

# Curriculum Vitae

## General Data

*Surname:* Raykov (Raikov)

*Names:* Gueorgui (Georgi) Dimitrov

*Date of birth:* October 21, 1954

*Place of birth:* Sofia, Bulgaria

*Nationality:* Bulgarian

## Address

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**Languages:** Bulgarian, English, French, Russian, Spanish

## Academic Background

- *Doctor of Sciences in Mathematics:*
  - Institute of Mathematics, Bulgarian Academy of Sciences;
  - *Thesis:* “Non-classical eigenvalue asymptotics for the Schrödinger operator with electromagnetic potential”, defended on May 5, 1992;
- *Ph.D. in Physics and Mathematics:*
  - Leningrad State University, Russia;
  - *Scientific advisor:* Prof. Dr. M.Š.Birman;
  - *Thesis:* “The spectrum of some linear problems of magnetic hydrodynamics”, defended on June 19, 1986;
- *Post-graduate student:* Department of Mathematical Physics, Faculty of Physics, Leningrad State University; November 1982 - June 1986
- *Master degree:* Awarded on January 16, 1981, at the Department of Mathematical Physics, Faculty of Physics, Leningrad State University
- *University student:* Faculty of Physics, Leningrad State University; September 1975 - January 1981

## Academic Appointments

- *Associate Professor*: Faculty of Mathematics, Catholic University of Chile, Santiago, Chile: since August 2006;
- *Associate Professor*: Department of Mathematics, University of Chile, Santiago, Chile: August 2002 - July 2006;
- *Senior Research Fellow, 1st degree*: Department of Analysis, Geometry and Topology; Department of Real and Functional Analysis; Department of Mathematical Physics, Institute of Mathematics, Bulgarian Academy of Sciences: since June 1996;
- *Senior Research Fellow, 2nd degree*: Department of Mathematical Physics, Institute of Mathematics, Bulgarian Academy of Sciences: December 1992 - June 1996;
- *Research Fellow*: Department of Mathematical Physics, Institute of Mathematics, Bulgarian Academy of Sciences: January 1987 - December 1992;
- *Physicist-specialist*: Department of Differential Equations, Institute of Mathematics, Bulgarian Academy of Sciences: June 1981 - October 1982.

## Visiting Positions

- University of Chile, 2 semesters, 2001 - 2002;
- Purdue University, USA: 1 semester, 2001;
- University of Reims, France: 2 semesters, 1996-1997;
- University of Nantes, France: 3 semesters, 1995, 1999, and 2000;
- University of Bordeaux 1, France: 1 semester, 1994.

## Research Grants since 2001

- Grant 1090467 of the Chilean Science Foundation FONDECYT *Resonances and spectral shift function singularities*, principal investigator: 2009 - 2013;
- Milenium Nucleus of the Chilean Ministry of Planning *Mathematical theory of quantum and classical magnetic systems*, deputy principal investigator: 2009 - 2012;
- Research Grant of CONICYT (Chile) and CNRS (France) for scientific exchange *Resonances and SSF for magnetic quantum Hamiltonians*, Chilean principal investigator: 2008;
- FONDECYT Grants for International Collaboration 7050263, 7060245, 7070254, and 7080135 *Spectral Shift Function for Quantum Hamiltonians*, principal investigator: 2005, 2006, 2007, 2008;

- FONDECYT Grant 1050716 *Spectral Shift Function for Quantum Hamiltonians*, principal investigator: 2005 - 2009;
- Royal Society Grant for collaboration with Chile *Spectral Problems of Mathematical Physics*, member of the Chilean research team, 2005-2007;
- CONICYT – CNRS Grant *Resonances and embedded eigenvalues for quantum and classical systems in exterior magnetic field*, Chilean principal investigator: 2006;
- FONDECYT Grant 1020737 *Spectral Properties of Random Magnetic Quantum Hamiltonians*, principal investigator: 2002 - 2005;
- FONDECYT Grant for International Collaboration 7020737 *Spectral Properties of Random Magnetic Quantum Hamiltonians*, principal investigator: 2002 - 2005;
- CONICYT – CNRS Grant *Spectral and Scattering Theory of Partial Differential Operators*, principal investigator of the Chilean research team: 2003 - 2004;

### **Undergraduate teaching**

- Differential Equations (for Engineers) - Catholic University of Chile (PUC), 2007; 2010; 2011;
- Partial Differential Equations - PUC, 2009; 2011;
- Differential Equations (for Mathematicians) - PUC, 2008;
- Calculus III (for Economists) - PUC, 2008;
- Functional Analysis - PUC, 2007;
- Topology - PUC, 2006;
- Mathematical Models of Ecology (optional course) - University of Chile, 2006;
- Analysis III (Measure Theory and Integration) - University of Chile, 2002 – 2006;
- Mathematics IV (Ordinary Differential Equations for Biologists and Chemists) - University of Chile, 2004; 2005;
- General Topology - University of Chile, 2002, 2003;
- Differential Equations - Purdue University, West Lafayette, Indiana, USA, 2001;
- Integration Theory, Probabilities and Fourier Analysis - University of Nantes, France, 1999; 2000;
- Calculus II - University of Nantes, France, 1999; 2000;

- Linear Algebra and Arithmetics - University of Reims, France, 1997;
- Numerical Analysis - University of Reims, France, 1996, 1997;
- Calculus II - University of Reims, France, 1996;
- Calculus for Biologists - University of Nantes, France, 1995;
- Integration Theory and Fourier Analysis for Applied Physicists - University of Nantes, France, 1995;
- Calculus I, Probabilities and Statistics for Biologists (lectures and tutorials) - University of Bordeaux I, France, 1994;
- Calculus IV and Probabilities for Physicists - University of Bordeaux I, France, 1994;
- Calculus II (tutorials) - Technical University, Sofia, 1990;
- Differential Equations (tutorials) - Sofia University, 1982.

### **Graduate and postgraduate teaching**

- Problems Seminar, regular course - PUC, 2007; 2009; 2011;
- Analysis I and Analysis II, regular courses - PUC, 2010;
- Spectral Theory of Self-Adjoint Operators, tutorial course - PUC, 2010;
- Spectral Theory of Quantum Hamiltonians, optional lecture course - PUC, 2009;
- Spectral Shift Function for Magnetic Quantum Hamiltonians, minicourse - UNAM Cuernavaca, Mexico, November 2008;
- Operators in Mathematical Physics, optional lecture course - PUC, 2008;
- Differential Operators in Mathematical Physics, optional lecture course - University of Chile, 2005;
- Spectral Theory of Operators, optional lecture course - University of Chile, 2005;
- Spectral Theory of Self-adjoint Operators in Hilbert Spaces, optional lecture course - University of Chile, 2003;
- Partial Differential Equations, advanced lecture course - University of Chile, 2001;
- Spectral Theory of Linear Magnetohydrodynamics - Regensburg University, Germany, 1997/1998;
- Spectral Theory of the Schrödinger Operator - Sofia University, Bulgaria, 1995/1996;

- Spectral Theory of the Schrödinger Operator with Electromagnetic Potential - Ruhr University, Bochum, Germany, 1993.

*Doctoral Student:* Pablo Miranda, University of Chile: thesis defended on May 18, 2011.

*Postdoctoral Fellow:* Nicolas Dombrowski (Ph.D. from the University of Cergy-Pontoise), March 2010 – June 2011.

### **Research Visits** (since 2006)

- University Bordeaux I, France, January 2012; January 2009;
- University of Tokyo, Japan, 3 weeks in December 2011;
- University of Pavia, Italy, 1 week in July 2011;
- King's College London, UK, 10 days in January-February 2011;
- University of Cergy-Pontoise, France, 1 week in January 2011; 1 month in January - February, 2008;
- Centre Interfacultaire Bernoulli, EPFL, Lausanne, Switzerland, two months, January - February 2010;
- CPT, Marseille, France, one month, February 2009;
- UNAM Cuernavaca, Mexico, two weeks in November - December 2008;
- University of Rennes I, France, two weeks in January 2007;
- University College, London, UK, one week in February - March 2006;
- Heriot Watt University, Edinburgh, UK, one week in February 2006.

### **Invited Speaker at Scientific Meetings** (since 2006)

- Conference Spectral and Scattering Theory and Related Topics, RIMS, Kyoto, Japan, 14 - 17 December 2011.
- First Joint Meeting of Sociedad de Matemática de Chile and the American Mathematical Society: Special Session on Spectral Theory and Mathematical Physics, Pucón, Chile, December 15 - 18, 2010;
- Fifth International Conference on Operator Theory Analysis and Mathematical Physics (OTAMP), Bedlewo, Poland, August 5 – 12, 2010;
- Mathematical aspects of quantum transport and applications in nanophysics, Aalborg, Denmark, August 10 – 14, 2009;

- International Conference in Spectral Theory, Euler Institute, Saint-Petersburg, Russia, August 3 – 7, 2009;
- First Pacific Rim Mathematical Association (PRIMA) Congress, Mathematical Physics Session, University of New South Wales, Sydney, Australia, July 6 – 10, 2009;
- Second Symposium on Scattering and Spectral Theory, Recife and Serrambi, Pernambuco, Brazil, August 11 - 22, 2008;
- Session *New Trends in Spectral Analysis and PDE*, First Joint Meeting of the AMS - NZMS, Victoria University of Wellington, New Zealand, December 12 – 15, 2007;
- Semiclassical days XIV (JSC'07), CIRM, Luminy, France, January 17 – 19, 2007.

**Invited Speaker at Seminars** (since 2006):

- Seminar “*Problèmes spectraux en physique mathématique*”, Institut Henri Poincaré, Paris, France, January 2012 (invited by Stephane Nonnenmacher);
- Analysis Seminar, University of Tokyo, Japan, December 2012; July 2009 (invited by Shu Nakamura);
- Applied Mathematics Seminar, University of Pavia, Italy, July 2011 (invited by H. Kovarik);
- London Analysis and Probabilities Seminar, Imperial College London, UK, January 2011 (invited by A. Pushnitski); March 2006 (invited by L. Parnowski);
- Working group on Semiclassical Analysis and Mathematical Physics, University of Paris 13, France, January 2011; January 2008 (invited by F. Klopp);
- Analysis Seminar, Politecnico di Torino, Italy, February 2010 (invited by H. Kovarik);
- Seminar of Quantum and Classical Dynamics, CPT Marseilles, France, February 2009 (invited by Ph. Briet);
- Seminar on Mathematical Physics, University of Bordeaux I, France, January 2009; January 2008 (invited by V. Bruneau);
- Seminar on Analysis, University of Nantes, France, January 2008 (invited by G. Popov);
- Seminar on Analysis, University of Cergy–Pontoise, France, January 2008 (invited by F. Germinet);
- Seminar on PDE, University of Rennes I, France, January 2007 (invited by D. Yafaev);

- Pure Mathematics Seminar, University College, London, UK, March 2006 (invited by L. Parnowski);
- Analysis Seminar, Maxwell Institute, Edinburgh, UK, February 2006 (invited by M. Levitin).

### Participation in Professional Organizations

- International Association of Mathematical Physics – since 1997;
- American Mathematical Society – since 1989;
- Union of the Scientists in Bulgaria – since 1988.

### Administrative Nominations

- Member of the Mathematics Group of the Scientific Council of the Chilean Science Foundation Fondecyt - 2010–2012.
- Member of the Scientific Council in Mathematics and Mechanics, Supreme Testimonial Jury of the Bulgarian Government - 1998–2001;
- Member of the Scientific Council of the Institute of Mathematics, Bulgarian Academy of Sciences - 1995–1999.

### Organizing Committees (since 2006)

- Semester *Hamiltonians in Magnetic Fields*, Mittag-Leffler Institute, Djursholm, Sweden, September – December 2012
- Conference *Spectral Days*, Santiago de Chile, September 20 – 24, 2010.
- Semester *Spectral and Dynamical Properties of Quantum Hamiltonians*, Bernoulli Center, Lausanne, Switzerland, January - June 2010;
- Conference *Spectral Problems for Quantum Hamiltonians*, Bernoulli Center, Lausanne, Switzerland, February 22 - 26, 2010;
- *Spectral and Scattering Theory for Quantum Magnetic Systems*, CIRM, Luminy, France, July 7 – 11, 2008;
- Conference *Stochastic Analysis and Mathematical Physics VI*, Santiago de Chile, January 4 – 9, 2008;
- Pan American Advanced Studies Institute *Analysis and Probability in Quantum Physics*, Santiago de Chile, July 24 – August 4, 2006.

### Editor

*Spectral and Scattering Theory for Quantum Magnetic Systems*, Ph. Briet, F. Germinet and G. Raikov editors, Contemporary Mathematics, **500**, AMS, Providence, 2009.