CURRICULUM VITAE

Doc. RNDr. Sulkhan Mukhigulashvili, Ph.D.

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EDUCATION BACKGROUND

1984-1991 - Student of Tbilisi State University, Faculty of Mechanics and Mathematics;

1991 - Diploma in Mathematics, Tbilisi State University;

1991-1995 - Post-graduate student of A. Razmadze Mathematical Institute of the Georgian Academy of Sciences;

1999 - Candidate of Physical and Mathematical Sciences, Ph. D. in Mathematics, A. Razmadze Mathematical Institute, Georgian Academy of Sciences.

INSTITUTIONAL AFFILIATIONS

1991-1998 - Teacher of Tbilisi Secondary School No.50;

1999 - Researcher, 2005-senior resercher, at A. Razmadze Mathematical Institute, Georgian Academy of Sciences;

2002-2003 - Lecturer in Iv. Javakhishvili Tbilisi State University;

2003-2022 - Researcher of Mathematical Institute of Academy of Sciences of the Czech Republic;

2006-2013 - Professor of Ilia State University, faculty of arts and sciences, Georgia;

2013 - to present, Full Professor of Ilia State University, school of natural sciences and engineering, Georgia;

2010-2015 - lecturer on Faculty of Business and Management, Brno university of technology, Brno Czech Republic;

2015 - habilitation of Docent degree at Masaryk University, Brno Czech Republic.

1.01.2016 - to present, Docent on Faculty of Business and Management, Brno university of technology, Brno Czech Republic.

AREA OF EXPERTISE

Qualitative theory of ordinary differential equations and functional differential equations, boundary value problems.

GRANTS AND FELLOWSHIPS

INTAS YS 2001-2/80;

Italian state grant and fellowship 2002;

Postdoctoral fellowship et Masaryk University Brno 2000;

Georgian-U. S. Bilateral Grants Program, CRDF Grant No. 3318 - 2003-2004;

Visitor Scholar position at the Mathematical Institute of Academy of Sciences of the Czech Republic (2003-2004)

Grant No. 201/06/0254, Grant agency of the Czech Republic, 2006-2008.

Grant No. GNSF/ST06/3-002, Georgian National Science Foundation 2006-2008.

Grant No. GNSF/ST09\175\3-101, Shota Rustaveli National Science Foundation, 2009-2012.

Grant No. GA 16-03796, Czech Science Foundation. Name of the project: Development of new methods of solving dynamic models of corporate processes management 2016.

PARTICIPATION IN CONFERENCES

DEMPH98 - Symposium on Differential Equations and Mathematical Physics, Tbilisi: On Solvability Of Two-point Boundary value Problem For Second Order Nonlinear Functional Differential equations 1998;

CDDE - 2006 - International Colloquium on Differential and Difference Equations dedicated to Professor Jaroslav Kurzweil on the occasion of his 80th birthday (Brno, Czech Republic, September 5-8, 2006) - speaker;

Konference EQUADIFF 12, Brno, 2009, krátké sdelení.

Czech-Georgian Workshop on Boundary Value Problems, Two-point boundary value problems for strongly singular higher-order linear differential equations with deviating arguments, Brno, 2011 (http://rmi.tsu.ge/eng/WBVP.htm);

FDEA-2014 -International conference on functional differential equations and applications, Two-point boundary value problems for strongly singular higher-order linear differential equations with deviating argumentsBrno, Ariel University, Israel, 2014. (http://www.ariel.ac.il/projects/math/con2014.pdf);

The Sixth Czech-Israeli Workshop on Functional Differential Equations, Two-point BVPs for the 4th order nonlinear ODEs at resonance, October 17-20, 2016. (http://czil.math.cas.cz/2016/);

Czech-Georgian Workshop on Boundary Value Problems, Two-point BVPs for the 4th order nonlinear ODEs at resonance, Brno, Czech Republic, January, 10-13, 2017. (http://rmi.tsu.ge/eng/WBVP.htm);

Conference: Functional Differential Equations and Applications, Ariel, Israel, August 20-26, 2017;

Conference: Differential Equations and Applications, Brno, Czech Republic, September 4-7, 2017;

Ninth Czech-Israeli Workshop on Functional Differential Equations, Brno, Czech Republic, July 9-13, 2018;

the International Workshop on Qualitative Theory of Differential Equations (QUALITDE-2018), dedicated to the 100 anniversary of I. Javakhishvili Tbilisi State University, December 1-3, 2018, at A. Razmadze Mathematical Institute of TSU;

XIX International Conference "Dynamical System Modeling and Stability Investigations" \\ (DSMSI-2019), Taras Shevchenko National University of Kyiv, Ukraine, May 22-24, 2019;

Conference Functional Differential Equations and Applications, Ariel, Israel, September 22-26, 2019;

Eleventh Czech-Israeli Workshop on Functional Differential Equations May 13, 2020, May 25, 2020, June 2, 2020, June 10, 2020, June 17, 2020;

(due to the situation with COVID-19, the workshop was held online jointly with Drakhlin's seminar on Functional Differential Equations organised by the Ariel University.)

MONOGRAPHS

1. Some two-poit boundary value problems for second order functional differential equations, Folia Facul. Sci. Natur. Univ. Masar. Brun., Mathematica 8, Brno: Masaryk University, 2000, 72 pages.(with A. Lomtatidze);

2. Two-point boundary value problems for second order functional differential equations. Mem. Differential Equations Math. Phys. 20 (2000), 1-112;

PAPERS

1. On periodic solutions of second order functional differential equations (with A. Lomtatidze). Mem. Differential Equations Math. Phys. 5 (1995), 125-126. (Mathematical Reviews, Zentralblatt MATH);

2. On a two-point boundary value problem for second order functional differential equations. Mem. Differential Equations Math. Phys. 6 (1995), 124-126. (Mathematical Reviews, Zentralblatt MATH);

3. On a two-point boundary value problem for second order functional differential equations I. (with A. Lomtatidze). Mem. Differential Equations Math. Phys. 10 (1997), 125-128. (Mathematical Reviews, Zentralblatt MATH);

4. On a two-point boundary value problem for second order functional differential equations II. (with A. Lomtatidze). Mem. Differential Equations Math. Phys. 10(1997), 150-152. (Mathematical Reviews, Zentralblatt MATH);

5. On two-point boundary value problems for two-dimensional differential systems with singularities. Georgian Math. J. 10(2003), No.3, 595-602. (Impact Factor 0.55, Q 3);

6. On the unique solvability of the Dirichlet problem for a second order linear functional differential equation. (Russian) Differentsialnye Uravneniya 40(2004), No.4, 477-484; translation in Differ. Equ. 40(2004), No.4, 515-523. (Impact Factor 0.677, Q 2);

7. On nonlinear boundary value problems for two-dimensional differential systems (with I. Kiguradze) Differentsialnye Uravneniya 40(2004), No.6, 747--755; translation in Differ. Equ. 40(2004), No.6, 797-806. (Impact Factor 0.677, Q 2);

8. On A Boundary Value Problem For n -th Order Linear Functional Differential Systems (with R.Hakl). Georgian Math. J. 12(2005), No.2,229-236. (Impact Factor 0.55, Q 3);

9. On One Estimate For The Periodic Functions (with R.Hakl). Georgian Math. J. 12(2005), No.1, 97-114. (Impact Factor 0.55, Q 3);

10. On periodic solutions of two-dimensional nonautonomous differential systems (with I. Kiguradze). Nonlinear Anal. 60A(2005), No.2, 241-256. (Impact Factor 1.587, Q1);

11. On the Solvability of the Dirichlet Problem for Nonlinear Second-Order Functional-Differential Equations (with I. Sremr). (Russian) Differentsialnye Uravneniya 41(2005), No.10, 1353--1362; translation in Differ. Equ. 41(2005), No.10, 1425-1435. (Impact Factor 0.677, Q 2);

12. On A Periodic Boundary Value Problem for Second Order Linear functional differential equations. Boundary Value Problems 2005(2005), No.3, 247-261. (Impact Factor 1.637, Q 3);

13. On the Solvability of the Periodic Problem for Nonlinear Second-Order Function-Differential Equations. (Russian) Differentsialnye Uravneniya 42(2006), No.3, 356--365; translation in Differ. Equ. 42(2006), No.3, 380-390. (Impact Factor 0.677, Q 2);

14. On A two-point Boundary Value Problem for Second Order Linear Functional Differential Equations With Monotone Operators (with I. Sremr). Funct. Differ. Equ. 13(2006), No.3-4,519-537. (Impact Factor 1.747, Q 1);

15. On Periodic Solutions of Second Order Functional Differential Equations. Italian J. of Pure and Appl. Math. (2006) No.20, 29-50. (Impact Factor 0.21, Q 4);

16. On A Periodic Boundary Value Problem For Cyclic Feetback Type Linear Functional Differential Systems. Archiv der Mathematik, 87(2006), 255-260. (Impact Factor 0.54, Q 2);

17. On A Periodic Boundary Value Problem For 3th Order linear Functional Differential Equations. Funct. Differ. Equ. (with B.P\accent23u\v za). 14(2007), 347-361. (Impact Factor 1.747, Q 1);

18. On a Periodic Boundary Value Problem For Fourth Order Linear Functional Differential Equations. Georgian Math. J.14(2007), No.3, 533-542. (Impact Factor 0.55, Q 3);

19. On a Periodic Boundary Value Problem for Third Order Linear Functional Differential Equations. Nonlinear Anal. 66, No 2, (2007) 527-535. (Impact Factor 1.587, Q1);

20. On A Periodic Boundary Value Problem For Cyclic Feetback Type Linear Functional Differential Systems. Mem. Differential Equations Math. Phys. (with B.Puza). 40(2007), 67-75. (Mathematical Reviews, Zentralblatt MATH);

21. On A Periodic Boundary Value Problem For Third Order Linear Functional Differential Equations (with R. Hakl). Mem. Differential Equations Math. Phys. 41(2007), 27-42. (Mathematical Reviews, Zentralblatt MATH);

22. On a Priori Estimates of Solutions of Nonlinear Functional differential Inequalities of Higher Order With Boundary Conditions of Periodic Type. Mem. Differential Equations Math. Phys. 41(2007), 163-165. (Mathematical Reviews, Zentralblatt MATH);

23. Nonnegative Solutions of The Characteristic Initial Value Problem For Linear Partial Functional- Differential Equations of Hiperbolic Type (with A. Lomtatidze, J. Sremr) . Math. Comput. Modelling 47(2008), No.11-12, 1292-1313;

24. On Periodic Solutions Of The System Of Two Linear Differential Equations (with I. Kiguradze). Mem. Differential Equations Math. Phys. 48 (2009), 175-182. (Mathematical Reviews, Zentralblatt MATH);

25. An Optimal Condition For The Uniqueness Of Periodic Solution For Linear Functional Differential Systems (with I. Grytsay).E. J. Qualitative Theory of Diff. Equ., 2009, No. 59, 1-12. (Impact Factor 1.2, Q 2);

26. A Periodic Boundary Value Problem For Functional Differential Equations Of Higher Order (with R. Hakl). Georgian Math. J. Volume 16(2009), No. 4, 651-665. (Impact Factor 0.55, Q 3);

27. On one problem with nonlinear boundary condition for systems of functional-differential equations (Russian) Differentsialnye Uravneniya, 2010, Vol. 46, No. 1, pp. 47-58. (Impact Factor 0.677, Q 2);

28. The Dirichlet BVP for the second Order Nonlinear Ordinary Differential Equation At Resonance. Italian J. Of Pure and Appl. Math., 2011, No. 28, pp. 177-204. (Impact Factor 0.21, Q 4);

29. On a periodic problem for higher-order differential equations with a deviating argument (with N. Partsvania and B. P\accent23uza). Nonlinear Analysis. 74 (2011), 3232-3241. (Impact Factor 1.587, Q1);

30. On two-point boundary value problems for higher order functional differential equations with strong singularities (with N. Partsvania). Mem. Differential Equations Math. Phys. 54 (2011), 134-138. (Mathematical Reviews, Zentralblatt MATH);

31. Two-point boundary value problems for strongly singular higher-order linear differential equations with deviating arguments (with N. Partsvania). E. J. Qualitative Theory of Diff. Equ., 2012, No. 38, 1-34. (Impact Factor 1.2, Q 2);

32. On one estimate for solutions of two-point boundary value problems for higher-order strongly singular linear differential equations (with N. Partsvania). Mem. Differential Equ. Math. Phys., Vol. 58, 2013, 65-77. (Mathematical Reviews, Zentralblatt MATH);

33. The Dirichlet Boundary Value Problems For Strongly Singular Higher-Order Nonlinear Functional-Differential Equations. Czechoslovak mathematical journal. vol., 63, No. 1 (2013), 235-263. (Impact Factor 0.412, Q 3);

34. Nonlocal Boundary Value Problem For Strongly Singular Higher-Order Linear Functional-Differential Equations. E. J. Qualitative Theory of Diff. Equ., 2013, No. 33, 1-38. (Impact Factor 1.2, Q 2;)

35. The Nonlocal Boundary Value Problems For Strongly Singular Higher-Order Nonlinear Functional-Differential Equations. Italian J. Of Pure and Appl. Math., 2015, No. 35, pp. 23-50. (Impact Factor 0.21, Q 4);

36. The Focal Boundary Value Problem For Strongly Singular Higher-Order Nonlinear Functional-Differential Equations (with B. Puza). Boundary Value Problems (2015) 2015, N 1, 1-21. (Impact Factor 1.637, Q 3);

37. The mixed BVP for second order nonlinear ordinary differential equation at resonance. Math. Nachr. 290, No. 2-3, 393-400 (2017). (Impact Factor 0.91, Q 1);

38. The mixed BVP for the second order nonlinear ordinary differential equations at resonance, Miskolc Mathematical Notes, 18(2017), No. 2, pp. 975-992. (Impact Factor 0.32, Q 3);

39. On One Two Point BVP For The Forth Order Linear Ordinary Differential Equation (With M. Manjikashvili). Georgian Math. J. 24 (2017), No 2, pp. 265-275. (Impact Factor 0.55, Q 3);

40. Some two-point problems for second order integro-differential equations with argument deviations (With V. Novotna). Topol. Methods Nonlinear Anal. 54(2019), No 2A, 459-476. (Impact Factor 0.835, Q 2);

41. Dirichlet BVP for the second order nonlinear ordinary differential equations at resonance (With M. Manjikashvili). Mathematical Modelling and Analysis, 24(2019), No. 4, 585-597. (Impact Factor 0.957, Q 2);

42. Lasota-Opial's type conditions for periodic problem for systems of higher order functional differential equations (with B. Puza). Journal of Inequalities and Applications (2020) 2020:155. (Impact Factor 0.616, Q 2);

43. The periodic problem for the second order integro-differential equations with distributed deviation (With V. Novotna). Mathematica Bohemica, (2020), vol. 2020, no. 2, p. 459-496. ISSN: 0862-7959. (Impact Factor 0.202, Q 4);

44. The Dirichlet problem for the fourth order nonlinear ordinary differential equations at resonance (With M. Manjikashvili). Journal of Contemporary Mathematical Analysis. 55 (5). pp. 13-26. ISSN 00002-3043 (Impact Factor 0.2, Q 4);

45. Some two-point boundary value problems for systems of higher order functional differential equations. Mathematica Scandinavica (2020)(Accepted) (Impact Factor 0.401, Q 2);

46. The Dirichlet problem for the fourth order nonlinear ordinary differential equations at resonance (With M. Manjikashvili). J. Contemp. Mathemat. Anal. 55, 291–302 (2020);

47. Some two-point boundary value problems for systems of higher order functional differential equations. Mathematica Scandinavica. Vol. 127 No. 2 (2021),p.382-404;

48. Necessary And Sufficient Conditions Of Disconjugacy For The Fourth Order Linear Ordinary Differential Equations (With M. Manjikashvili). Bull. math. Soc. Sci. Math. Romanie Tome 64(112) No.4, 2021, 341-353;

49. Optimal conditions of solvability of periodic problem for systems of differential equations with argument deviation. Georgian Mathematical Journal, vol. 30, no. 1, 2023, pp. 121-136;

50. two-point Boundary value Problems For 4-th Order Ordinary Differential Equations. Miskolc Mathematical Notes, accepted in (2022).

TRANSLATIONS FROM CZECH TO GEORGIAN LAGUAGE

1. **Prosím stručně** of Václav Havel – Bakur Sulakauri publishing, 2010, ISBN 978- 9941-15-118-7
2. **Nesnesitelná lehkost bytí** of Milan Kundera- Diogene Publishers, 2012, ISBN 978-9941-11-385-7
3. **Obsluhoval jsem anglického krále** of Bohumil Hrabal - Diogene Publishers, 2014, ISBN 978-9941-11-457-1
4. **Příliš hlučná samota** of Bohumil Hrabal - Diogene Publishers, 2016, ISBN 978-9941-11-531-8
5. **Ostře sledované vlaky** of Bohumil Hrabal - Diogene Publishers, 2021 ISBN **9789941116667**