Curriculum Vitae of Alexander A. Shlapunov

Name: Shlapunov
First name: Alexander

Date of birth: August 11, 1969
Place of birth: Krasnoyarsk (Russia, USSR)
Citizenship: Russia

Current position: Professor of Department of Function's Theory, Siberian Federal University, Krasnoyarsk, Russia.

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Personal: married (1996), two children (1998, 2005)
Military service: Accomplished

Languages: Russian (native language), English (fluent), Italian (spoken and written), German (spoken and written).

Grants and Awards

Scholarship of President of Russian Federation (1997);
Scholarship of Krasnoyarsk Scientific Fund for Young scientists (1997, 1998, 1999, 2000);
Grants of Russian Fund of Basic Research (96-01-0080, 96-15-9626, 99-01-00790, 00-15-96140, 02-01-00167, 05-01-00517, 08-01-90250, 08-01-00844, 11-01-00852-a, 11-01-91330-NNIO-a, 14-01-00544-);
Grants of President of Russian Federation for Leading Scientific Schools (1212.2003.1, 2427.2008.1, 7347.2010.1);
Grants of Krasnoyarsk Scientific Fund (6F0103, 8F0101, 10F032M, 11F031M, 12F0063C);
Awarded by Academic Rank of Docent (2005);
DAAD stipendium for Foreign Researchers (2003, 2011);
Grant of President of Russian Federation for young Russian scientists (MD-1104.2005.1);
Humboldt Stipendium for Foreign Researchers (2006);
Grant of Russian Ministry of Education "Development of scientific potential of high school", (N. 2.1.1/4620);
Supported by Federal target program "Scientific and educational personnel of innovative Russia", state contract N. 02.740.11.0457;
Certificate of Honor of Ministry of Education of Russian Federation (2009);
Awarded by Academic Rank of Professor (2012);
Grant of the Russian Federation Government for scientific research under the supervision of leading scientist at the Siberian Federal University, contract N. 14.Y26.31.0006;
Resuming Humboldt Stipendium for Foreign Researchers (2012, 2017);
Grant of the Ministry of Education and Science of Russian Federation, N 1.2604.2017/PCh.

Academic Titles and Career

June 1986: High school Diploma.
June 1992: Graduating from Department of Mathematics of Krasnoyarsk State University with Master degree. Title of the thesis: *Bases with double orthogonality in the Cauchy problem for elliptic systems*, research supervisor: Prof. N.N. Tarkhanov.

July 1992-November 1992: Lecturer position at the Faculty of Psychology and Pedagogy of Krasnoyarsk State University.
November 1992-November1995: Ph. D. position in Mathematics at Krasnoyarsk State University; research supervisors: Prof. N.N. Tarkhanov and Prof. L.A. Aizenberg.
May 1993 -May 1996: Ph. D. position (Perfezionando) in Mathematics at the Scuola Normale Superiore di Pisa (Italy); research supervisor: Prof. E. Vesentini.
September 1995: Taking the Ph. D. in Mathematics at Krasnoyarsk State University. Title of the thesis: *Bases with double orthogonality in the Cauchy problem for elliptic systems*, research supervisor: Prof. N.N. Tarkhanov.
February 1996: Obtaining Master degree at the University of Pisa (Italy), research supervisor: Prof. M. Nacinovich.
March 1996: Taking the Ph.D. in Mathematics (Diploma di Perfezionamento) at the Scuola Normale Superiore di Pisa (Italy). Title of the thesis: *Green's integrals and their applications to elliptic systems*, research supervisor: Prof. E. Vesentini.

September 1996-May 1998: Lecturer position in the Department of Function's Theory at Faculty of Mathematics of Krasnoyarsk State University.
September 1996-September 2001: Vice-dean of the Department of Mathematics, Krasnoyarsk State University.
June 1998 - September 2001: Docent position in the Department of Function's Theory at the Faculty of Mathematics of Krasnoyarsk State University.
October 2001-September 2004: Post-Doctorate position in Analysis at the Faculty of Mathematics and Computer Sciences of Krasnoyarsk State University.
September 2004: Habilitation in Mathematical Analysis at Krasnoyarsk State University. Title of the thesis: *Green Formulas in the Theory of Elliptic Complexes*, research adviser: Prof. A.M. Kytmanov.

October 2004-April 2005: Docent position at the Department of Function's Theory at the Faculty of Mathematics and Computer Sciences of Krasnoyarsk State University.
May 2005-June 2006: Professor position in the Department of Function's Theory at Faculty of Mathematics and Computer Sciences of Krasnoyarsk State University.
July 2006-June 2007: Humboldt Fellow at the Institute of Mathematics, Potsdam University (academic host: Prof. N. Tarkhanov).

July 2007-now: Professor position in the Department of Function's Theory at the Institute of Mathematics and Computer Science, Siberian Federal University.

Part-time work

1996–1997 Lecturer at the Faculty of Psychology and Pedagogy of Krasnoyarsk State University.
Every year from 1998 to 2004: Docent position in the Department of Mathematical Analysis and Differential equations at the Faculty of Mathematics of Krasnoyarsk State University.

2005-2006: Professor in the Department of Mathematical Analysis and Differential equations at the Faculty of Mathematics of Krasnoyarsk State University.

Every year from 2007- now: Professor in the Department of Mathematical Analysis and Differential equations at the Institute of Mathematics and Computer Science of Siberian Federal University.

Scientific Research

My scientific research has been mainly devoted to the following fields, in which I published more than five dozens of papers (see list of publications):

Evolution Navier-Stokes Equations in weighted Hölder spaces;
The Cauchy problem and mixed problems for non-linear elliptic equations and systems;
The Cauchy problem for elliptic differential complexes;
Spectral theory for boundary problems in domains with non-smooth boundary;
Mixed ill-posed problems for linear parabolic equations;
Formal theory for overdetermined systems of partial differential equations (geometric approach, formal Cauchy problem);
Existence theory for overdetermined systems (Spencer Complex, harmonic spaces);
Boundary behavior of solutions to elliptic systems (solutions of finite orders of growth, etc.);
Boundary Value Problems for Elliptic Systems (Hilbert space approach, solvability conditions, exact and approximate solutions) including
– the ill-posed Cauchy problem,
– the Dirichlet problem,
– Neumann problems,
– crack problem,
– mixed problems;
Boundary Value problems for equations of elasticity theory (solvability conditions, exact and approximate solutions);
Cohomologies of elliptic complexes of linear partial differential operators (Hilbert space approach);
Cohomologies of complexes of sufficiently regular linear partial differential operators (geometric approach);
Existence theory for elliptic systems (solvability conditions, exact and approximate solutions);
Existence theory for holonomic systems;
Duality in spaces of solutions to elliptic systems and theory of reproducing kernels;
Greens' integrals associated with elliptic complexes (boundary behavior, theorem on jump behavior, iterations);
Operator equation theory in Functional Analysis;
Ill-posed problems in linear functional analysis (regularization);
Complex Analysis;
Integral representations.

Current Scientific Interests

Root functions of Boundary Value problems;
The Cauchy Problem for Elliptic Differential Complexes;
Ill-posed Mixed Boundary Value Problems for equations of Parabolic type (solvability conditions, exact and approximate solutions);
The Cauchy Problem and Mixed Problems for non-linear Elliptic systems and equations.

Conferences and Talks

I have made talks at the following conferences:

National Scientific Student's Conference (Novosibirsk, Russia, 1991);
National Scientific Student's Conference (Novosibirsk, Russia, 1992);
International Conference on Partial Differential Equations (Holzhau, Germany, 1994);
International Conferences on Partial Differential Equations and Analysis on Manifolds with Singularities (Potsdam, Germany, 1995, 1996, 1998, 1999, 2000, 2001);
International Conferences on Mathematical Models (Krasnoyarsk, Russia, 1997, 1999, 2001);
International Conferences on Symmetry in Natural Sciences (Krasnoyarsk, Russia, 1998, 2000);
International Conference on Complex Analysis, MIRAN (Moscow, Russia, 2001);
International Conference on Complex Analysis (Krasnoyarsk, Russia, 2002);
International Conference on Ill-posed and Inverse problems (Novosibirsk, Russia, 2002, 2007);
International Schools on Geometry and Analysis (Novosibirsk, Russia, 2002, 2004).
International Conference on Complex Analysis and Dynamical Systems (Nahariya, Israel, 2006).
International Conference on Analysis and Geometry on Complex Varieties (Krasnoyarsk, Russia, 2007).
International Conference "Analytic Functions of Several Complex Variables" (Krasnoyarsk, Russia, 2009).
International Conference "Contemporary Analysis and Geometry" (Novosibirsk, Russia, 2009).
International Conference "Theory and Numerical Methods for solving Inverse and Ill-posed problems" (Novosibirsk, Russia, 2010).
International Conference "Function Spaces, Differential Equations, Approximation Theory" (Novosibirsk, Russia, 2008, 2013),
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International School-Conference "Geometric Abalysis and Control Theory" (Novosibirsk, Russia, 2016),
International Conference "Several Complex Variables", devoted to 100 years since the birthday of B.V. Shabat (Krasnoyarsk, Russia, 2017),
International School-Conference "Sobolev Readings" (Novosibirsk, Russia, 2018). .

Also, I have given the invited talks at the seminars in the following institutions:

International Center for Theoretical Physics, Trieste, Italy (1995);
Classe di Scienze, Scuola Normale Superiore, Pisa, Italy (1996);
Department of Mathematics, University of Florence, Florence, Italy (1996);
Department of Mathematics, University of Pisa, Pisa, Italy (1996);
Department of Mathematics, University of Potsdam, Potsdam, Germany (1998–2003, 2006, 2011, 2012);
Department of Mathematics, University of Padua, Padua, Italy (2001);
Institute of Mathematics, Novosibisrk, Russia (2001, 2004);
Institute of Hydrodynamics, Novosibisrk, Russia (2004);
Free University, Berlin, Germany (2003);
Institute of Mathematics with Computer Center, Ufa, Russia (2004);
Department of Mathematics, University of Oldenburg, Oldenburg, Germany (2007, 2012).

Teaching Activity

I have been teaching the following courses:

Functional Analysis (3rd year students, Department of Mathematics, Krasnoyarsk State University, 1998-2006); Institute of Mathematics, Siberian Federal University, 2008-2018);

History and Methodology of Mathematics (5th year students, Institute of Mathematics, Siberian Federal University, 2008-2012);

Contemporary Problems of Mathematics (Master Program students, Institute of Mathematics, Siberian Federal University, 2011, 2012, 2013, 2014);

Mathematical Analysis (1st year students, Department of Mathematics, Krasnoyarsk State University, 2001, 2003, 2005), Institute of Mathematics, Siberian Federal University, 2008, 2010, 2012, 2014, 2016);

Mathematical Analysis (2nd year students, Department of Mathematics, Krasnoyarsk State University, 2002, 2004, 2007, 2009, 2011, 2013, 2015, 2018);

History and Methodology of Mathematics and Informatics (1th year students of Master Program, Department of Mathematics and Computer Sciences, Krasnoyarsk State University, 1995, 2007, Institute of Mathematics, Siberian Federal University, 2008-2011);

History and Methodology of Mathematics and Computer Sciences (1th year students of Master Program, Institute of Mathematics, Siberian Federal University, 2008-2011);

History of Mathematics (5th year students, Department of Mathematics, Krasnoyarsk State University, 1996-2004, Institute of Philology and Language Communication, Siberian Federal University, 2009, 2010);

Methods of Hilbert Spaces' Theory (Master Program students, Post-graduate students, Institute of Mathematics, Siberian Federal University, 2008-2014).

Applications of Functional Analysis (5th year students, Department of Mathematics, Krasnoyarsk State University, 1996-2006);

Logic (1st year students, College of Law, Krasnoyarsk State University, 2001, 2002, 2003);

Differential Geometry (2nd year students, Department of Mathematics, Krasnoyarsk State University, 1999);

Multi-dimensional Complex Analysis (3rd year students, Department of Mathematics, Krasnoyarsk State University, 1997);

Linear Algebra and Analytic Geometry (1st year students, Department of Psychology and Pedagogy, Krasnoyarsk State University, 1996);

Complex Analysis (3rd year students, Department of Mathematics, Krasnoyarsk State University, 1996);

Calculus (1st year students, Department of Psychology and Pedagogy, Krasnoyarsk State University, 1992).

I have trained the following personnel:

– 8 holder of bachelor degree in Mathematics (2010, 2011, 2011, 2012, 2014, 2015, 2015, 2018),

– 2 high school graduate students in Mathematics (2005, 2007),

– 7 holder of master degree in Mathematics (2003, 2011, 2013, 2013, 2014, 2018, 2018),

– 4 holder of PhD in Mathematics (2009, 2010, 2018, 2018).