CURRICULUM VITAE

Grigori Giorgadze

2 1001002747
ID number

Telephone 555 73 11 77 (mob.) 237 79 99 (home)

02/02/1960
Date of Birth (D/M/Y)

E-mail gia.giorgadze@tsu.ge

Webpage http://rmi.ge/~giorgadze

Research Interests: Mathematical physics, differential equations, complex analysis, quantum computation, differential geometry and topology, global analysis

Education

№	Years	Name of the University/Institute, Country	Academic Degree	Major / Specialty
1	1978-1984	Tbilisi State University	Master's degree	Pure Mathematics
2	1984-1988	Tbilisi State University	Bachelor's degree	Pure Mathematics
3	1988-1992	Steklov Mathematical Institute in Moscow	Ph.D	Differential equations
4	2002-2004	A.Razmadze Mathematical Institute, Tbilisi	Doctor of Sci.	Differential equations

Work Experience

№	Years	Position	Department / Unit	Organization
1	1985 up to	Head of departments	Mathematical Cybernetics	Institute of Cybernetics
2	2006 up to	Associated Professor	Faculty Exact and Natural Sci.	Iv. Javakhishvili Tbilisi State Uni.

Participation in Research Projects (over the last 5 years)

№	Years	Position / Responsibility	Project Title	Donor Organization
1	2017-2020	Principal Investigator	Riemann-Hilbert problems on Riemann surfaces and invariants of holomorphic vector bundles	SRNSF
2	2014-2016	Key Personnel	Geometry of constrained discrete configuration in Euclidean space	SRNSF
3	2012-2014	Principal Investigator	Monodrmic quantum computing	SRNSF + STCU
4	2010-2012	Principal Investigator	Elliptic systems on Riemann surfaces and its application	SRNSF

Participation in International Forums/Conferences (up to 5 events)

№	Year	Event title	Venue	Presentation title
1	2017	International conference on control theory	Moscow, Russia	On the Hamiltonians induced from Fuchsian systems.
2	2016	19th workshop on computer algebra	Dubna, Russia	Equilibrium configurations of point charges in planar domains

3	2015	18th workshop on computer algebra	Dubna, Russia	Equilibria of point charges on convex curves
4	2014	17th workshop on computer algebra	Dubna, Russia	On solvability criteria of Riemann-Hilbert Boundary Value Problem in quadratures
5	2014	XVII conference on analytic functions and related topics	Chelm, Poland	On solvability criteria of Fuchsian System in quadratures
6	2013	ISAAC 9th Cogress	Cracow, Poland	Recent advances in Riemann-Hilbert problem

List of Publications in the International Peer Reviewed Journals(over the last 5 years)

№	Publication Title	Journal title, series, volume issue (publication date): page(s) or, book / monograph title, edition #, series publisher, city, year published
1	Nondegeneracy of certain constrained extrema	Doklady Mathematics. Volume 95, Number 3, pp. 269-273, 2015
2	Cyclic Configuration of spherical polygons	Doklady Mathematics. Volume 87, Number1, pp. 300-305, 2013
3	On some properties of generalized analytic functions induced from irregular Carleman–Bers–Vekua equations	Complex Variables and Elliptic Equations, vol.59, N 9, pp.1183-1194, 2013
4	Equilibria of Point Charges on Nested Circles	Bull.Georgian Nat. Acad. Sci. vol. 9, no. 3, pp. 43-49,2015
5	Equilibria of Point Charges in Convex Domains	Bull.Georgian Nat. Acad. Sci.vol. 9, no. 2, 2015
6	On some constructive methods for the matrix Riemann–Hilbert boundary value problem.	Journal of Mathematical Sciences(N.Y), Volume 195, Issue 2, pp 146-174, 2013
7	Some analytical and geometrical aspects of stable partial indices.	Journal of Mathematical Sciences. Volume 193, Issue 3, pp 461-477, 2013
8	Remarks on bicentric polygons	Bull.Georgian Nat. Acad. Sci. vol. 7, no. 3, pp. 5-10,2013
9	Factorization of Loops in Loop groups	Bull.Georgian Nat. Acad. Sci. vol. 5, no. 3, pp. 35-37,2011
10	Some analytical and geometrical aspects of stable partial indices.	Proceedings of I. Vekua Institute of Applied Mathematics. Vol. 61-62, pp.14-32, 2012

Other Selected Publications (2006-2016)

1. (with G.Akhalaia, V.Jikia) On the Vortex equation on the complex plane, Proc.I.Vekua institute of Applied Math. vol.66, pp.14-18, 2016
2. (with N.Makhaldiani) On the algorithmic and nonalgorithmic solvable problems from quantum computing point of view. *Proc.I.Vekua Institute of Appl.Math.* vol.64, 2014, pp. 24-30
3. (with N.Manjavidze) On some constructive methods for matrix Riemann--Hilbert boundary value problem. *Journal of Math. Sci.(N.Y),* 2013, vol.194, 2013, pp.46-54.
4. (with B.Bojarski) Some analytical and geometric aspects of the stable partial indices. *Proceedings of I. Vekua Institute of Applied Mathematics, vol. 61-62, 2011-2012*, pp.14-32.

5. Monodromic Quantum Computing. *In book "Networks and Quantum Computing",* Ed.: Nikos E. Mastorakis, Nova Press, 2011, pp.349-384

6. On one necessary condition of solvability of Riemann-Hilbert monodromy problem in dimension four. *Trans. Inst.Math. Nat.Acad.Sci. Ukraine,* vol.7, N2, 2010, pp. 42-52

7. Solvability condition of the Riemann-Hilbert problem. *In book "Progress in analysis and its applications", Ed. M Ruzhanski,World Scientific,* 2010

8. Density problem of monodromy representation of Fuchsian system. *In book "Further Progress in Analysis" Ed. H.Begehr, A.Celebi, R.Gilbert,Word Scientific, 2*009, pp.347-356

9. Moduli space of complex structures. *Journal of Mathematical Sciences (N.Y).* 160 (6), pp. 697-716,2009

10. (with G. Khimshiashvili) Cyclic configurations of spherical quadrilaterals. *Bull.Georgian Nat.Acag.Sci.* 3 (2), pp.23-27, 2009

11. Analytic methods in quantum computing. *Journal of Mathematical Sciences (N.Y).* 153 (2), pp. 70-119,2008

12. (with A. Suzko) Quantum computing in exactly solvable models and geometric phases. *Journal of Mathematical Sciences (N.Y)* 153 (2), pp. 186-196,2008

13. (with R. Tevzadze) Quantum computation with scattering matrices. *Journal of Mathematical Sciences (N.Y)* 153 (2), pp. 197-209,2008

14. (with Z. Melikishvili) Atom-photon interactions with respect to quantum computation: A three-level atom in a two-mode field.*Journal of Mathematical Sciences (N.Y)* 153 (2), pp. 167-185,2008

15. Gates for quantum computing induced from monodromy operators. *Physics of Particles and Nuclei Letters.* vol.4,N2,pp. 173-175, 2007

16. Monodromic Quantum Computing. *International Journal of Computer Research.* Volume 15 Issue 3/4, pp. 259-294, 2007

17. On Monodromy of Generalized Analytic Functions. *Journal of Mathematical Sciences.* Volume 132, Number 6, 2006 , pp. 716-738.

18. Monodromic Quantum Computing. *in book "Trends in Quantum Computing Research" Nova Publishers, New York,* pp.1-36,2006

19. (with Z. Melikishvili) Three-level identical atoms in one and two-mode quantum fields I: internal electric dipole and quadrupole coupling in single atom by single mode. *Proceedings of I. Vekua Institute of Applied Mathematics,* vol. 61-62, 2011-2012, pp.46-54.

20. Some properties of the space of generalized analytic functions. *In "Recent developments in generalized analytic functions and its application",* Ed. G.Giorgadze, Tbilisi, 2011, pp.56-62.

21. (with G.Khimshiashvili) Factorization of Loops in Loop Groups. *Bull.Georgian Nat. Acad. Sci.* Vol.5, N 3, pp.35-38, 2011

22. On the structure of the space of generalized analytic functions. *Reports of Enlarged Session of the Seminar of I. Vekua Institute of Applied Mathematics,* vol. 25, 2011, pp.53-56

23. (with V. Jikia) Relation between Beltrami and holomorphic disc equations. *Reports of Enlarged Session of the Seminar of I. Vekua Institute of Applied Mathematics,* vol.25, 2011, pp.57-60

24. Some analytical and Geomertical aspects of the stable partial indices. *In Proc.of the International Conference on Modern Algebra and its Application*. Vol.1, pp.129-146, 2011

25. (with G. Khimshiashvili)Remarks on spherical linkages. *Bull.Georgian Nat.Acag.Sci.* 4 (2), pp.13-18, 2010

26. Completely controllable quantum system. *In proc. the second international conference "Problems of Cybernetics and Informatics*", vol.III, pp.84-86, Baku, 2008

27. (with A.A. Suzko, E.P. Velicheva) Time-dependent exactly solvable models and its applications. P*roceedings 5-th International Conference Bolyai-Gauss-Lobachevsky*. pp. 239-274, Minsk, 2006

28. (with R.Tevzadze) Scattering matrices as the gates for quantum computer. *Bull. Georgian Acad.Sci.* vol.173, N. 1, 2006.

29. (with Z. V. Jaliashvili, K. M. Mardaleishvili, T. D. Medoidze, Z. G. Melikishvili) Measurement of the abnormality degree in the biological tissue by the laser induced fluorescence. *Laser Physics Letters.* 2006, Vol. 3, No. 2: 89.

Books

Geometry of quantum computation, Nova Publ. (N.Y), 2013

(Coauthor) Elliptic systems on Riemann surfaces, Lecture Notes TICMI, TSU Press, 2012

Language Proficiency

Mother Tongue: Georgian

№	Foreign Language	Basic (A1, A2)	Intermediate (B1, B2)	Advanced (C1, C2)
1	Russian		B1	
2	English	A1		

Teaching Courses at Tbilisi State University:

Differential equations
Complex analysis
Differential Galois theory
Analytic theory of differential equations

Editorial experience:

Proc.I.Vekua Institute of Applied Mathematics, TSU Press - Editor-in-chief
Enlarged session of I.Vekua Institute of Applied Mathematics, TSU Press - Member of editorial board
Proc. seminars of I.Vekua Institute of Applied Mathematics, TSU Press - Member of editorial board
Journal mathematical Sciences (N.Y), Springer- Deputy Editor-in-chief
Enlightenment of Pure and Applied Mathematics, Aditisci Press - Member of editorial board