

Mikhail M. Lavrentiev, Jr., Doctor of Science, Ph.D., Professor

Ul. Zolotodolinskaya, 75, 630090, Novosibirsk, Russia

PROFILE:

Innovative scientist and transformational leader with 35+ years of research, teaching and management experience at the Novosibirsk State University, the Siberian Branch of the Academy of Sciences, and internationally.

- Strong leadership, strategic thinking, organizational and communication skills
- IT Faculty Dean (Novosibirsk State University), Deputy Director for Science (Institute of Automation and Electrometry SB RAS)
- Connected to world-wide network of leaders in education and science
- Multilingual (English, Russian, Italian)

NOVOSIBIRSK STATE UNIVERSITY LEADERSHIP EXPERIENCE:

2011 – 2017: DEPUTY RECTOR (VICE PRESIDENT), INFORMATION TECHNOLOGY & EXTERNAL RELATIONS

Promote cooperation with other national and international scientific and educational organizations; charged with NSU Information Technology (IT) strategy implementation; oversee IT academic Department and systems and computer classes support to university staff and students (9,000+ users).

- Brokered NSU membership at large international alliances such as: New Silk Road (113 colleges & universities in 29 countries).
- Developed online learning platform and curriculum for inter-university collaborative to teach students. Results: more international professors and students joining NSU, including the joint University of Aizu/ NSU program to prepare PhD candidates.
- Ensured internet connectivity for the new NSU building, despite of it not having been provisioned in the original project.

2001 – PRESENT: DEAN OF THE INFORMATION TECHNOLOGIES SCHOOL

Charged with academic curriculum; led 100+ staff and oversaw academic performance of 350+ students annually.

- Established infrastructure and secured funding (\$4M) for 4 new Department and 7 Master's Programs.
- Cultivated NSU student participation at the world most prestigious ACM student International Collegiate Programming Contest, sponsored by IBM since the 70s. After 16 competitions, NSU now recognized among the top 30 in student programming world-wide.

1989 – 2001: DEPUTY CHAIR OF THE APPLIED MATHEMATICS DEPARTMENT

Charged with academic curriculum and led a 17 staff team.

TEACHING EXPERIENCE:

Teaching focus: Calculus, Theory of Complex Functions, Ordinary Differential Equations, IT in Science and Education.

- Delivered 20+ courses to 500+ students at the Departments of Mathematics, Physics, Natural Sciences, and Information Technologies at NSU.

2001-PRESENT: **PROFESSOR AND CHAIR OF THE SYSTEMS OF INFORMATICS DEPARTMENT**, NSU

1988 – 2001: **ASSOCIATE PROFESSOR OF THE APPLIED MATHEMATICS DEPARTMENT**, NSU

1979 – 1988: **ASSISTANT PROFESSOR OF THE APPLIED MATHEMATICS DEPARTMENT**, NSU

- Visiting professor at 11 Universities worldwide: Freie Universität Berlin (Germany), University of Padova (Italy), Milan University (Italy), University "Roma Tre" (Italy), Institute of Global Analysis (Florence, Italy), University of Maryland at College Park (Washington DC, USA), Pacific Marine Environmental Laboratory (USA National Ocean and Atmosphere Administration, Seattle, USA), National University of Singapore, University of Wollongong (Australia), University of Tokyo (Japan), Keio University (Japan).

RESEARCH EXPERIENCE - SIBERIAN BRANCH, RUSSIAN ACADEMY OF SCIENCES (SB RAS)

Research Focus: Qualitative Theory of Differential Equations. Direct and Inverse Problems. Nonlinear equations, Degenerate equations, Equations with integral terms. Applications in Geo Sciences. Mathematical Simulation in Chemistry. Computer graphics for PC.

2018 – PRESENT: **DEPUTY DIRECTOR FOR SCIENCE**, INSTITUTE OF AUTOMATION AND ELECTROMETRY SB RAS

- Lead 7 IT Labs of the Institute

1998 – 2018: **CHAIR OF COMPUTER GRAPHICS SOFTWARE LABORATORY**, INSTITUTE OF AUTOMATION AND ELECTROMETRY SB RAS

- Lead 17 staff in developing software tools and hardware solutions for various applications of Virtual reality. Partners include: Yu.A. Gagarin Research & Test Cosmonaut Training Center, JSC 1C, and others.

1993 – PRESENT: **LEADING RESEARCHER**, SOBOLEV INSTITUTE FOR MATHEMATICS SB RAS, RUSSIA

- (Co)-author of 160+ publications and 3 monographs, cited in 20+ journals, frequent speaker at international conferences in Russia and abroad.

1991 – 1993: **SENIOR RESEARCHER**, SOBOLEV INSTITUTE FOR MATHEMATICS SB RAS

1986 – 1991: **RESEARCHER**, SOBOLEV INSTITUTE FOR MATHEMATICS SB RAS

1980 – 1986: **JUNIOR RESEARCHER**, SOBOLEV INSTITUTE FOR MATHEMATICS SB RAS

1978 – 1980: **TRAINEE-RESEARCHER**, SOBOLEV INSTITUTE FOR MATHEMATICS SB RAS

EDUCATION & CERTIFICATION:

2012: **PROFESSOR**, Supreme Attestation Commission, Council of Ministry, Russia

1993: **DOCTOR OF SCIENCE, PHYSICS/ MATHEMATICS**, Supreme Attestation Commission, Council of Ministry, Russia

1988: **ASSOCIATE PROFESSOR, DEPARTMENT OF APPLIED MATHEMATICS**, Novosibirsk State University, USSR

1982: **PH.D. IN PHYSICS/MATHEMATICS, DIFFERENTIAL EQUATIONS**, Novosibirsk State University, USSR

1978: **PROFESSIONAL IN MATHEMATICS&MECHANICS**, Novosibirsk State University, USSR

PUBLICATIONS:

200+ PUBLICATIONS IN LEAD SCIENTIFIC JOURNALS, 3 MONOGRAPHS

AWARDS:

2015 Principal Investigator, Research contract, Novosibirsk Technological Center of Schlumberger for code acceleration

2013- 2015 Principal Investigator, Contract with the International Holding Parallels (according to the Ruling 218 of the Russian Federation Government), Software Tools for Automation of Cloud Hosting

2013 Principal Investigator, Contract with Pacific Marine Environmental Laboratory, NOAA, Seattle, DART station optimal positioning

2009 Principal Investigator, State Contract #2009-1.1-223-009 with Federal Agency of Science and Innovation (Russia) in informatics

2007 Principal Investigator, State Contract #02.515.11.5076 with Federal Agency of Science and Innovation (Russia) in geosciences

2005 Principal Investigator, joint award of Federal Agency of Science and Innovation (Russia) and CRDF (USA) in geosciences

2003 M.A.Lavrent'ev's award of the Russian Academy of Sciences for researches in Mathematics and Mechanics.

2001 Principal Investigator, Civil Research and Development Foundation (USA), grant in Geosciences

2000 Principal Investigator, grants of Russian Foundation for Basic Researches in mathematical simulation for geosciences, awards numbers: 98-05-65280 and 01-05-64704

1998 Cariplo / Landau Network – Centro Volta Fellowship for Russian Scientists

1996 Russian President Grant for Young Professors

1990 First award for Basic Researches by Siberian Division, Russian Academy of Sciences, with co-workers.

Languages:

- **English** (proficient) **Russian** (native) **Italian** (basic)

PUBLICATIONS LIST

➤ Monographs

- M.M.Lavrentiev, A.V.Avdeev, M.M.Lavrentiev, Jr., and V.I.Priimenko: Inverse Problems of Mathematical Physics. VSP Publ., The Netherlands, 2003, 272 p.
- A.V.Avdeev, M.M.Lavrentiev, Jr., and V.I.Priimenko: Inverse Problems and Some Applications. Novosibirsk, ICM&MG, 1999, 342p.
- T.I.Zelenyak, M.M.Lavrentiev, Jr., and M.P.Vishnevskii: Qualitative Theory of Parabolic Equations. Part I. VSP, Utrecht, the Netherlands, 1997, 420p.

➤ Publications

- M. Lavrentiev, K. Lysakov, An. Marchuk, K. Oblaukhov, M. Shadrin Fast evaluation of tsunami waves heights around Kamchanka and Kuril Islands // Science of Tsunami Hazards, 38(1) 2019, 1-13. (Scopus)
- M. Lavrentiev, A. Tani «Solvability to some strongly degenerate parabolic problems», J. Math. Anal. Appl. 475 (2019), 576–594. (Scopus Q1)
- D. Kuzakov, M. Lavrentiev, An. Marchuk “Reconstruction of tsunami source by a part of wave time series before the first maximum” Journal of Physics: Conference series, 2019, 1268 012042, p 1-9 (Scopus Q3)
- M. Lavrentiev, K. Lysakov, An. Marchuk, K. Oblaukhov, M. Shadrin “Dependence of tsunami wave maximal heights along a coastline on the source location” Journal of Physics: Conference series, 2019, 1268 012041, p 1-7 (Scopus Q3)
- M. Lavrentiev, D. Kuzakov, An. Marchuk “Fast Determination of Tsunami Source Parameters” Advances in Science, Technology and Engineering Systems Journal Vol. 4, No. 6, 61-66 (2019)
- D. Baramiya, N. Gorbenko, M. Lavrentiev, R. Spigler “Diffusion model to predict the coastal profile evolution” // Proc. OCEANS'19 MTS/IEEE Marseille, France, June 17-21, 2019 (Scopus)
- D. Kuzakov, M. Lavrentiev, An. Marchuk Localization of the tsunami source area for effective warning with the given sensor position // Proc. OCEANS'19 MTS/IEEE Marseille, France, June 17-21, 2019 (Scopus)
- M. Lavrentiev, K. Lysakov, An. Marchuk, K. Oblaukhov, M. Shadrin “Dependence of nearshore tsunami heights maxima on the source shape” // Proc. OCEANS'19 MTS/IEEE Marseille, France, June 17-21, 2019 (Scopus)
- D. Kuzakov, M. Lavrentiev, An. Marchuk “Determination of the sensor positions for effective tsunami warning” // 19th International Multidisciplinary Scientific Geonference SGEM 2019 (09-12 December, Vienna, Austria). Conference Proceedings, V.19, Issue: 1.4. pp 169-176. (Scopus)
- D. Baramiya, M. Lavrentiev, R. Spigler “Predicting coastal profile evolution” // 19th International Multidisciplinary Scientific Geonference SGEM 2019 (09-12 December, Vienna, Austria). Conference Proceedings, V.19, Issue: 1.4. pp 285-292. (Scopus)
- M. Lavrentiev, A. Romanenko, N.Zyatkov, A. Aizenberg, A. Aizenberg “MODERN HARDWARE FACILITIES TO ACCELERATE SEISMIC DATA PROCESSING” // Proceedings, International Scientific Conference on EARTH and GEO Sciences SGEM VIENNA GREEN 2018, 03-06 December, Vienna, Austria. Scopus. P. 171-178
- M. Lavrentiev, K. Lysakov, An. Marchuk, K. Oblaukhov, M. Shadrin FPGA-based Modelling of the Tsunami Wave Propagation at South Japan Water Area // Proc. OCEANS'18 MTS/IEEE Kobe, Japan, May 28-31, 2018. (Scopus)

- D. Kuzakov, M. Lavrentiev, An. Marchuk Determination of Initial Sea Surface Displacement at Tsunami Source by a Part of Wave Profile // Proc. OCEANS'18 MTS/IEEE Kobe, Japan, May 28-31, 2018. (Scopus)
- M.M. Lavrentiev, A.A. Romanenko, K.K. Oblaukhov, An.G. Marchuk, K.F. Lysakov, M. Yu. Shadrin FPGA Based Solution for Fast Tsunami Wave Propagation Modeling // The 27th International Ocean and Polar Engineering Conference, 2017, 25-30 June, San Francisco, California, USA. P 924-929. (Scopus).
- M.M. Lavrentiev, A.A. Romanenko, K.K. Oblaukhov, An.G. Marchuk, K.F. Lysakov, M. Yu. Shadrin Implementation of Mac-Cormack scheme for the fast calculation of tsunami wave propagation // Oceans'17 MTS/IEEE, Aberdeen, June 19-22, 2017 (Scopus).
- M.M. Lavrentiev, D. Kuzakov, A.A. Romanenko, A.P. Vazhenin Determination of Initial Tsunami Wave Shape at Sea Surface // Oceans'17 MTS/IEEE, Aberdeen, June 19-22, 2017 (Scopus).
- M. Lavrentiev, E.Goryunov, A. Romanenko, R. Spigler Optimal Structure of the Cost Functional for Coastal Profile Evolution Problems // Oceans'17 MTS/IEEE, Aberdeen, June 19-22, 2017 (Scopus).
- Bartosh V.S., Belago I.V., Kuzikovskiy S.A., Lavrentiev, M.M., Operators information space in training and teaching systems of // International J "Proceedings in Cybernetics", 2017. # 1, pp. 147-162.
- Goriounov E., Lavrentiev M., Romanenko A. Improving efficiency of identification of coastal evolution profiles //Proc. ISOPE, 2016, pp. 1575-1582, Scopus
- Lavrentiev, M.M., Lysakov K.F., Romanenko A.A., Marchuk An.G. Fast numerical tsunami modelling // International J "Proceedings in Cybernetics", #2 (22), Surgut 2016, pp. 91-101
- Goryunov, E., Romanenko, A., Lavrentiev, M., Lysakov, K. Modern simulation tools for real time numerical simulation of ocean-related processes. // OCEANS 2015 - MTS/IEEE Washington 7404385. 2016. PDA (Scopus).
- Kuzakov D.E., Dyakov M.S., Lavrentiev, M.M., Route search for unmanned vehicles studying unknown territory // Proceedings of NSU, Series: Information Technologies. – 2016. V.14. –#2. pp. 59-71.
- Lavrentiev, M.M., Lysakov K.F., Oblaukhov K.K., Shadrin M.Yu. Use of FPGA for quality control of videostream at temp of arriving. // Abstracts. XVI International Conf. "Supercomputation and mathematical modelling", Sarov, Oct 3-7, 2016, p. 79-81.
- Lavrentiev, M.M., A.A., Lysakov K.F., Oblaukhov K.K., Shadrin M.Yu. FPGA based realization of algorithm for tsunami propagation modelling. // Abstracts. XVI International Conf. "Supercomputation and mathematical modelling", Sarov, Oct 3-7, 2016, p. 81-82.
- Lavrentiev, M.M., Spigler, R., Goryunov, E., Romanenko, A.A. Diffusion model identification for long-term coastal profile evolution // Proceedings of the International Offshore and Polar Engineering Conference 2015 January pp. 1271-1278 (Scopus)
- Lavrentiev, M.M., Romanenko, A.A., Lysakov K.F. Tsunami Simulation at Modern Hardware Architectures // Abstracts. VII International Conf. dedicated to 115 anniversary of Academician M.A. Lavrent'ev "Lavrent'evs Reading in Mathematics, Mechanics, and Physics", Sept 7-11, 2015, Novosibirsk, p. 69-70
- Lavrentyev M., Romanenko A., Elder Goryunov E., Lysakov K. Modern simulation tools for real time numerical simulation of ocean-related processes // Proceedings, MTS/IEEE Oceans-2015, October 19-22, 2015, Washington DC, USA, 4 pages (Scopus)

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- M.M. Lavrentiev, R. Spigler, A. Tani Existence, uniqueness, and regularity for the Kuramoto--Sakaguchi equation with unboundedly supported frequency distribution // Differential and Integral Equations. – 2014. – Vol. 27. – №. 9/10. – P. 879-892.
 - Lavrentiev, M.M., Romanenko, A.A., Lysakov, K.F. Modern computer architecture to speed-up calculation of tsunami wave propagation // Proceedings of the Eleventh (2014) Pacific/Asia Offshore Mechanics Symposium, Shanghai, China, October 12-16, 2014 pp 186-191 ISBN 978–1 880653 90-6: ISSN 1946-004X.
 - Lavrentiev, M.M., Romanenko, A.A. Tsunami wave parameters calculation before the wave approaches coastal line // [Proceedings of the International Offshore and Polar Engineering Conference](#), Busan, Korea, June 15-20, 2014, International Society of Offshore and Polar Engineers (ISOPE) ISBN 978-1 880653 91-3 (Set); ISSN 1098-6189 (Set), pp. 96-102.
 - Лаврентьев М.М., Бартош В.С., Белого И.В., Васючкова Т.С., Городняя Л.В., Держо М.А., Иванчева Н.А., Федотова О.А. Опыт преподавания IT-дисциплин в формате «blended learning» в Новосибирском государственном университете (НГУ)// Дистанционное и виртуальное обучение, Издательство: Издательство Современного гуманитарного университета (Москва) ISSN: 1561-2449. - 2014. - №9 (87). - С. 85-99.
 - Mikhail Lavrentiev, Vassily Bartosh, Igor Belago, Tatiana Vasyuchkova, Lidia Gorodnyaya, Marina Derzho, Natalia Ivancheva. Improving the Efficiency of Educational Process by Immersion in Virtual Reality // “The Future of Education, International Conference Proceedings 2014”, Florence, Italy, 12-13 June 2014. URL: <http://conference.pixel-online.net/FOE/files/foe/ed0004/FP/0684-ENT455-FP-FOE4.pdf>
 - M. Lavrentyev, A. Romanenko Speeding up tsunami wave propagation modeling. // Geophysical research abstracts, Vol. 16, EGU2013-3767, 2014 (pdf) .
 - M. Lavrentiev, V. Titov, A Romanenko Approaches to real-time tsunami wave parameters evaluation. // Geophysical research abstracts, Vol. 16, EGU2014-3742, 2014 (pdf).
 - M. Lavrentiev, A. Marchuk, A. Romanenko, G. Vassilyev Fast method to calculate tsunami arrival times. // Geophysical research abstracts, Vol. 16, EGU2013-3754, 2014 (pdf).
 - M. Lavrentyev, A. Romanenko Adaptation of data processing algorithms for GPU architecture // International Conference “Advanced Mathematics, Computations and Applications -2014”, Abstracts, June 8-11, 2014, Novosibirsk, ICM&MG SSB RAS, pp 48-49 (Invited talk).
 - M. Lavrentyev, An. Marchuk, K. Simonov, A. Romanenko, M. Kurako Solution to direct and inverse problems of hydrophysical tsunami monitoring on parallel and hybrid computational architectures // International Conference “Advanced Mathematics, Computations and Applications -2014”, Abstracts, June 8-11, 2014, Novosibirsk, ICM&MG SSB RAS, p. 40.
 - M.M. Lavrentiev, R. Spigler “Existence, uniqueness and regularity for the Kyramoto-Sakaguchi equation with unboundedly supported frequency distribution”// The Seventh International Conference on Differential and Functional Differential Equations, Moscow, Russia, August 22-29, 2014 Abstracts. Peoples' Friendship University of Russia, pp.71-72.
 - M. Lavrentiev, A. Romanenko. Measured data inversion for the problem of real time tsunami wave parameters determination // The seventh International Conference "Inverse Problems: Modeling and Simulation", Fethiye, Turkey, May 26 – 31, 2014, p. 101.
 - Mikhail Lavrentyev, Alexey Romanenko, and Pavel Tatarintsev "New method to determine initial surface water displacement at tsunami source", Geophysical research abstracts, Vol. 15, EGU2013-5595, 2013 ([pdf](#))

- Mikhail Lavrentiev-jr, Alexey Romanenko, and Andrey Marchuk "Toward the Real-Time Tsunami Parameters Prediction", Geophysical research abstracts, Vol. 15, EGU2013-5562, 2013 ([pdf](#))
- A.Vazhenin, M.Lavrentiev, A.Romanenko, An.Marchuk, "Acceleration of Tsunami Wave Propagation Modeling based on Re-engineering of Computational Components" //IJCSNS International Journal of Computer Science and Network Security, 2013, Vol. 13 No. 3 pp. 24-31 ([URL](#))
- V.S. Bartosh, I.V. Belago, M.M. Lavrentiev, I.A. Travina Flights in Virtual reality and in practice // Science from the first hands, 2013, No.1, pp. 6-21
- V.S. Bartosh, I.V. Belago, M.S. Dyakov, A.V. Elashkina, M.M. Lavrentiev, A.V. Nechiporenko Virtual format of the intellectual work // Science from the first hands, 2013, No.1, pp. 22-31
- V.S. Bartosh, I.V. Belago, L.V. Gorodnyaya, M.M. Lavrentiev, T.S. Vasyuchkova, et.al. Creative environment of the virtual world in innovative educational process // Distant and virtual learning, 2013, No. 3, pp. 13-25
- A.G. Anan'ko, M.M. Lavrentiev, K.F. Lysakov, M. Yu.Shadrin Development and application of an fpga-based special processor for solving bioinformatics problems // Pattern Recognition and Image Analysis, 2011, Vol. 3, No. 1, pp. 370-377
- D.R. Akhmetov M.M. Lavrentiev, R. Spigler Singular Perturbations of Parabolic Equations With or Without Boundary Layers // Math in Industry, V.15, Progress in Industrial Math at ECMI 2008, Springer-Verlag, 2010, pp.111-116.
- M.M. Lavrentiev, A.A. Romanenko Potential of modern hardware architectures for calculation acceleration // XII International seminar "Super calculations and math modeling", Sarov, October 11-15 2010, pp. 251-256 (In Russian).
- B.S. Dolgovesov, M.M. Lavrentiev, B.B. Morozov Interactive educationa complex based on integrated virtual media technology // XVIII All-Russian conference "Telematics'2011", Proceedings, V.1. Sankt-Peterburg, June 20-23 2011, pp. 138-139 (In Russian).
- M.M. Lavrentiev, T.S. Vasyuchkova, Yu.A. Zagoru'ko Knowledge portal concept for Novosibirsk Academytown Technopark // Ershov's conference PSI'11, Novosibirsk, june 27 – July 01, 2011, proceedings and abstracts, pp. 29-33 (In Russian).
- M.M. Lavrentiev, T.S. Vasyuchkova, A.A. Zalesskaya Organisation principles of education technological center of Novosibirsk Academytown Technopark // Ibid, pp. 34-36 (In Russian).
- A.S. Astrakova, D.V. Bannikov, S.G. Cherny, M.M. Lavrentiev, Jr Sensors location for timely tsunami registration accounting amplitude filtration // International Conference "Modern problems of applied math and mechanics" in occasion of academician N.N. Yanenko 90th birthday, abstracts/ Novosibirsk, May 2011, p. 35
- M.M. Lavrentiev, An.G. Marchuk, K.V. Simonov Solution to inverse problems for tsunami risk evaluation // Ibid, pp. 40-41 (In Russian).
- M.M. Lavrentiev, An.G. Marchuk, A.A. Romanenko Application of mathematical modeling methods for solution to inverse problem of tsunami source determination // V International Conference "Math ideas of P.L. Chebyshev and their applications to modern problems of natural sciences", abstracts. Obninsk, May 14-18 2011, pp. 123-124 (In Russian).
- M.M. Lavrentiev, An.G. Marchuk, A.A. Romanenko, K.V. Simonov, V. Titov Computerized Workstation for Tsunami Hazard Monitoring // Geophysical research abstracts, Vol. 12, EGU2010-3021-1, 2010 (URL: <http://adsabs.harvard.edu/abs/2010EGUGA..12.3021L>)

- O.V. Vishnevsky, T.I. Merkulova, A.G. Ananko, M.M. Lavrentiev Analysis of the degenerate motifs in regions of foxa-binding sites // Proceedings of the Seventh International Conference on Bioinformatics of Genome Regulation and Structure\Systems Biology. Novosibirsk: SB RAM Press, 2010. P. 301.
- O.V. Vishnevsky, T.I. Merkulova, A.G. Ananko, M.M. Lavrentiev Analysis of the degenerate motifs in promoters of auxin responsive genes // Proceedings of the Seventh International Conference on Bioinformatics of Genome Regulation and Structure\Systems Biology. Novosibirsk: SB RAM Press, 2010. P. 302.
- M.M. Lavrentiev, A.A. Romanenko Modern hardware to simulate tsunami wave propagation // Proceedings of the IASTED International Conference on Automation, Control, and Information Technology (ACIT 2010), Novosibirsk, June 15-18, 2010, ACTA Press, pp. 151-157.
- M.M. Lavrentiev, K.F. Lysakov, A.V. Rudakov, M.Yu. Shadrin FPGA-based hardware accelerator for high-performance processing of streaming data // Proceedings of the 10th International Conference on PATTERN RECOGNITION and IMAGE ANALYSIS: NEW INFORMATION TECHNOLOGIES. St. Petersburg, Russian Federation, December 5-12, 2010.
- A.G. Ananko, M.M. Lavrentiev, K.F. Lysakov, M.Yu. Shadrin Development and use of application specific FPGA based processor for the research in bioinformatics // Proceedings of the 10th International Conference on PATTERN RECOGNITION and IMAGE ANALYSIS: NEW INFORMATION TECHNOLOGIES. St. Petersburg, Russian Federation, December 5-12, 2010.
- M.M. Lavrentiev, A.A. Romanenko, A.F. Zaikov Operative modeling of tsunami wave propagation // International Conference “Lavrentiev readings on mathematics, mechanics, physics”, abstracts, Novosibirsk, August 23-27 2010, p. 107-108
- M. Lavrentiev, Jr., A. Romanenko, V. Titov, A. Vazhenin High-Performance Tsunami Wave Propagation Modeling // Parallel Computing Technologies, 10th International Conference PaCT2009, Novosibirsk, Russia, August/September 2009, Proceedings, Springer Verlag, Lecture Notes in Computer Science series, V. Malyshev (Ed.), pp. 423-434.
- A.V. Avdeev, E.V. Goriounov, M.M. Lavrentiev Jr., and R. Spigler A behavior-oriented model for long-term coastal profile evolution: Validation, identification, and prediction // Applied Mathematical Modelling, Volume 33, Issue 10, October 2009, pp. 3981-3996.
- A.S. Astrakova, D.V. Bannikov, S.G. Cherny, M.M. Lavrentiev, Jr, Genetic algorithm application for sensors optimization problem // Computational technologies, 2009, V.14, # 5, pp. 3-17 (in Russian).
- M.M. Lavrentiev, Jr., K.V. Simonov, V.G. Sibgatulin, S.A. Peretokin Evaluation of geodynamic risks for Krasnoyarsk territory // Proc. International Conference in occasion of 60 years of Kait Earthquake of 1949 in Tadzhikistan, Dushanbe, July 11-19, 2009, pp. 251-268.
- D.R. Akhmetov, M.M. Lavrentiev, Jr., R. Spigler Existence and Uniqueness of Classical Solutions to Certain Nonlinear Parabolic Integrodifferential Equations and Applications // More Progress in Analysis, Proceedings of the 5th International ISAAC Congress, Catania, Italy, 2005, World Scientific, Ed-s H.G.W. Begehr, F. Nicolosi, 2009, pp. 737-746.
- M.A. Derzho, N.A. Ivancheva, M.M. Lavrentiev, T.S. Vasyuchkova Approach of FIT NSU for development of educational program “Computer modeling for enterprise management” // 7th International conference in memory of academician A.P. Ershov “Perspectives of information systems”, abstracts and proceedings, Novosibirsk, June 15-19 2009, p. 34-36 (in Russian)

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- M.A. Derzho, N.A. Ivancheva, L.V. Gorodnyaya, M.M. Lavrentiev, T.S. Vasyuchkova School for informatics FIT NSU // 7th International conference in memory of academician A.P. Ershov “Perspectives of information systems”, abstracts and proceedings, Novosibirsk, June 15-19 2009, p. 33-34 (in Russian)
 - A.S. Astrakova, D.V. Bannikov, S.G. Cherny, M.M. Lavrentiev, Jr, The determination of the optimal sensors’ location using genetic algorithm // Proceedings of the 3rd Nordic EWM Summer School for PhD Students in Mathematics, University of Turku, Finland, TUCS General Publication No 53, June 2009, P. 5-22.
 - A.S. Astrakova, D.V. Bannikov, S.G. Cherny, M.M. Lavrentiev, Jr. The Method for Finding the Location of Sensors Providing the Fastests Tsunami Wave Detection // 24th International Tsunami Symposium, Programme and Abstracts, July 14-17, 2009, Novosibirsk, Russia, p. 64.
 - M.M. Lavrentiev, Jr., K.V. Simonov Energy-Based Analysis of Tsunamigenic Earthquake Prediction // 24th International Tsunami Symposium, Programme and Abstracts, July 14-17, 2009, Novosibirsk, Russia, p. 75.
 - O.V. Vishnevsky, , M.M. Lavrentiev, A.A. Romanenko Use of graphics accelerators to search for degenerate oligonucleotic motives in regulation gene regions of eucariot // Proc. All-Russia conf. in occasion of Academician S.K. Godunov 80th birthday “Mathematics in Applications”, Ed. Sobolev Inst. Math., Novosibirsk, 2009, pp. 62-63.
 - A.S. Astrakova, D.V. Bannikov, S.G. Cherny, M.M. Lavrentiev, Jr. Numerical method for solution of inverse problems on the basis of genetic algorithm // International Young Scientists Conference-School “Theory and Numerical Methods of Solution to Inverse and Ill-Posed Problems”, Novosibirsk, August 10-20 2009, pp. 18-19.
 - M.M. Lavrentiev, V.I. Maksimov Determination of the right hand side in parabolic equation. Journal of Computational Math and Math Physics, V. 48, #4 (2008), pp. 674-680
 - D.S. Miginsky, V.V. Labuzhsky, M.M. Lavrentiev, Jr., A.V. Morozov, S.A. Sokolov Technology for semantic data base integration in system biology // Computational technologies, 2008, V.13, # 6, pp. 103-119 (in Russian).
 - M.M. Lavrentiev, B.S. Dolgoesov, B.B. Morozov, A.A. Tarasovsky, B.V. Mazurok Technology of lecturer inclusion into interactive virtual environment. University Education in Russia, #2 (2008), pp. 134-138
 - M.M. Lavrentiev, K.V. Simonov Operative evaluation of parameters for Tsunamigenic earthquake. Workshop on Tsunami 2007 – «Wave Propagation, Theory, Numerical Approach and Data Inversion», Keio University COE: Integrative Mathematical Science, Yokohama, (Japan) 2008, pp. 107-116.
 - M.M. Lavrentiev, An.G. Marchuk, A.A. Romanenko Tsunami waves risk mitigation: new technology for deep ocean records processiog. In: Final conference of Federal Research Program “Development and Investigation on Strategic Directions of Russian Technical-Scientific Complex in 2007-2012”, Rational Use of Natural Resources, Sankt-Petersburg, December 4-5 2008, Abstracts, pp. 110-112.
 - M.M. Lavrentiev, S.G. Cherny, D.V. Bannikov, A.S. Astrakova Optimal sensor network on example of fast Tsunami wave detection. Workshop on Tsunami 2007 – «Wave Propagation, Theory, Numerical Approach and Data Inversion», Keio University COE: Integrative Mathematical Science, Yokohama, (Japan) 2008, pp. 13-28.

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