

SHORT CURRICULUM VITAE

Hamlet Meladze

E-mail: h_meladze@hotmail.com

POSITION: Professor, School of Business, Computing and Social Sciences, St. Andrew the First-called Georgian University of the Patriarchate of Georgia (SANGU)

Head of Department of Informatics, N.Muskhelishvili Institute of Computational Mathematics of Georgian Technical University (MICM),

KEY QUALIFICATION: numerical methods for solving of linear and nonlinear differential equations with partial derivatives; mathematical and computer modeling, parallel algorithms, fuzzy mathematics and etc.

EDUCATION:

- 1956-1961 Tbilisi State University, Department of Mathematics and Mechanics
- 1967-1970 Lomonosov Moscow State University, Faculty of Numerical Mathematics and Cybernetics, Postgraduate student
- 1971 **Candidate Degree of Phys. Math (PhD).** Thesis in specialty "Computational mathematics" at the Institute of Mathematics of Academy of Sciences of Georgia.
The title of the thesis: "The difference schemes for hyperbolic and elliptic systems of the first order quasilinear equations, modelling problems of mechanics of the continuous environment and the control theory".
Scientific Supervisor: Academician A.A.Samarskii
- 1991 **Doctor of Sciences of Phys.-Math.** Thesis in specialty "Computational mathematics" at the Institute of Mathematical Modeling of Academy of Sciences of Russia.
The title of the thesis: "About application of the method of regularization for solution of some multidimensional problems of mathematical physics"

EMPLOYMENT HISTORY:

- 2008-present Professor, School of Business, Computing and Social Sciences, St. Andrew the First-called Georgian University of the Patriarchate of Georgia
- 2009-present Head of Department of Informatics, N.Muskhelishvili Institute of Computational Mathematics of Georgian Technical University,
- 2006-2009 Chief Scientist, N.Muskhelishvili Institute of Computational Mathematics of Georgian Technical University, Department of Informatics
- 1993-1999 Dean, Iv. Javakhishvili Tbilisi State University, Faculty of Computer Sciences and Applied Mathematics
- 1978-2006 Head of Department of Computer Software and Information Technologies, Iv. Javakhishvili Tbilisi State University

1971 - 1978 Docent of Department of Computer Software and Information Technologies, Iv.
Javakhishvili Tbilisi State University

GRANTS

- **SRNSF Project N: FR/312/4-150/14**, Mixed Type Markov and Semi-Markov Queuing Systems In Problems for Infocommunication Networks' Dependability Planning, 2015-2018 (Principal Investigator);
- **544605-TEMPUS-1-2013-1-BE-TEMPUS-JPHES**, Developing tools for lifelong learning in Transcaucasus region: e-Learning, 2013-2017;
- **SRNSF Project N: FR/507/4-150/11**, New semi-Markovian Models for Dependability Planning (Structural Control) of Infocommunication Networks, 2012-2013 (researcher);
- **GTU**, Fast search algorithms and software for parallel implementation, 2011 (researcher);
- **ISTC A-823 PROJECT**, Creation of High-Performance Computation Cluster and Databases in Armenia, 2003-2006, Project manager;
- **GRDF (Georgian Research and Development Foundation), GRDF # 3302**, Development and research of deterministic and stochastic mathematical models for control and management of pollution level of fluvial waters and their realization by application package, 2003-2004 (Principal Investigator) ;
- **INTAS, Reference No.: INTAS-97-2126**, A new approach to analyzing fuzzy data supporting decision making regarding the possibility of earthquake occurrence, 1998-2000 (Project manager).

PARTICIPATIONS IN CONFERENCES

- ICM-2018 (International Congress of Mathematicians),
<http://icm2018.org/>, 1-9 August, 2018, Rio de Janeiro, RJ, Brazil
- IX International Conference of the Georgian Mathematical Union
September 3-7, 2018, Batumi, Georgia
- International Conference, Dedicated to 90th Anniversary of SERGEY MERGELYAN, <http://mergelyan-90.sci.am/>
20 - 25 May, 2018, Yerevan, Armenia
- The Third International Conference on Applications of Mathematics and Informatics in Natural Sciences and Engineering. Dedicated to the 80th Birthday of David Gordeziani, AMINSE 2017,
<http://www.viam.science.tsu.ge/aminse2017/plenary/>
December 6-9, 2017, Tbilisi, Georgia
- VIII International Conference of the Georgian Mathematical Union
September 4-8, 2017, Batumi, Georgia
- 11th International Conference on Computer Science and Information Technologies (CSIT'2017, <https://csit.am/2017/>
September 25 – 29, 2017, Yerevan, Armenia
- XXXI Enlarged Sessions of the Seminar of I.Vekua Institute of
April 19-21, 2017, Tbilisi,

- Applied Mathematics Georgia
- South Caucasus Computing and Technology Workshop, SCCTW'2016, <https://indico.cern.ch/event/572800/> . October 4-7, 2016, Tbilisi, Georgia
 - VII International Joint Conference of the Georgian Mathematical Union & Georgian Mechanical Union - Continuum Mechanics and Related Problems of Analysis, dedicated to 125-th birthday anniversary of Academician N. Muskhelishvili, September 5-9, 2016, Batumi, Georgia
 - 14th International Conference on Integral Methods in Science and Engineering (IMSE 2016) July, 2016, Padova, Italy
 - The Fourth Scientific Conference in Exact and Natural Sciences ENS-2016 February, 2016, Tbilisi, Georgia
 - The International Scientific Conference devoted to the 85th Anniversary of Academician I.V. Prangishvili «Information and Computer Technologies, Modeling, Control» November 3- 5, 2015, Tbilisi, Georgia
 - 10-th International Conference on Computer Science and Information Technologies (CSIT'2015) September 28 – October 2, 2015, Yerevan, Armenia
 - The First SDSU – Georgia STEM Workshop on Nanotechnology and Environmental Sciences Sep. 4-6, 2015, Tbilisi, Georgia
 - VI International Conference of Georgian Mathematical Union, Batumi July 12-16, 2015, Batumi, Georgia
 - Second Tbilisi-Salerno Workshop on Modeling in Mathematics March 16-18, 2015, Tbilisi
 - Third scientific conference in Exact and Natural Sciences ENS-2015 February 2-7, 2015, Tbilisi, Georgia
 - Third ATLAS South-Caucasus Grid & Cloud Computing Workshop (SCGCCW 2014 TBILISI) 20-24 October, Tbilisi, Georgia
 - V Annual International Conference of the Georgian Mathematical Union, September 8-12, 2014, Batumi, Georgia
 - 9-th International Conference on Computer Science and Information Technologies (CSIT'2013) Yerevan, Armenia, September 23 - 27, 2013
 - IV International Conference of Georgian Mathematical Union, Tbilisi -Batumi, Georgia, September 9-15, 2013
 - III International Conference of Georgian Mathematical Union Batumi, Georgia, September 2–9, 2012
 - 8th International Conference on Computer Science and Information Technologies (CSIT'2011) Yerevan, Armenia, September 26 - 30, 2011
 - II International Conference of Georgian Mathematical Union Batumi, Georgia, September 15–19, 2011
 - International Conference “Continuum Mechanics and Related Problems of Analysis”, to Celebrate the 70th Anniversary of the Georgian National Academy of Sciences & the 120th Birthday of Tbilisi, September 9–14, 2011

its First President Academician Nikoloz (Niko) Muskhelishvili

- The European Future Technologies Conference and Exhibition - *fet-11* Budapest, May 3-6, 2011
- International Conference SAIT 2011 “System Analysis and Information Technologies” Kyiv, Ukraine, May 23–28, 2011
- 15th WSEAS International Conference on APPLIED MATHEMATICS (MATH '10), <http://www.wseas.us/e-library/conferences/2010/Vouliagmeni/MATH/MATH-00.pdf> Vouliagmeni, Athens, Greece, 2010
- The International Scientific Conference, Devoted to the 80th anniversary acad. I.V.Prangishvili’s date of birth “Information and Computer Technologies, Modeling, Control” Georgia, Tbilisi, 2010
- First International Conference of Georgian Mathematical Union Georgia, Batumi, 2010
- PCI'2010, The Third International Conference “Problems of Cybernetics and Informatics” Bacu, Azerbaijan, 2010
- International Conference «INFORMATION AND COMPUTATIONAL TECHNOLOGIES» Georgia, Tbilisi, 2010
- XII International Conference on Science and Technology “System Analysis and Information Technologies” Kyiv, Ukraine, 2010
- Fifth Congress of Mathematicians of Georgia Georgia, Batumi / Kutaisi, 2009
- UKRAINIAN MATHEMATICAL CONGRESS – 2009 , section “Numerical Mathematics and Mathematical Problems of Mechanics” <http://www.imath.kiev.ua/~congress2009/en/> Kyiv, Ukraine, 2009
- 3rd International Conference on COMPUTATIONAL INTELLIGENCE (CI '09) Tbilisi, Georgia, 2009
- 2nd WSEAS International Conference on FINITE DIFFERENCES, FINITE ELEMENTS, FINITE VOLUMES, BOUNDARY ELEMENTS (F-and-B '09) Tbilisi, Georgia, 2009
- International Conference “Computer Science and information Technologies” Yerevan, Armenia , 2005
- International Conference “Problems of Numerical Analyses and Applied Mathematics”, Dedicated to Acad. A.Samarski's 85th anniversary of birth and 160 anniversary of Lvov State University Ukraine, Lviv, 2004
- ISPM Workshop and School on “Mathematical Modeling and Monitoring of Environmental Pollution and Its Effects” Bacu,Azerbaijan, 2003
- International Conference "Numerical Mathematics and mathematical problems of mechanics" (In frame of Ukrainian Ukrain, University of Drogobich, 2001

mathematical congress - YMK 2001), University

- III International conference "Finite Difference Schemes" Palanga, Lithuania, 2000
- International conference "Geoecology and Computers" Moscow, 2000
- IX International Conference "Modern problems of numerical mathematics and mathematical physics", dedicated to the Acad. A.Samarski's 80-th anniversary Moscow State University, 1999
- II International Conference "Finite Difference Methods: Theory and Application" Minsk, Belarus, 1998

PARTICIPATIONS AND OTHER ACTIVITIES:

- Lectures (1971 - till now): in computational mathematics, mathematical modeling, numerical methods, algorithms, financial mathematics, etc.
- Supervised preparation and defenses of 10 Masters of Sciences, 16 Candidate theses and 1 thesis for a Doctor of Science degree.
- Took part in organization and holding of several International, All-Union and Republic congresses, symposiums, conferences.
- The author up to 185 scientific publications, 11 manuals.
- The member of Academies of Sciences: Engineering, Education.
- The member, vice chairman of several Scientific Councils on Confirmation of Scientific Degrees (from 1992)
- **Chief Editor** of Georgian Electronic Scientific Journal "GESJ: Computer Sciences and Telecommunications", http://gesj.internet-academy.org/ge/ge/editboard_ge.php?b_sec=comp
- **Chief Editor** of the journal "Applied Mathematics, Informatics and Mechanics" (Tbilisi State University Press), as well as of other three editions of I.Vekua Institute of Applied Mathematics.
- The member of editorial board of other mathematical journals.

Supervisor of 1 Scientific Doctoral thesis, 15 Candidate of Sciences, 3 Academic Doctoral thesis, master students; Opponent of 14 Georgian and International Doctoral thesis,

LANGUAGES: Georgian (native), Russian (expellant), German (Good), English (elementary)

AWARDS (incomplete list):

1. The scientific award of Tbilisi state University for the best manual (2002 year);
2. Order of Honor (1998 year);

3. Memorable gold medal named after Nikolai N. Bogoliubov “За високий рівень наукових результатів в галузі математичної науки (For high level of scientific results in development of mathematical science)” (Ukrainian mathematical congress – 2009, Dedicated to the Centennial of Nikolai N. Bogoliubov).

SELECTED PUBLICATIONS (total 185 scientific publications):

1. Г.В.Меладзе. О решении методом конечных разностей краевой задачи для квазилинейного уравнения эллиптического типа // Труды Тбилисского гос. университета – 1968 – VI, т.129 – с.391-395;
2. Г.В.Меладзе. О факторизованных схемах для систем уравнений параболического типа со смешанными производными // Сообщ. АН Груз. ССР – 1969 – 56, №3 – с.533-536;
3. Г.В.Меладзе. Схемы повышенного порядка точности для систем эллиптических и параболических уравнений // Ж. выч. мат. и матем. физики – 1970 – т.10, №2 – с.482-490;
4. Г.В.Меладзе. О двухслойной схеме повышенного порядка точности для систем параболических уравнений с постоянными коэффициентами // Ж. выч. мат. и матем. физики – 1970 – т.10, №3 – с.748-753;
5. Г.В.Меладзе. О факторизованных схемах для некоторых систем уравнений гиперболического типа // Аннотации докл. семинара ИПМ Тбилисского гос. университета – 1970 – №2 – с.15-20;
6. Д.Г.Гордезиани, Г.В.Меладзе. О моделировании многомерных квазилинейных уравнений параболического типа одномерными уравнениями // Сообщ. АН Груз. ССР – 1970 – 60, №3 – с.537-540;
7. Г.В.Меладзе. О применении метода регуляризации для решения систем уравнений гиперболического типа // Труды ИПМ Тбилисского гос. унив. – 1972 – т.3 – с.267-284;
8. Д.Г.Гордезиани, Г.В.Меладзе. Некоторые замечания о сходимости итерационной продольно-поперечной схемы // Сообщ. АН Груз. ССР – 1972 – 67, №2 – с.277-280;
9. Д.Г. Гордезиани, Л.А. Зизова, О.П. Комурджишвили, Г.В.Меладзе. Разностные методы расчёта одного варианта уравнений теории тонких оболочек // Сб. «Исследование некоторых уравнений математической физики», ИПМ ТГУ – 1972 – с.87-96;
10. Д.Г.Гордезиани, Г.В.Меладзе. О моделировании третьей краевой задачи для много-мерных параболических уравнений в произвольной области одномерными уравнениями // Ж. выч. мат. и матем. физики – 1974 – т.14, №1 – с.246-250;
11. Л.Н.Бусурина, П.П.Волосевич, Д.Г.Гордезиани, А.А.Иванов, Г.В.Меладзе, Е.И.Леванов, С.П.Курдюмов, Ш.С.Николаишвили, Ю.П.Попов, А.А.Самарский. Образование и роль Т-слоя в процессе МГД-преобразования энергии при взаимодействии литиевой плазмы с магнитным полем. – Препринт / ИПМ АН СССР – №31 – 1974 – 51 с.;
12. Г.В.Меладзе. О применении метода регуляризации для решения многомерных систем уравнений параболического типа со смешанными производными // Труды ИПМ Тбилисского гос. унив. – 1975 – т.IV - с.69-83;
13. Р.Д. Лазаров, Г.В.Меладзе. О применении разностных схем для решения динамической задачи об упругих колебаниях бесконечной полосы // Сообщ. АН ГССР – 1976 – 83, №1 – с.17-20;
14. П.П.Волосевич, Д.Г.Гордезиани, С.П.Курдюмов, Г.С.Лацабидзе, Е.И.Леванов, Г.В.Меладзе, Т.Г.Окрошвили, Ю.П.Попов, Н.М.Схиртладзе. О задачах гидродинамики и магнитной гидродинамики с учётом источников (стоков) массы, импульса и энергии. – Препринт / ИПМ АН СССР – №45 – 1978 – 35 с.;
15. А.В.Кузьмин, В.Л.Макаров, Г.В.Меладзе. О полностью консервативных трёхслойных разностных схемах для уравнений газовой динамики в переменных Эйлера // Доклады семинара ИПМ Тбил. гос. унив. – 1978 – т. 12-13 – с.37-39;

16. Г.В.Меладзе, А.Г.Хантадзе, Г.М.Хочолава и др. Исследование ионизационных и диффузионно-рекомбинационных процессов и их связи с ветровым движением в ионосфере (заключительный отчёт). Депонирован в ВИНТИ Б 762363, 10.V.1979 – 144с.;
17. Р.Д.Лазаров, Г.В.Меладзе. Факторизованные схемы для динамической задачи об упругих колебаниях бесконечной полосы // Труды Тбил. гос. универс. – 1979 – т.207 – с.14-26;
18. А.В.Кузьмин, В.Л.Макаров, Г.В.Меладзе. Об одной полностью консервативной разностной схеме для уравнений газовой динамики в переменных Эйлера // Ж. выч. мат. и матем. физики – 1980 – т.20, №1 – с.171-181;
19. Г.В.Меладзе, Т.Г.Окроашвили, Н.М.Схиртладзе. О некоторых численных методах решения задач газовой динамики в эйлеровых координатах // Труды Тбилисского гос. университета – 1980 – т. 212 – с.119-128;
20. Г.В.Меладзе, А.Г.Хантадзе, Г.М.Хочолава и др. Исследование динамического режима и волновых процессов в верхней атмосфере (заключительный отчёт). Депонировано в ВИНТИ, гос. рег. №80076671 – 1983 – 152 с.;
21. Г.В.Меладзе, Д.В.Поцхишвили. О сходимости консервативной дифференциально-разностной схемы газовой динамики в Эйлеровых координатах // Ж. выч. матем. и матем. физики – 1985 – т.25, №6 – с.850-859;
22. Г.В.Меладзе, Д.В.Поцхишвили. О существовании обобщённого решения задачи о поршне для неоднородных уравнений газовой динамики в переменных Эйлера // Сообщ. АН ГССР – 1985 – 120, №1 – с.49-51;
23. Г.В.Меладзе, Д.В.Поцхишвили. О сходимости разностных схем газовой динамики в квазилагранжевых переменных // Ж. выч. матем. и мат. физики – 1985 – т.26, №4 – с.563-573;
24. Г.В.Меладзе. О численном решении некоторых задач математической физики на ЭВМ с параллельными процессорами. Труды всесоюзного симпозиума «Дифференциальные уравнения в частных производных и их приложения», Тбилиси, 21-23 апреля 1982г. – Изд. Тбилисского гос.университета – Тбилиси – 1986 – с.139-152;
25. П.П.Волосевич, Н.А.Дарьин, Е.И.Леванов, Г.В.Меладзе, Д.В.Поцхишвили. О сходимости полностью консервативных разностных схем для уравнений газовой динамики с учётом теплопроводности и стока массы в квазилагранжевых переменных. – Препринт / ИПМ АН СССР – №116 – 1986 г. – 29 с.;
26. И.Д.Блиадзе, Г.В.Меладзе. Об одной модификации метода Шварца для решения некоторых задач математической физики на многопроцессорных ЭВМ // Диффер. уравнения – 1986 – т.22, №6 – с.1062-1064;
27. Т.А.Кахниашвили, В.Н.Лукаш, К.А.Манукян, Г.В.Меладзе. Развитие неустойчивости в модели холодной скрытой массы с учётом релятивистских частиц. – Препринт / Институт космических исследований АН СССР, Пр.1297 – 1987 – г.Москва – 42 с.;
28. Г.В.Меладзе. Об одной задаче оптимального управления для квазилинейных дифференциальных уравнений первого порядка на плоскости с нелокальными краевыми условиями // В книге: «Современные проблемы математической физики». Труды всесоюзного симпозиума, Тбилиси, 22-25 апреля, 1987 – 1987 – т.1 – с.305-311;
29. П.П.Волосевич, М.Я.Корнилина, Е.И.Леванов, Г.В.Меладзе. Влияние Торцевых потерь на сжатие и нагрев плазмы в ТЕТА-ПИНЧЕ. – Препринт / ИПМ АН СССР – г.Москва – 1988 – №195 – 23 с.;
30. И.Д.Блиадзе, Г.В.Меладзе. Итерационные методы декомпозиции для решения систем уравнений с блочно-трёхдиагональной матрицей // Ж. вычисл. мат. и матем. физики – 1989 – т.29, №6 – с.803-812;
31. Г.В.Меладзе, Д.В.Поцхишвили. О сходимости полностью консервативных двухслойных разностных схем газовой динамики в переменных Эйлера // Доклады расширенных заседаний семинара ИПМ им. И.Н.Векуа, г.Тбилиси – 1989 – т.4, №3 – с.89-92;
32. Г.В.Меладзе, Г.З.Церцвадзе. О сходимости дифференциально-разностных схем газовой динамики в эйлеровых переменных // Труды Тбилисского Университета, г.Тбилиси – 1990 – т.298 – с.10-26;

33. И.Д.Блиадзе, Г.В.Меладзе. Итерационные методы декомпозиции для решения блочно-трёхдиагональных систем уравнений // «Вычислительная математика и программирование», Труды ИВМ АН Грузии – 1990 – т.29, №1 – с.12-25;
34. Н.О.Джгамадзе, Г.В.Меладзе. Об одной математической модели прорывной волны. – Препринт / ИВМ АН СССР – г.Тбилиси – 1991 – 12 стр.;
35. Т.Л.Гвелесиани, Н.О.Джгамадзе, Г.Я.Джинджихашвили, Г.В.Меладзе. О некоторых математических моделях для исследования волнообразования в водохранилищах // Математическое моделирование – 1991 – т.3, №5 – с.3-11;
36. Бусурина Л.Н., Волосевич П.П., Леванов Е.И., Меладзе Г.В., Эджибия Г.В. Автомодельные задачи магнитной гидродинамики с учётом источников (стоков) различной природы. – Препринт / ИПМ РАН – Москва – 1992 - №10 – 23 стр.;
37. N.Jgamadze, H.Meladze. Convergence of Difference Scheme for Two-dimensional Gas Dynamic Equations // Reports of Enlarged Session of the Seminar of I.Vekua Institute of Applied Mathematics – vol.8 - №3 – 1993 – pp.53-55;
38. H.Meladze, N.Nanobashvili. Data Compression in the Design Problems Related to Pilotless Aircraft // Georgian Symposium for Project Development and Conversion, Collection of Reports – Tbilisi – 1995 – pp.222-226;
39. Г.Меладзе, Д.Поцхишвили. О сходимости полностью консервативных двухслойных разностных схем газовой динамики в переменных Эйлера // Applied Mathematics and Informatics – 1996 – vol.1, №1 – pp.111-118;
40. F.Criado, H.Meladze, N.Odishelidze. An Optimal Control Problem for Helmholtz Equation with Non-local Boundary Conditions and Quadratic Functional // Rev. R. Acad. Scienc. Exact. Fis. Mat. (Esp.) – 1997 – vol.91, №1 – pp.65-69;
41. F.Criado, T.Gvelesiani, N.Jgamadze, H.Meladze. Two Mathematical Models for Investigating Wave Generation in Reservoirs // Applied Mathematics and Informatics – 1997 – vol.2 – pp.20-31;
42. E.Katamadze, H.Meladze. The Fuzzy Cauchy Problem for the First Order Ordinary Differential Equation and One Approach to its Numerical Solution // Reports of Enlarged Session of the Seminar of I.Vekua Institute of Applied Mathematics – vol.13, №4 – 1998 – pp.50-53;
43. N.Jgamadze, H.Meladze. Convergence of Two-layer Scheme for Equations of Gas Dynamics // Second International Conference: Finite-Difference Methods – Theory and Application (CFDM 98), Proceedings. Minsk, Belarus - 1998 – vol.2 – pp.35-41;
44. F.Criado, H.Meladze, N.Odishelidze. On the Numerical Solution of Optimal Control Problems for Second Order Elliptic Equations with Nonlocal Boundary Conditions and Quadratic Functional // Second International Conference “Finite-Difference Methods: Theory and Applications” (Minsk, 1998), Nath. Acad. Sci. Belarus Inst. Math., Minsk – Vol.1 – pp.90-98;
45. F.Criado, T.Gachechiladze, H.Meladze. Inverse Spline-Interpolation for Numerical Solving a Piston Problem with Isothermic Gas Compression and Constant Velocity // International Journal of Computer Mathematics – 1999 – vol.71 – pp.83-95;
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