership in International Organizations and Societies

- ISIMM - International Society for the Interaction of Mechanics and Mathematics (I.Brilla)
- IQSA - International Quantum Structures Association (Z.Riečanová, V.Olejček, G.Jenča)
- Bernoulli Society (Z.Riečanová, V.Olejček)
- AMS - American Mathematical Society (I.Bock, V.Olejček, Z.Riečanová)
- IACM - International Association for Computational Mechanics (I.Brilla, Ľ.Marko)
- Emmy Noether Society (Z.Riečanová, I.Marínová, E.Pastuchová, G.Jenča)
- GAMM - Gesellschaft für Angewandte Mathematik und Mechanik (I.Bock)
- ISSMO - Society for Structural and Multidisciplinary Optimization (I.Bock)
- SIAM - Society for Industrial and Applied Mathematics (V.Olejček, L.Satko)

VI. THESES

none_____

VII. OTHER ACTIVITIES

Department is a coeditor of Tatra Mountains Mathematical Publications
Z. Riečanová: member of editorial board of Tatra Mountains Mathematical Publications
M. Zajac, I. Bock: members of editorial board of Mathematica Slovaca
I. Bock, M. Zajac: reviewers for Mathematical Reviews
I. Bock, M. Zajac: reviewers for Zentralblatt für Mathematik

The department supervises the postgraduate study in:

Boolean Algebras and Boolean Functions
Differential Equations in Mathematical Physics
Functional Analysis
Quantum Structures
- Ordinary Differential Equations and Variational Calculus

VIII. PUBLICATIONS

VIII.1 Journals

[1] **RIEČANOVÁ, Z.**: Effect Algebraic Extensions of Generalized Effect Algebras and Two-Valued States. In: Fuzzy Sets and Systems. - ISSN 0165-0114. - Vol. 159, Issue 9 (2008), p. 1116-1122. (in English)

[2] **RIEČANOVÁ, Z.**, WU, J.D.: States on Sharply Dominating Effect Algebras. In: Science in China. Series A. - ISSN 1006-9283. - Vol. 51, No. 5 (2008), p. 907-914. (in English)

[3] **RIEČANOVÁ, Z.**: The Existence of States on Every Archimedean Atomic Lattice Effect Algebra with at Most Five Blocks. In: Kybernetika. - ISSN 0023-5954. - Vol. 44, No. 3 (2008), p. 430-440. (in English)

[4] **RUDOLF, B.**: An Existence and Multiplicity Result for a Periodic Boundary Value Problem. In: Mathematica bohemica. - ISSN 0862-7959. - Vol. 133, No. 1 (2008), p. 41-61. (in English)

[5] **ZAJAC, M.**: On Reflexivity and Hyperreflexivity of Some Spaces of Intertwinning Operators. In: Mathematica bohemica. - ISSN 0862-7959. - Vol. 133, No. 1 (2008), p. 75-83. (in English)

VIII.2 Conference Proceedings

[1] **BOCK, I.**, JARUŠEK, J.: On the Dynamic Contact Problem for a von Kármán Plate. In: Proceedings of 9th Biennial ASME Conference on Engineering Systems Design and Analysis (ESDA2008): Haifa, Israel, 7.-9.7.2008. - ASME, 2008. - ISBN 0-7918-3827-7. - CD-Rom. (in English)

[2] **BOCK, I.**, JARUŠEK, J.: On the Hyperbolic Contact Problem for a von Kármán Plate. In: International Conference on Mathematics and Continuum Mechanics: Porto, Portugal, 19.-22.2.2008. - 2008. - ISBN 978-989-95011-2-6. - p. 85-91. (in English)

[3] **BOCK, I.**, LOVÍŠEK, J.: Optimal Control of a Cylindrical Shell with a Unilateral Elastic Foundation and Rigid Supports. In: 70 Years of Faculty of Civil Engineering of Slovak Univeristy of Technology. International Scientific Conference. Bratislava, Slovak Republic, 4.-5.12.2008. - Bratislava: STU, 2008. - ISBN 978-80-227-2979-6. - CD-Rom. (in English)

[4] **MARKO, Ľ.**, SOVIŠOVÁ, D.: Twelve Years of Pre-Entry Courses from Mathematics. In: Virtual University 2008: 9th International Conference. Bratislava, Slovak Republic, 11.-12.12.2008. - Bratislava: STU, 2008. - ISBN 978-80-89316-10-6. - CD-Rom. (in English)

[5] **MOSNÁ, K.**, **RIEČANOVÁ, Z.**, PASEKA, J.: Order Convergence, Order and Interval Topologies on Posets and Lattice Effect Algebras. In: Uncertainty 2008. Proceedings of International Seminar. - Bratislava: STU, 2008. - ISBN 978-80-227-2926-0. - p. 45-62. (in English)

[6] **VOLAUF, P.**: On Dependence Concept and Copulas for Trivariate Distribution. In: Aplimat 2008: 7th International Conference. Bratislava, Slovak Republic, 5.-8.2.2008. - Bratislava: STU, 2008. - ISBN 978-80-89313-02-0. - p. 1217-1223. (in English)

VIII.3 Part of Book

[1] **PASTUCHOVÁ, E.**, SMOLA, A.: Uncertainty of Measurement Results of Some Photometric Quantities. In: Begabtenförderung im MINT-Bereich. Mathematik, Informatik, Naturwissenschaften, Technik: Band 17. - Ulm: Aegis, 2008. - p. 1-7. (in English)