Bolys Sabitbek

Contact Information	125 Pushkin str. 312. Almaty, Kazakhstan ORCID iD: 0000-0002-4580-8084	+7 747-901-6065 sabytbek.bolys@gmail.com

Research Interests Functional analysis, Nonlinear partial differential equations, Hardy inequality, Hardy-Sobolev inequality, Caffarelli-Kohn-Nirenberg inequality, Stratified Lie groups.

Education

Institute of Mathematics and Mathematical Modeling, Almaty, Kazakhstan

Ph.D Mathematics, June 2019

- Topic: *Hardy and Sobolev type inequalities on homogeneous groups*
- Advisor: Tynysbek Kalmenov, Professor, Dr. Sci. (Phys.Math.) and Micheal Ruzhansky, Professor, PhD.

Georgia Institute of Technology, Atlanta, GA

M.S., Aerospace Engineering, May 2016

- Topic: *Orbit Design for a Phobos-Deimos Cycler Mission*
- Advisor: Brian Gunter, Ph.D

Kazakh National University, Almaty, Kazakhstan

B.S., Mechanics , June 2012

- Topic: *Particular solutions of canonical equations of rotational motion of a non-stationary axisymmetric satellite*
- Advisor: Mukhtar Menglibayev, Dr. Sci. (Phys.Math.)

Research Experience

Institute of Mathematics and Mathematical Modeling
2019 – now Senior Researcher
2016 – 2019 Researcher
2010 – 2013 Research Assistant

Georgia Institute of Technology
2015 – 2016 Teaching Assistant

Kazakh National University
2009 – 2012 Research Assistant and Teaching Assistant

Publications

1. M. Ruzhansky, B. Sabitbek, D. Suragan, Geometric Hardy inequalities on starshaped sets. arXiv:1902.03723
2. M. Ruzhansky, B. Sabitbek, D. Suragan, Principal frequency of p-versions of sub-Laplacian for general vector fields, preprint 2019, submitted.
3. M. Ruzhansky, B. Sabitbek, D. Suragan, Geometric Hardy and Hardy-Sobolev inequalities on Heisenberg groups. arXiv:1811.07181
4. M. Ruzhansky, B. Sabitbek, D. Suragan, Subelliptic geometric Hardy type inequalities on half-spaces and convex domains. arXiv:1806.06226
5. M. Ruzhansky, B. Sabitbek, D. Suragan, Hardy and Rellich inequalities for anisotropic p-sub-Laplacians, and horizontal Hardy inequalities for multiple singularities and multi-particles on stratified groups. Banach Journal of Mathematical Analysis, to appear. arXiv:1803.09996

6. M. Ruzhansky, B. Sabitbek, D. Suragan, Weighted anisotropic Hardy and Rellich type inequalities for general vector fields, NoDEA Nonlinear Differential Equations Appl., 26 (2019), no. 2, 26:13.
7. M. Ruzhansky, B. Sabitbek, D. Suragan, Weighted Lp-Hardy and Lp-Rellich inequalities with boundary terms on stratified Lie groups. Rev. Mat. Complutense. 32(2019), 19-35.
8. B. Sabitbek, D. Suragan, On green functions for Dirichelet sub-Laplacians on a Quaternion Heisenberg group, Mathematical Modelling of Natural Phenomena, (2018) 39.
9. B. Sabitbek, D. Suragan, Horizontal Weighted Hardy–Rellich Type inequality on Stratified Lie groups. Complex Anal. Oper. Theory. 12(6), (2018), 14691480.
10. B. Sabitbek, B. Gunter, Orbit Design for a Phobos-Deimos Cycler Mission. Advances in the Astronautical Sciences. (2018)
11. B. Sabitbek, D. Suragan, Hardy and Rellich type inequalities on the complex affine group, Eurasian Mathematical Journal. (2017). 8(2). 31-39.
12. T.Sh. Kalmenov, B. Sabitbek, A Boundary Condition of the Volume Potential for Strongly Elliptic Differential Equations, Springer Proceedings in Mathematics and Statistics. (2017)

Conference Attended

2019 – The 12th International ISAAC congress, Aveiro, Portigal.

2018 – The 6th Heidelberg Laureate Forum, Heidelberg, Germany.

2018 – UK Network on Hyperbolic Equations and Related Topics, Edinburgh, UK.

2017 – The 11th International ISAAC congress, Vaxjo, Sweden.

Teaching Experience

2016 – Teaching Assistant, Celestial Mechanics

2017 – Lecturer, Theoretical Mechanics and Applications

Awards

2018 – Heidelberg Laureate Forum.

2012 – Presidential Scholarship Bolashak supporting a graduate study in the United States.

2011 – U. A. Dzholdasbekov Award for young scientists.

2008 – Governmental Scholarship for undergraduate degree.

Relevant Skills

Language: Kazakh (native), Russian (fluent), English (fluent)

Programming: MATLAB (intermediate), Mathematica (basic), and General Mission Analysis Tool "GMAT" (intermediate)