VILNIAUS UNIVERSITETAS
MATEMATIKOS IR INFORMATIKOS FAKULTETAS

VILNIUS UNIVERSITY
FACULTY OF MATHEMATICS AND INFORMATICS

PUBLICATIONS REPORT
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VILNIUS

Contents

Faculty of Mathematics and Informatics

Dean Prof. Gediminas Stepanauskas

Departament of Computer Science

Head Prof. Rimantas Vaicekauskas

The department supervises the education in informatics for the students in bachelor, master, and doctor programs. Research areas: neural networks, software process, semantics of programs, artificial intelligence, retrieval of logical proofs, error-correcting codes, service oriented frameworks and cloud computing, national language support, numerical modelling and visualization.

Julius Andrikonis	Modal logics
Darius Baronas	Computer modeling of biosensors
Adomas Birštunas	Multiagent modal logics
Valdas Dičiūnas	Pattern recognition, neural networks, algorithm complexity
Haroldas Giedra	
Andrius Grevys	
Saulius Grigaitis	
Mantas Grubliauskis	
Arūnas Janeliūnas	Neural net based classification algorithms, object-oriented database systems
Viktor Kiško	
Rimantas Kybartas	Machine learning
Linas Laibinis	
Linas Litvinas	Computer simulation of biosensors, artificial neural networks
Rokas Masiulis	
Antanas Mitašiūnas	Process capability assessment and improvement, qualified electronic signature applications
Kęstutis Mizara	
Mindaugas Plukas	
Irmantas Radavičius	Graph theory, data structures and algorithms, algorithm analysis
Aistis Raudys	Machine learning, pattern recognition, trading systems, financial data analysis, time series
Šarūnas Raudys	Statistical and neural classifiers, machine learning, multiagent systems, data mining
Liutauras Ričkus	Computer modeling of biosensors
Gintaras Skersys	Error-correcting codes
Rimantas Vaicekauskas	Modelling of lighting systems with advanced colour rendering properties. Parallel computing
Jonas Žagūnas	Structured conversion of documents
Giedrius Zlatkus	

Departament of Computer Science II

Head Doc. Tadas Meškauskas

The research areas at the department include methods and applications of nonlinear and computational modelling, computational geometry, methods of computer vision, speech and signal processing, data structures and algorithms, Internet technology and information systems. The results of research are to be applied to problems of computer software, physics and mathematics, natural sciences, as well as to topics of medicine, linguistics, and social sciences.

Margarita Beniušė	Informatics, Internet technologies, computer aided geometry design
Agnė Brilingaitė	Geo-context in location-based services, spatio-temporal databases, geographic information and intelligent transportation systems
Linas Bukauskas	Database support for visual data mining, indexing of visible objects, information retrieval spatio-temporal databases, ER modelling
Linas Būtėnas	Context extraction from semi-structural and textual information
Vaida Čeikutė	
Alminas Čivilis	Managing moving objects in location-based services, spatial data mining, big data and geographic information systems
Jolita Ignatavičiūtė	Stochastic methods in image processing
Feliksas Ivanauskas	Numerical analysis of nonlinear diffusion equations, modelling physical problems
Algimantas Juozapavičius	Algorithms of computer vision and computer graphics, applications in medical imaging and Internet-based systems
Kęstutis Karčiauskas	Computer-aided geometric design, multisided rational surface patches
Pijus Kasparaitis	Text-to-speech synthesis
Joana Katina	Internet technologies, forecasting models
Rimvydas Krasauskas	Computer-aided geometric design, applications of algebraic geometry and topology
Virgilijus Krinickij	
Eduardas Kutka	Computer networks, virtualization technologies, distributed, GRID and cloud computing, network calculus
Tomas Gžegožas Lipnevičius	Computer vision and medical imaging
Rytis Malakauskas	Computer networks, virtualization technologies, distributed, GRID and cloud computing, network calculus
Ramūnas Markauskas	Computer vision in medical imaging
Tadas Meškauskas	Numerical methods for partial differential models, mathematical and numerical modeling of electrochemical phenomena
Kazimieras Mickus	Digital analysis of medical imaging
Mantas Puida	Computer modelling of structural innovations in biosensors
Valdas Rapševičius	Computational high energy physics, ontology and rule-based expert systems, machine learning, medical imaging

Jelena Tamulienė	Ab initio geometric and electronic structure computations on Grid or Cloud
Severinas Zubė	Algebraic geometry, curves and surfaces, computer-aided geometric design, subdivision, number theory

Doctoral students

Rokas Astrauskas
Gintaras Dreižas
Andrius Vytautas Misiukas Misiūnas
Anatolij Nečiporenko
Tomas Raila

Departament of Didactics of Mathematics and Informatics

Head Doc. Edmundas Mazėtis

Research of paradigms, prevailing in mathematics and informatics (IT) teaching in secondary school and university. Research of mathematical problems and mathematical models. Development of working methods with children gifted in mathematics and informatics.

Valentina Dagienė.	Computer science, information technology, didactics of informatics, contests in informatics and information technology
Aistė Elijio	Statistical educational surveys and their analysis, sample design issues, mathematically gifted students
Edmundas Gaigalas	Quadratic forms, problems of mathematical education
Tatjana Jevsikova	E -learning, ICT in education, software localization
Romualdas Kašuba	Development of mathematical skill, modern elementary mathematics, mathematical contests, mathematics and arts
Ričardas Juozas Kudžma	Mathematical analysis, actuarial mathematics, didactics of mathematics, semiotics
Edmundas Mazėtis	Geometry, didactics of mathematics
Aivaras Novikas	Number theory, mathematical contests
Šarūnas Repšys	Dynamic models of physiological structure of population

Departament of Differential Equations and Numerical Analysis

Head Prof. Konstantinas Pileckas

Professors of the department give courses on differential equations (ODEs and PDEs), numerical analysis, optimization methods, applied mathematics, calculus (at the faculties of Economics, Chemistry, and Natural Sciences), and various more specialized lectures. The main research fields of the department are ordinary and partial differential and integrodifferential equations, their numerical analysis, and applied mathematics.

Algirdas Ambrazevičius	Solvability of partial differential equations of parabolic type
Aleksas Domarkas	Solvability of nonlinear Schrödinger-type equations
Pranas Katauskis	Numerical analysis of nonlinear partial differential equations of parabolic type
Kristina Kaulakytė	Mathematical models of viscous fluids
Algis Kavaliauskas	Asymptotic analysis of dynamic systems
Neringa Klovienė	. Mathematical models of non-Newtonian fluids
Arvydas Kregždė	Mathematical modelling of sovereign risk
Mečislavas Meilūnas	Numerical analysis of parabolic problems
Konstantinas Pileckas	Elliptic differential equations, Navier–Stokes equations, asymptotical methods
Gintaras Puriuškis	Schrödinger-type differential equations
Stasys Rutkauskas	Elliptic equations, boundary value problems
Vladas Skakauskas	Models of biopopulations and surface reactions
Mindaugas Skujus	Asymptotic conditions at infinity for non-stationary Stokes and Navier–Stokes problems
Artūras Štikonas	Nonlocal problems
Olga Štikonienė	Numerical methods for nonlinear PDEs and problems with nonlocal boundary conditions

Doctoral students

Alicija Eismontaitė	Non-stationary methods of evolutionary equations
Gailė Paukštaitė	Generalized Green's functions
Rita Juodagalvytė	
Vytenis Šumskas	

Departament of Econometric Analysis

Head Prof. Alfredas Račkauskas

Research areas of the department include financial econometrics, macroeconometrics, time series analysis, functional data analysis, limit theorems in probability and its applications to statistics and econometrics, bootstrap and other resampling methods in statistics and econometrics.

Vydas Čekanavičius	Signed compound Poisson approximations, Kolmogorov‘s problem
Dmitrij Celov	Long-memory time series models in macroeconomics
Virmantas Kvedaras	
Remigijus Lapinskas	Regression methods in ecology and medicine
Remigijus Leipus	Financial mathematics and econometrics, time series analysis, insurance mathematics
Vydas Čekanavičius	Signed compound Poisson approximations, Kolmogorov‘s problem
Aušra Maldeikienė	Modern economic thought
Raimondas Malukas	Financial econometrics
Vytautas Maniušis	Empirical characteristic functions
Jurgita Markevičiūtė	Functional central limit theorems for nearly nonstationary processes
Gediminas Murauskas	Information systems, linear and generalized linear mixed models and their applications
Rimas Norvaiša	Probability theory, financial analysis, financial mathematics, mathematical economics, mathematical analysis, functional analysis, history and philosophy of mathematics
Alfredas Račkauskas	Probability limit theorems in functional spaces, applications in statistics and econometrics
Marijus Radavičius	Nonparametrical and adaptive estimation, econometrics, classification, image analysis
Vaidotas Zemlys	Econometric analysis of mixed frequency data, exploratory data analysis of large datasets, applications of econometric methods for bussiness problems

Doctoral students

Andrius Buteikis	
Jovita Gudan	
Jonas Jarutis	Functional data analysis in e-commerce.
Saulius Jokubaitis	
Laurynas Naruševičius	Macroeconometric modelling.
Mantas Tartėnas	Default prediction models.

Departament of Mathematical Analysis

Head Prof. Jonas Šiaulys

Traditionally, the department gives courses in mathematical analysis (calculus) and related subjects. In recent years, the department, as responsible for bachelor and master programs in actuarial and financial mathematics, became more oriented toward applications and is offering main courses in actuarial and financial mathematics. The research areas of the department include heavy tailed distributions, risk theory, financial and actuarial models, stochastic analysis.

Gintaras Bakštys	Actuarial mathematics
Almantas Juozulynas	
Antanas Lenkšas	Numerical solution of SDEs
Audrius Linartas	
Vigirdas Mackevičius	Stochastic analysis, stochastic numerics
Martynas Manstavičius	Levy processes, path properties of random process, copulas and dependence modelling
Vygantas Paulauskas	Approximations of multidimensional stable laws, autoregressive models, random fields, tail index estimation, operator theory
Aleksandras Ernestas Plikusas	Sampling in official statistics, regression ratio estimators
Donata Puplinskaitė	Aggregation of infinite-variance random processes
Jonas Šiaulys	Actuarial mathematics, risk processes, probabilistic number theory
Aldona Skučaitė	Actuarial sciences
Gediminas Stepanauskas	Mean values and limit theorems for arithmetic functions

Doctoral students

Gediminas Bagdonas	Dependence structures
Julius Damarackas	Limit theorems and measures of dependence for random processes and fields with infinite variance
Rokas Gylys	Models for life insurance
Eglė Ignatavičiūtė	Risk theory, capital allocation
Vilius Jurgelevičius	Copulas properties
Tautvydas Kuras	Risk theory
Gytenis Lileika.	Stochastic analysis, stochastic numerics
Gabrielė Mongirdaitė	Stochastic analysis
Laura Žvinytė	Limit distributions of sums of additive functions

Departament of Mathematical Computer Science

Head Doc. Vilius Stakėnas

The department was established in 2002 in order to consolidate teaching and research activities in the areas of information theory, cryptography, algorithms, and discrete mathematics. The research focuses on probabilistic analysis of number theoretical structures, combinatorial statistics, and randomized algorithms.

Giedrius Alkauskas	Transfer operators, structural constants, modular forms, differential and algebraic geometry
Gintautas Bareikis	Distributions of the arithmetical functions
Mindaugas Bloznelis	Probability limit theorems, combinatorial statistics, random graphs.
Saulius Gražulis	Crystalography databases
Irus Grinis	Polyvalent interactions in biological systems
Gintarė Košubienė	
Živilė Lukšienė	Inactivation of microorganisms: ways, mechanisms, modelling
Algirdas Mačiulis	Mean values and limit theorems for arithmetic functions
Vilius Stakėnas	Probabilistic number theory, functions of Farey fractions
Vytas Zacharovas	Probabilistic combinatorics, analysis of algorithms

Departament of Mathematical Statistics

Head Prof. Vytautas Kazakevičius

The main research areas at the department are theoretical and applied mathematical statistics, reliability and survival analysis, stochastic analysis, limit theorems in probability theory and mathematical statistics.

Vilijandas Bagdonavičius	Reliability theory, mathematical statistics, survival analysis
Rimantas Eidukevičius	Mathematical modelling, experimental planning and statistical analysis in oncology
Vytautas Kazakevičius	Mathematical statistics, nonlinear stochastic dynamic systems
Julius Jonas Kruopis	Mathematical statistics, quality control
Rūta Levulienė	Mathematical statistics, reliability, survival analysis
Viktor Skorniakov	Mathematical statistics, time series
Marijus Vaičiulis	Statistical analysis of stochastic processes
Pranas Vaitkus	Large-deviation probabilities, neural networks, nonlinear time series

Departament of Probability Theory and Number Theory

Head Prof. Artūras Dubickas

Professors of the department give courses in algebra, number theory, probability theory, complex analysis, discrete mathematics and other subjects. Their main scientific interests are related to algebraic, analytic, probabilistic and combinatorial number theory. A great attention is also paid to some related problems of probability theory, to the development of Lithuanian mathematical thought, and to popularization of mathematical sciences.

Paulius Drungilas	Algebraic numbers, polynomials
Artūras Dubickas	Algebraic numbers, distribution modulo 1
Ramūnas Garunkštis	Analytic number theory, zeta-functions
Andrius Grigutis	Distribution of zeros of zeta-functions
Audrius Kačėnas	Value distribution of the Riemann zeta-function
Antanas Laurinčikas	Analytic and probabilistic number theory, value distribution of zeta-functions
Eugenijus Manstavičius	Analytic and probabilistic combinatorics, probabilistic number theory
Gintautas Misevičius	Probabilistic theory of expansions of numbers and functions
Robertas Petuchovas	Analytic theory of permutations
Raivydas Šimėnas	Analytic number theory
Jonas Šiurys	Number theory, reccurence sequences
Vytautas Stepas	Additive functions on permutations
Albertas Zinevičius	Distribution of lattice points, hyperelliptic curves

Doctoral students

Martynas Burbulevičius	Algebraic numbers
Laima Kaziulytė	Analytic number theory
Laimonas Meška	Modification of universality theorems
Asta Mincevič	Values distribution of the Lerch zeta-function
Dmitrij Mochov	Universality of non-classical zeta-functions
Tadas Panavas	Analytic number theory
Audronė Rimkevičienė	Value-distrubution of the periodic Hurwitz zeta-function
Gražvydas Šemetulskis	Algebraic and combinatorial number theory
Mindaugas Stoncelis	Universality of the periodic zeta-functions
Rokas Tamošiūnas	Analytic number theory
Piotr Tarasov	Graph colouring problems
Gediminas Vadeikis	Weighted universality of zeta-functions
Adelė Vaiginytė	Universality of zeta-functions of cusp forms

Departament of Software Engineering

Head Prof. Romas Baronas

The department supervises the software engineering study program. The research areas of the department include software process, software engineering methods and tools, teaching software engineering, software quality management, business process modelling, information systems modelling, human-computer interaction, open queuing networks, message switching systems, computational modelling of physical-chemical processes, information security, electronic signature.

Andrius Adamonis	Support and maintenance process modelling
Gediminas Alzbutas	
Vytautas Ašeris	Computer simulation of nonlinear diffusion and reaction processes
Romas Baronas	Computer simulation of nonlinear diffusion and reaction processes
Donatas Čiukšys	Business process ontology, business process knowledge reuse, software systems architecture
Vytautas Čyras	Legal informatics, compliance, contracts in SOA
Sigitas Dapkūnas	Information system design, evaluation of software products, service oriented architecture
Aldas Glemža	
Viktoras Golubevas	Programming languages
Vaidas Jusevičius	Electronic payment systems, e-commerce fraud detection techniques
Kristina Lapin	Human computer interaction (HCI), user experience design (UED), teaching of HCI and UED, mobile interfaces
Žilvinas Ledas	Computational modeling of bacterial behavior and augmented reality.
Audronė Lupeikienė	Information systems, service-oriented architecture, software engineering
Oleg Mirzianov	
Elita Pakalnickienė	Methods of conceptual modeling, their enrichment with integrity requirements
Stasys Peldžius	Software process modelling, assessment and improvement
Karolis Petrauskas	Computer simulation of nonlinear diffusion and reaction processes.
Tomas Plankis	Image analysis, programming in Windows API
Viačeslav Pozdniakov	Functional programming, category theory
Jonas Ragaišis	
Saulius Ragaišis	Software process modelling, assessment and improvement, software engineering education, electronic signature and electronic documents
Danielius Saltanavičius	
Albertas Šermokas	Geographical information systems, analysis and modelling Information system: design, architecture, implementation, project management
Karolis Uosis	
Vytautas Valaitis	Aritificial neural networks, multi-agent evolving systems
Julija Vysockytė-Bilevičienė	

Doctoral students

Linas Litvinas	Computer simulation of biosensors, artificial neural networks
Linas Petkevičius	Deep neural networks, image processing and analysis, mathematical modelling and mathematical statistics
Liutauras Ričkus	Computation modelling of reaction-diffusion processes taking place in biosensors

Doctoral dissertations

1. Emilija Bernackaitė. *Ruin probability for inhomogeneous renewal risk model. S*cientific supervisor prof. J. Šiaulys.
2. Julius Damarackas. *Spectral covariances and limit theorems for infinite-variance linear processes and fields. S*cientific supervisor prof. V. Paulauskas
3. Laimonas Meška. *Modified universality theorems for the Riemann and Hurwitz zeta-functions. S*cientific supervisor prof. A. Laurinčikas.
4. Laurynas Naruševičius. *Econometric assessment of bank stability. S*cientific supervisor prof. A. Račkauskas.
5. Kliment Olechnovič. *Methods for the analysis and assessment of the three-dimensional structures of proteins and nucleic acids: development and applications. S*cientific supervisors prof. Č. Venclovas, prof. F. Ivanauskas
6. Vytautas Stepas. *Moments of additive functions defined on random assemblies. S*cientific supervisor prof. E. Manstavičius.
7. Laura Žvinytė. *Discrete uniform limit law for additive functions. S*cientific supervisor prof. G. Stepanauskas.

Publications

Articles included in Clarivate Analytics Science Citation Index[1]

1. **Alkauskas**, G. (2017). The modular group and words in its two generators. Lithuanian mathematical journal, 57(1), 1-12.
2. **Alkauskas**, G. (2017). The projective translation equation and rational plane flows. II. Corrections and additions. Aequationes mathematicae, 91(5), 871-907.
3. **Ambrazevičius, A.** (2017). Existence and uniqueness theorem to a model of bimolecular surface reactions. Ukrainian mathematical journal, 69(7), 1019-1033.
4. **Ambrazevičius**, A., & **Skakauskas**, V. (2017). Positive solution of a nonlinear parabolic system arising in grain drying. Acta applicandae mathematicae, 150(1), 123-140.
5. **Ambrazevičius**, A., & **Skakauskas**, V. (2017). Solvability of a model for monomer-monomer surface reactions. Nonlinear analysis: real world applications, 35, 211-228.
6. **Bareikis**, G., & **Mačiulis**, A. (2017). Modeling the beta distribution using multiplicative functions. Lithuanian mathematical journal, 57(2), 171-182.
7. **Baronas**, R. (2017). Nonlinear effects of diffusion limitations on the response and sensitivity of amperometric biosensors. Electrochimica acta, 240, 399-407.
8. **Bernackaitė**, E., & **Šiaulys**, J. (2017). The finite-time ruin probability for an inhomogeneous renewal risk model. Journal of industrial and management optimization, 13(1), 207-222.
9. **Bloznelis**, M., & Kurauskas, V. (2017). Large cliques in sparse random intersection graphs. Electronic journal of combinatorics, 24(2), 1-26
10. Buchovec, I., Lukševičiūtė, V., Kokštaitė, R., Labeikytė, D., Kaziukonytė, L., & **Lukšienė**, Ž. (2017). Inactivation of Gram (-) bacteria Salmonella enterica by chlorophyllinbased photosensitization: Mechanism of action and new strategies to enhance the inactivation efficiency. Journal of Photochemistry and Photobiology B: Biology, 172, 1-10.

    Buzas, V. (see [49])

    Čekanavičius, V. (see [71])

11. Chipot, M., **Kaulakytė**, K., **Pileckas**, K., & Xue, W. (2017). On nonhomogeneous boundary value problems for the stationary Navier-Stokes equations in two-dimensional symmetric semi-infinite outlets. Analysis and applications, 15(4), 543-569.
12. Chipot, M., **Klovienė**, N., **Pileckas**, K., & Zube, S. (2017). On a non-stationary fluid flow problem in an infinite periodic pipe. Mathematische Nachrichten, 290(4), 546-569.
13. Cicėnas, J., **Kvederavičiūtė**, K., Meškinytė, I., Meškinytė-Kaušilienė, E., Skeberdytė, A., & Cicėnas, J. (2017). KRAS, TP53, CDKN2A, SMAD4, BRCA1, and BRCA2 mutations in pancreatic cancer. Cancers, 9(5), 1-9.

[1] Clarivate Analytics. Web of Science Citation Index (online search)

14. **Damarackas**, J. (2017). A note on the normalizing sequences for sums of linear processes in the case of negative memory. Lithuanian mathematical journal, Vol. 57(no 4), 421-432.

15. **Damarackas**, J., & **Paulauskas**, V. (2017). Spectral covariance and limit theorems for random fields with infinite variance. Journal of multivariate analysis, 153, 156-175.

16. Danilenko, S., **Markevičiūtė**, J., & **Šiaulys**, J. (2017). Randomly stopped sums with exponential-type distributions. Nonlinear analysis: modelling and control, 22(6), 793-807

17. Dapkūnas, J., Timinskas, A., **Olechnovič**, K., Margelevičius, M., Dičiūnas, R., & Venclovas, Č. (2017). The PPI3D web server for searching, analyzing and modeling protein-protein interactions in the context of 3D structures. Bioinformatics, 33(6), 935-937.

18. **Dindienė**, L., **Leipus**, R., & **Šiaulys**, J. (2017). Closure property and tail probability asymptotics for randomly weighted sums of dependent random variables with heavy tails. Journal of the Korean Mathematical Society, 54(6), 1879-1903.

19. **Dubickas**, A. (2017). Algebraic integers with small absolute size. Quaestiones mathematicae, 40(5), 627-644.

20. **Dubickas**, A. (2017). On rational approximations to two irrational numbers. Journal of number theory, 177, 43-59. doi:10.1016/j.jnt.2017.01.026

21. **Dubickas**, A. (2017). Roots of unity as quotients of two conjugate algebraic numbers. Glasnik matematički, 52(72), 235-240

22. **Dubickas**, A., Hare, K. G., & Jankauskas, J. (2017). No two non-real conjugates of a Pisot number have the same imaginary part. Mathematics of computation, 86(304), 935-950.

23. **Dubickas**, A., Sha, M., & Shparlinski, I. (2017). On distances in lattices from algebraic number fields. Moscow mathematical journal, 17(2), 239-268.

24. **Dubickas**, A., & **Šiurys**, J. (2017). Some irreducibility and indecomposability results for truncated binomial polynomials of small degree. Proceedings of the Indian Academy of Sciences - Mathematical sciences, 127(1), 45-57.

25. Fuentes-Cobas, L. E., Chateigner, D., Fuentes-Montero, M. E., Pepponi, G., & **Gražulis**, S. (2017). The representation of coupling interactions in the Material Properties Open Database (MPOD). Advances in applied ceramics, 116(8), 428-433.

26. Garbaliauskienė, V., Karaliūnaitė, J., & **Laurinčikas**, A. (2017). On zeros of some combinations of Dirichlet L-functions and Hurwitz zeta-functions. Mathematical modelling and analysis: the Baltic journal on mathematical applications, numerical analysis and differential equations, 22(6), 733-749.

27. Garcimartin, C., **Kvedaras**, V., & Rivas, L. (2016). Business cycles in a balance-of-payments constrained growth framework. Economic modelling, 57, 120-132. [vėluojanti]

28. **Garunkštis**, R., **Laurinčikas**, A., & Macaitienė, R. (2017). Zeros of the Riemann zeta-function and its universality. Acta Arithmetica, 181(2), 127-142.

29. **Garunkštis**, R., & **Šimėnas**, R. (2017). On the distribution of the a-values of the Selberg zeta-function associated to finite volume Riemann surfaces. Journal of number theory, 173, 64-86.

30. **Garunkštis**, R., & **Tamošiūnas**, R. (2017). Symmetry of zeros of Lerch zeta-function for equal parameters. Lithuanian mathematical journal, 57(4), 433-440.

31. Ghysels, E., **Kvedaras**, V., & **Zemlys**, V. (2016). Mixed frequency data sampling regression models: the R package midasr. Journal of statistical software, 72(4), 1-35. [vėluojanti]

32. Giraudo, D., & **Račkauskas**, A. (2017). Weak invariance principle in some Besov spaces for stationary martingale differences. Lithuanian mathematical journal, 57(4), 441-467.

Gražulis, S. (see [25])

Gražulis, S. (see [58])

33. **Ivanauskas**, F., Laurinavičius, V. S., Sapagovas, M., & **Nečiporenko**, A. (2017). Reaction-diffusion equation with nonlocal boundary condition subject to PID-controlled bioreactor. Nonlinear analysis: modelling and control, 22(2), 261-272.

Juozapavičius, A. (see [66])

34. **Karčiauskas**, K., Panozzo, D., & Peters, J. (2017). T-junctions in spline surfaces. ACM transactions on graphics, Vol. 36(no 5), 1-9.

35. **Karčiauskas**, K., & Peters, J. (2017). Improved shape for refinable surfaces with singularly parameterized irregularities. Computer-aided design, 90, 191-198.

36. **Karčiauskas**, K., & Peters, J. (2017). Refinable G(1) functions on G(1) free-form surfaces. Computer aided geometric design, 54, 61-73.

Katauskis, P. (see [69])

37. **Kaulakytė**, K., **Klovienė**, N., & **Skujus**, M. (2017). Time almost-periodic Stokes problem in an infinite spatially periodic pipe. Lithuanian mathematical journal, 57(2), 183-195.

38. **Kaulakytė**, K., & Xue, W. (2017). Nonhomogeneous boundary value problem for Navier–Stokes equations in 2D symmetric unbounded domains. Applicable analysis, 96(11), 1906-1927.

Kaulakytė, K. (see [11])

Kazakevičius, V. (see [39])

39. Kazakevičiūtė, A., **Kazakevičius**, V., & Olivo, M. (2017). Conditions for existence of uniformly consistent classifiers. IEEE transactions on information theory, 63(6), 3425-3432.

Klovienė, N. (see [12])

Klovienė, N. (see [37])

40. **Krasauskas**, R. (2017). Unifying theory of Pythagorean-normal surfaces based on geometric algebra. Advances in applied Clifford algebras, 27(1), 491-502.

41. Kubilius, K., **Skorniakov**, V., & Ralchenko, K. (2017). The rate of convergence of the Hurst index estimate for a stochastic differential equation. Nonlinear analysis: modelling and control, 22(2), 273-284

Kvedaras, V. (see [27])

Kvedaras, V. (see [31])

42. **Laibinis**, L., Pereverzeva, I., & Troubitsyna, E. (2017). Formal reasoning about resilient goal-oriented multi-agent systems. Science of computer programming, 148, 66-87.

43. **Laurinčikas**, A. (2017). A discrete version of the Mishou theorem. II. Proceedings of the Steklov Institute of Mathematics, 296(1), 172-182.

44. **Laurinčikas**, A. (2017). A remark on the distribution of the values of the Riemann zeta function. Mathematical notes, 102(2), 212-218.

45. **Laurinčikas**, A. (2017). On discrete universality of the Hurwitz zeta-function. Results in mathematics, 72(1-2), 907-917.

46. **Laurinčikas**, A., & Macaitienė, R. (2017). Discrete universality in the Selberg class. Proceedings of the Steklov Institute of Mathematics, 299(1), 143-156.

47. **Laurinčikas**, A., & Macaitienė, R. (2017). Value distribution of twists of L-functions of elliptic curves. Proceedings of the Steklov Institute of Mathematics, 296(2), 70-77.

    Laurinčikas, A. (see [26])

    Laurinčikas, A. (see [28])

48. **Leipus**, R., Philippe, A., Pilipauskaitė, V., & Surgailis, D. (2017). Nonparametric estimation of the distribution of the autoregressive coefficient from panel random-coefficient AR(1) data. Journal of multivariate analysis, 153, 121-135.

49. **Leipus**, R., & **Šiaulys**, J. (2017). On the random max-closure for heavy-tailed random variables. Lithuanian mathematical journal, 57(2), 208-221.

    Leipus, R. (see [18])

    Leipus, R. (see [55])

    Lukšienė, Ž. (see [10])

50. Macaitienė, R., **Stoncelis**, M., & Šiaučiūnas, D. (2017). A weighted universality theorem for periodic zeta-functions. Mathematical modelling and analysis, 22(1), 95-105.

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24. **Leipus**, R., Philippe, A., Surgailis, D., & Pilipauskaitė, V. (2017). Statistical inference for random coefficient dynamic panel data models. In 11th international conference on computational and financial econometrics (CFE 2017) and 10th international conference of the ERCIM (European Research Consortium for informatics and mathematics) working group on computational and methodological statistics (CMStatistics 2017), London, 16 -18 December 2017: programme and abstracts (pp. 26-26). London: ECOSTA Econometrics And Statistics.

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25. **Litvinas**, L. (2017). Biojutiklių su sinergine reakcijos schema kompiuterinis optimizavimas. Iš Fizinių ir technologijos mokslų tarpdalykiniai tyrimai: 7-oji jaunųjų mokslininkų konferencija, 2017 m. vasario 9 d.: pranešimų santraukos (pp. 21-22). Vilnius: Lietuvos mokslų akademijos leidykla.

26. **Manstavičius**, E. (2017). On the order statistics of component sizes of a random combinatorial structure. In Vilnius conference in combinatorics and number theory, Vilnius, Lithuania, July 16 - July 22, 2017: program and abstract book [Elektroninis išteklius] (pp. 16-16). Vilnius: Vilniaus universitetas.

27. **Manstavičius**, M., & **Bagdonas**, G. (2017). A class of bivariate copula mappings. In Copulas and their applications: to commemorate the 75th birthday of Professor Roger B. Nelsen: July 3-5, 2017, Almeria, Spain: book of abstracts (pp. 49-49). Almeria: Universidad de Almeria.

28. **Manstavičius**, M., & Schnurr, A. (2017). Criteria for the finiteness of the strong p-variation for Levy-type processes. In SPAS 2017: International conference on stochastic processes and algebraic structures - from theory towards applications, dedicated to Professor Dmitrii S. Silvestrovs 70th birthday, Stockholm, Sweden, October 4-6, 2017: booklet of abstracts (pp. 25-25).

29. Merkys, A., Vaitkus, A., & **Gražulis**, S. (2017). Spotting the unusual geometry in crystal structures. In Open Readings 2017: 60th International conference for students of physics and natural sciences, March 14-17, 2017, Vilnius, Lithuania: programme and abstracts (pp. 51-51). Vilnius: Vilniaus universitetas.

30. **Meška**, L., & **Laurinčikas**, A. (2017). Modified universality theorems for zeta-functions. In Mathematical modelling and analysis [MMA2017]: 22nd international conference, May 30-June 2, 2017, Druskininkai, Lithuania: abstracts (pp. 42-42). Vilnius: Technika.

31. **Mincevič**, A. (2017). On the discrete universality of the Lerch zeta-function. In Mathematical modelling and analysis [MMA2017]: 22nd international conference, May 30-June 2, 2017, Druskininkai, Lithuania: abstracts (pp. 43-43). Vilnius: Technika.

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35. **Paukštaitė**, G., & **Štikonas**, A. (2017). Green's matrices for first order differential equations with nonlocal conditions. In Mathematical modelling and analysis [MMA2017]: 22nd international conference, May 30-June 2, 2017, Druskininkai, Lithuania: abstracts (pp. 50-50). Vilnius: Technika.

36. **Petkevičius**, L., & **Bagdonavičius**, V. (2017). Outlier detection and identification when the number of outliers is unknown. In ASMDA2017: 17th applied stochastic models and data analysis international conference with demographics workshop, 6-9 June 2017, London, UK: book of abstracts (pp. 154-155). London: ISAST: International Society for the Advancement of Science and Technology.

37. **Petkevičius**, L., & **Baronas**, R. (2017). Modelling micro-reactor with an Nernst layer. In Open Readings 2017: 60th International conference for students of physics and natural sciences, March 14-17, 2017, Vilnius, Lithuania: programme and abstracts (pp. 180-180). Vilnius: Vilniaus universitetas.

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39. Šiaučiūnas, D., & **Stoncelis**, M. (2017). A weighted discrete universality theorem for the periodic zeta-function. In Mathematical modelling and analysis [MMA2017]: 22nd international conference, May 30–June 2, 2017, Druskininkai, Lithuania: abstracts (pp. 62-62). Vilnius: Technika.

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41. **Šiaulys**, J., & **Leipus**, R. (2017). Random max-closure property of heavy-tailed random variables. In The book of abstracts for the 10th international conference on extreme value analysis, Delft University of Technology, The Netherlands, June 26-30, 2017 (pp. 50-50).

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    Šiurys, J. (see [14])

42. **Stepanauskas**, G. (2017). Limit distributions for some sets of additive functions. In Number theory week 2017: conference on the occasion of the 60th birthday of Jerzy Kaczorowski, September 4-8, 2017, Poznań: programme and abstracts (pp. 37-37). Poznań: Adam Mickiewicz University.

43. **Stepanauskas**, G., & **Šiaulys**, J. (2017). Limit distributions for some sets of additive functions. In Vilnius conference in combinatorics and number theory, Vilnius, Lithuania, July 16 - July 22, 2017: program and abstract book [Elektroninis išteklius] (pp. 26-27). Vilnius: Vilniaus universitetas.

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45. **Štikonienė**, O., Cannon, E., Chardard, F., & Panasenko, G. (2017). Modelling of nonlocal problem on the graph for a flow in a tube structure. In Mathematical modelling and analysis [MMA2017]: 22nd international conference, May 30-June 2, 2017, Druskininkai, Lithuania: abstracts (pp. 67-67). Vilnius: Technika.

    Štikonienė, O. (see [6]

46. **Stoncelis**, M., & Šiaučiūnas, D. (2017). On weighted discrete universality of periodic zeta-functions. In Vilnius conference in combinatorics and number theory, Vilnius, Lithuania, July 16 - July 22, 2017: program and abstract book [Elektroninis išteklius] (pp. 25-26). Vilnius: Vilniaus universitetas.

    Stoncelis M., (see [39])

47. **Tamošiūnas**, R. (2017). Symmetry of zeros of Lerch zeta-function for equal parameters. In Vilnius conference in combinatorics and number theory, Vilnius, Lithuania, July 16 - July 22, 2017: program and abstract book [Elektroninis išteklius] (pp. 28-28). Vilnius: Vilniaus universitetas.

48. Vaitkus, A., Merkys, A., & **Gražulis**, S. (2017). Automating the derivation of chemical information from crystallographic data. In Open Readings 2017: 60th International conference for students of physics and natural sciences, March 14-17, 2017, Vilnius, Lithuania: programme and abstracts (pp. 136-136). Vilnius: Vilniaus universitetas.

Research grants and awards

1. **Giedrius Alkauskas**. Research Council of Lithuania. Structural functional equations: projective flows, transfer operators, Minkowski question mark function, and modular forms (No MIP-072/2015). 2015–2018.

2. **Romas Baronas**. Research Council of Lithuania. Computational modelling of open biological systems: growing bacteria and microreactors (No. S-MIP-17-98). 2017-2020.
3. **Linas Bukauskas**. Cyber Shield 2017, Dr. Linas Bukauskas, 2017 and Gintarinė migla 2017.
4. **Valentina Dagienė**. Analysis of Mathematics and Informatics (IT) Teaching Methods and Applications. 2014–2019.
5. **Paulius Drungilas.** Research Council of Lithuania. Arithmetical and analytical properties of algebraic numbers of small height (No. S-MIP-17-66/LSS-110000-1274). 2017-2020.
6. **Algimantas Juozapavičius, Valdas Rapševičius**. CMS Software and Data Bases. 2017.
7. **Pranas Katauskis**. Research Council of Lithuania. Differential equations with non-classical boundary conditions (No. S-MIP-17-65). 2017–2020.
8. **Eduardas Kutka.** EU Horizon 2020 project. Supercomputing Expertise for Small and Medium Enterprises (Sesame NET). (No. 654416). 2015–2017.
9. **Martynas Manstavičius**. Nordplus Higher Education NPHE-2017/10119 – Network FinEng/2017.
10. **Konstantinas Pileckas.** Research Council of Lithuania. Navier-Stokes equations under general adherence boundary condition (No. S-MIP-17-68). 2017–2020.
11. **Alfredas Račkauskas**. Research Council of Lithuania. Mathematical foundations of data analysis. (No. S-MIP-17-76). 2017–2020.
12. **Valdas Rapševičius**. High Precision Client Identification and Navigation in Amusement Parks (Intelektas 2017), 2017.
13. **Aistis Raudys.** Research Council of Lithuania. Modeling investment portfolio using quantum chaos (No. MIP-100/2015). 2015–2017.
14. **Jonas Šiaulys.** Research Council of Lithuania. Inhomogeneous risk models in insurance and finance (No S-MIP-17-72). Prof. Jonas Šiaulys. 2017–2020.
15. **Rimantas Vaicekauskas.** Research Council of Lithuania. Colour Restoration In Cultural Heritage Objects Using Solid-State Lighting (No. MIP-096/2015). 2015–2018.

PATENTS

1. Žukauskas, A., **Vaicekauskas, R**., Vitta, P., Tuzikas, A., Zabiliūtė, A. & Petrulis, A. Solid-state sources of light for preferential colour rendition. Patent No EP 2962530 B1. European Patent Office (EPO).
2. Zabiliūtė, A., Žukauskas, A., **Vaicekauskas, R.**, Vitta, P. Fotobiologiškai draugiškas konversijos fosfore šviestukas. Patento Nr. LT 6215 B. Lietuvos Respublikos valstybinis patentų biuras.
3. Žukauskas, A., **Vaicekauskas, R.**, Tuzikas, A., Vitta, P., Petrulis, A. Daugiaspalviai kietakūniai šviesos šaltiniai skirti fotochemiškai jautrių objektų apšvietimui. Patento Nr. LT 6238 B. Lietuvos Respublikos valstybinis patentų biuras.

Scientific contacts

Participation in international projects

1. **Martynas Manstavičius, Jonas Šiaulys**. Nordplus project NPHE-2017/10119 "Network FinEng/2017"; School of Education, Culture, and Communication of the Mälardalen University,Västerås, Sweden. Lectures (M.M.) on financial mathematics; October 2-6, 2017.
2. **Aldona Skučaitė.** Balancing Adequacy and Sustainability in Social Security Systems. Carried out by Social Security Committee at International Actuarial Association. 2016 – 2017.
3. **Olga Štikonienė**. Work within the collaborative project "Modelling and numerics for flows in a tube structure".Saint Etienne university, France, April 1-30.

Research visits

1. **Andrius Buteikis**. International conference, London, Great Britain, December 12-19.
2. **Andrius Buteikis**. International conference, Uppsala, Sweden, August 25-30.
3. **Vydas Čekanavičius**. Visit to IIT Bombay, India, January 18 – February 19.
4. **Vytautas Čyras**. University of Salzburg, Austria. Joint research and publications with prof. Friedrich Lachmayer and others.
5. **Kęstutis Karčiauskas**. Second International Conference on Subdivision, Geometric and Algebraic Methods, Isogeometric Analysis and Refinability in ITaly, Gaeta, Italy, September 17-21.
6. **Pranas Katauskis**. 6th International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2017), Budapest, Hungary, August 15 – 18.
7. **Remigijus Leipus**. Nantes University (France), January 29 – February 04.
8. **Remigijus Leipus**. Tartu University (Estonia), August 28-30.
9. **Remigijus Leipus**. 10th International Conference on Extreme Value Analysis, Delft University of Technology, Delft, The Netherlands, June 26-30
10. **Remigijus Leipus**. 11th International Conference of the ERCIM Working Group on Computational and Methodological Statistics (CMStatistics 2017), University of London, UK, December 16-18.
11. **Eugenijus Manstavičius**. Vilnius Conference in Combinatorics and Number Theory, July 16-22, Vilnius.
12. **Eugenijus Manstavičius**. The 18th International Conference on Random Structures and Algorithms, August 06-12, Gniezno (Poland).
13. **Eugenijus Manstavičius**. Conference ,,Eurocomb 2017", August 27 – September 02, Vienna (Austria) .
14. **Martynas Manstavičius, Jonas Šiaulys.** Nordplus project NPHE-2017/10119 "Network FinEng/2017"; School of Education, Culture, and Communication of the Mälardalen University,Västerås, Sweden. Lectures (M.M.) on financial mathematics; October 2-6.

15. **Jurgita Markevičiūtė**. Lille 1 university, France, February 1-28.
16. **Konstantinas Pileckas**. International Conference Vorticity, Rotation and Symmetry (IV) - Complexity, Regularity and Singularities, Marsel, France, May 7-13.
17. **Konstantinas Pileckas**. The univerity of Campania „Luigi Vanvitelli“, Italy, May 5 – June 7.
18. **Konstantinas Pileckas**. Cycle of lectures at Chebyshev Laboratory, St. Petersburg, Russia, October 8-15.
19. **Alfredas Račkauskas**. International conference 17th Applied Stochastic Models and Data Analysis, London, Great Britain, June 04-10.
20. **Alfredas Račkauskas.** International conference XXXIV. International Seminar on Stability Problems for Stochastic Models, Debrecen, Hungary, August 25-30.
21. **Alfredas Račkauskas**. Lille, France, Octobers 15-28.
22. **Jonas Šiaulys.** Attending probability theory seminars at Taras Shevchenko University of Kiev, May 15-20.
23. **Aldona Skučaitė.** Seminar on Ageing and Mortality. Organized by Population IssuesWorking Group and Mortality Working Group at International Actuarial Association. Budapest. April.
24. **Gediminas Stepanauskas**. Visit at Nagoya University and Conference in Kyoto, October 20 – November 02.
25. **Gediminas Stepanauskas.** Announcement at Nagoya University: Asymptotical Behaviour of Arirhmetic Functions on Shifted Primes. October 27.
26. **Gediminas Stepanauskas.** Announcement at the Conference Analytic Number Theory and Related Areas: Mean Values of Products of Multiplicative Functions, RIMS, Kyoto November 01.
27. **Donatas Surgailis**. Second Conference on Ambit Fields and Related Topics, Aarhus, Denmark, August 14-16.

Foreign visitors

1. Yuliya Mishura, Taras Shevchenko National University of Kiev, January 9-12.
2. Anne Philippe (Nantes Universtity), Paul Douhkan (Universite Cergy-Pontoise), France.
3. Jean-Marc Bardet (Universite Paris 1, Sorbonne), Adam Jakubowski (Torun University, Poland), Hermine Bierme (University Poitiers, France), October 18-22.
4. Marie-Claude Viano, Lille University, France, May 14-19.(Ceremony for awarding the title of Doctor Honoric Causa of Vilnius University).
5. Anne Philippe, Nantes University, France, May 10-17.
6. Charles Suquet, Lille University of Science and Technology , France, May.
7. Julius Vainora, Charles II University of Madrid, Spain, December 22.
8. Vaidotas Characiejus, Catholic University of Leuven, Belgium, December 22.
9. Ngai Hang Chan, Chinese University of Hong Kong, July 27-30.
10. Grigory Panasenko, University of Saint-Etiene, France, March 23.
11. Friedrich Lachmayer, University of Vienna, University of Innsbruck (Austria).

Name index