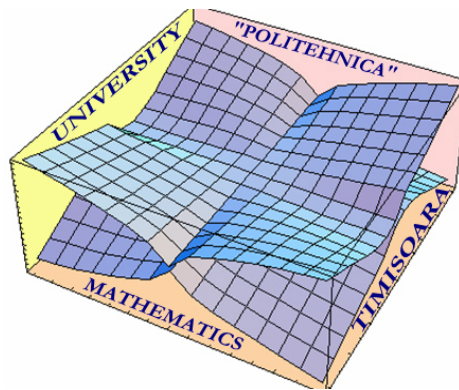


DEPARTMENT OF MATHEMATICS



Piata Regina Maria, Nr. 1
300004 – Timișoara, Romania
Tel: +40-256-403099, +40-256-403098
Fax: +40-256-403098

E-mail: tesa@mat.upt.ro
Web: www.math.upt.ro

DEPARTMENT OF MATHEMATICS

Contacts: Prof.dr. Octavian LIPOVAN, Head of Department, octavian.lipovan@mat.upt.ro
 Assoc.prof.dr. Doru PĂUNESCU, Scientific Secretary, doru.paunescu@mat.upt.ro

Researches in *MATHEMATICS* and *APPLIED MATHEMATICS*

RESEARCH FIELDS

- Spaces of multifunctions
- Qualitative study of functional equations. Operator Theory
- Hyers-Ulam stability. Wavelet
- Analysis on Manifolds. Pseudo-riemannian manifolds.
- Theory of Categories.
- Digital geometry
- Hamiltonian dynamical systems and controlability
- Formal logic.
- Stochastic Modeling
- Numerical Methods (MEF, BEM, CVBEM) for Partial Differential Equations
- Probabilistic metric structures. Stochastic processes
- Numerical Methods and Engineering Applications with *Mathematica*

BOOKS

1. Găvruta, P., Dăianu, D., Lăzureanu, L., Cădariu, L., Ciurdariu, L., Dragomirescu, I., Ene, R., *Analiză matematică- calcul integral, ecuații diferențiale, analiză complexă*, Mirton Publishing House, Timișoara, 2005, ISBN 973-661-654-1, 250 pages
2. Kovacs, A., Mihailov, D., Țigan, Gh., *Analiză matematică. Calcul integral și ecuații diferențiale. Culegere de probleme.*, Politehnica Publishing House, Timișoara, 2005, ISBN 973-625-218-3, 285 pages
3. Bânzaru, T., Bînzar, T., *Integral calculus and differential equations, Theory and applications*, Politehnica Publishing House, Timișoara, 2005, ISBN 973-625-243-4, 322 pages
4. Boja, N., *Geometrie analitică și diferențială cu aplicații*, (second edition), Politehnica

Publishing House, Timisoara, 2005, ISBN 973-625-095-4, 345 pages

5. Boja, N., Căruntu, B., Ene, R.D., Vasii, C., *Culegere de probleme de algebră lineară, geometrie analitică și diferențială*, Politehnica Publishing House, Timișoara, 2005, ISBN 973-625-251-5, 168 pages
6. Năslău, P., Negrea, R., Cădariu, L., Căruntu, B., Popescu, D., Balmez, M., Dumitrașcu C., *Matematici asistate de calculator – Matlab, Mathcad, Mathematica, Maple, derive*, Politehnica Publishing House, Timișoara, 2005, ISBN 973-625-234-5, 754 pages
7. Boja, N., Căruntu, B., *Introducere în analiza rețelelor*, Scientific monography, Politehnica Publishing House, Timișoara, 2005, ISBN 973-625-255-8, 116 pages
8. Lugojan, S., *Algebră liniară*, Arvin Press, Bucharest, 2005, ISBN 973-7849-39-6, 160 pages
9. Kovacs, A., *Klassische und Moderne Mathematische Methoden in Hydrodynamik des Profilgitters*, Politehnica Publishing House, Timișoara, 2005, ISBN 973-230-2, 144 pages
10. Păunescu, D., Babescu, M., *Analiza matematică a dinamicii mașinilor electrice*, Politehnica Publishing House, Timișoara, 2005, ISBN 973-625-265-5, 343 pages

PUBLISHED PAPERS

1. Lipovan, O., *Pseudosubmeasurable and integrable functions*, Scientific Bulletin of the "Politehnica" University of Timișoara, Series Mathematics-Physics, Tome 50(64), No. 2, 2005, pp.10-17
2. Lipovan, O., *Some generalizations of measurable and integrable functions*, Proceedings of the conference: Analysis, Functional Equations, Approximation and Convexity, Cluj-Napoca, 2005, pp.26-30
3. Găvruta, P., Cădariu, L., *The Generalized Stability of a Quadratic Functional Equation*,

- in "Nonlinear Functional Analysis & Application", Vol. 9, No. 4, 2004, pp. 513-526
4. Găvrută, P., *On Some Identities and Inequalities for Frames in Hilbert Spaces*, Journal of Mathematical Analysis and Applications, Elsevier, in press 13 September 2005, www.sciencedirect.com
 5. Crivăț, N., *Structuri uniforme pe spații de multifuncții*, Scientific Bulletin of the "Politehnica" University of Timișoara, Tome 49(63), Fasc. 1, 2005, pp. 307-312
 6. Cădariu, L., Radu, V., *Fixed Points in Generalized Metric Spaces and the Stability of a Cubic Functional Equation*, in "Fixed Point Theory and Applications", Nr. 7, Nova Science Publ., 2005, pp. 67-86
 7. Juratoni, A., Suciuc, N., *Spectral ρ - Dilations for Some Representations of Uniform Algebras*, Proceedings of the 9th National Conference of the Romanian Society, Lugoj, 6-7 May 2005, University of West Publishing House, ISBN 973-7608-37-2, pp. 194-210
 8. Goleț, I., *On Probabilistic 2-normed Spaces*, Journal of Mathematics, Novi Sad, Serbia & Montenegro, Vol. 35 Fasc. 1, 2005, pp. 95-102
 9. Goleț, I., Cârstea, H., Mitariu, O., *Detecting Errors Sequential Testing Method within Electronic Equipment Non-uniform Covering Probabilities*, 8th International Conference on Engineering of Modern Electric Systems, May 16-18, 2005, Oradea, Romania, ISSN 1454-923-9, pp. 29-33
 10. Goleț, I., *On Probabilistic 2-normed Spaces. Applications to Random Signals*, International Conference in Numerical Analysis and Applied Mathematics, Greece, 16-20 Sept. 2005, pp. 224-228
 11. Negrea, R., *On a Class of Stochastic Integral Operators of McShane Type*, in Oper. Theory Adv. Appl. No. 153, 2005, Birkhäuser, Basel, pp. 197-209
 12. Constantin, Gh., Negrea, R., *On the Existence and Uniqueness of Solutions of McShane Stochastic Integral Equations*, Annals of the Univ. of Bucharest, Series Math., Vol. 53, 2004, No.2, pp. 209-222 (published in 2005)
 13. Negrea, R., *On a Class of Integral Stochastic Equations of McShane type*, 8th Conf. Soc. Prob. Stat. Rom. (SPSR), Bucharest, 22-23 April 2005, <http://www.csm.ro/spsr/manifestari.php?id=6>
 14. Tigan, Gh., *A Note on Chaos Synchronization Between Two Three-dimensional Differential Systems*, Differential Geometry-Dynamical Systems Journal, Vol 7, 2005, pp. 105-110
 15. Vasii, C.C., *An Inverse Limit of Banach Manifold Structure on the Set of Riemannian Metrics on a noncompact Manifold*, Journal "Tensor N.S.", Japan, No. 1, 2005, pp. 268-274
 16. Dragomirescu, I., *A Numerical Approximation of the Neutral Surface for a Penetrative Convection Problem*, "Valahia" University of Târgoviște, Proceedings of the Second Conference of Nonlinear Analysis and Applied Mathematics, 10-11 Dec. 2004, pp. 13-18
 17. Dragomirescu, I., *Stability Surfaces in a Convection Problem for a Micropolar Fluid. Theoretical Results*, Romanian Society of Applied and Industrial Mathematics Romanian Journal, Vol. I, No. 1, 2005, pp. 77-82
 18. Rothenstein, B., Păunescu, D., *Polar coordinates, special relativity and CAS*, Published electronically at http://arxiv.org/find/grp_physics/1/au:+Paunescu/0/1/0/all/0/1

RESEARCH TEAM

- Prof. Dr. Borislav CRSTICI
- Prof. Dr. Nicolae BOJA
- Prof. Dr. Mihai NEAGU
- Prof. Dr. Octavian LIPOVAN
- Prof. Dr. Adalbert KOVACS
- Prof. Dr. Gheorghe BABESCU
- Prof. Dr. Pașc GĂVRUȚĂ
- Prof. Dr. Emilia PETRIȘOR
- Assoc. Prof. Dr. Dorina RENDI
- Assoc. Prof. Dr. Pavel NĂSLĂU
- Assoc. Prof. Dr. Iosefina MIHUȚ
- Assoc. Prof. Dr. Ioan GOLEȚ
- Assoc. Prof. Dr. Dan DĂIANU
- Assoc. Prof. Dr. Dobrința MIHAILOV
- Assoc. Prof. Dr. Doru PĂUNESCU
- Lecturer Dr. Nicolae CRIVĂȚ
- Lecturer Dr. Nicolae COFAN
- Lecturer Dr. Constantin BOTA
- Lecturer Dr. Sorin LUGOJAN
- Lecturer Dr. Tudor BÎNZAR
- Lecturer Dr. Camelia ARIEȘANU
- Lecturer Dr. Cristian LĂZUREANU
- Lecturer Dr. Romeo NEGREA
- Asist. Dr. Anania GÎRBAN
- Asist. Dr. Loredana CIURDARIU
- Asist. Dr. Cătălin VASII
- Asist. Rodica ANGHELESCU
- Asist. Olivia BUNDĂU
- Asist. Bogdan CĂRUNTU
- Asist. Gheorghe TIGAN
- Asist. Adina JURATONI
- Asist. Liviu CĂDARIU
- Asist. Lucian Flavius PATER
- Asist. Florica Ioana DRAGOMIRESCU
- Asist. Maria Anastasia JIVULESCU
- Asist. Remus Daniel ENE
- Asist. Ioan Ciprian HEDREA
- Asist. Constantin MILICI

- Assist. Nicolae Radu NIȚOIU
- Assist. Georgeta BRĂILOIU
- Assist. Dan POPESCU

PERSPECTIVES

- Generalizations of classical functional equations and applications
- Generalizations of the submeasurability and Integrability concepts
- Studies on the stability of quadratic mappings
- Stochastic Integral Equations of Itô and McShane types
- Studies on Hyers-Ulam Stability of a Functional Equations
- Frames in Hilbert Spaces
- About the Ricci flow and Riemannian metrics
- Studies on Simplicial Homology and discrete Yang-Mills theory
- Modified Hamiltonian for particular classes of Hamilton-Poisson system
- A generalized model for the Alflex reentry vehicle: equilibrium solutions, optimal trajectories
- New studies on stochastic differential equations and chaos controlling
- Probabilistic metric structures and applications to the study of random signals
- The study of transfer of the continuity and quasi-continuity from the terms of a multifunction net to its pointwise limit in the general case of multifunction valued in a topological space
- Studies of Operator Systems with Positive Definite Functions
- New developments in the study of d-q orthogonal model for electrical machines: the optimal control approach