

Yulia Karpeshina

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Academic Degrees: December 1984: Doctorate in Mathematics
(Saint-Petersburg University, Russia
Thesis advisor: Boris Pavlov)
February 1979: Master in Physics
(Saint-Petersburg University, Russia)

Professional Experience:

since 10.2004 Professor, Graduate Program Director,
University of Alabama at Birmingham, USA
01.1995 – 09.2004 Associate Professor, University of Alabama at Birmingham, USA
1979 to 1994 Engineer – Senior Researcher, Saint-Petersburg University, Russia

Visiting Positions:

10.92 – 12.92 Institute of Mathematics, ETH, Zurich, Switzerland
10.94 – 12.94 Institute of Mathematics, University of Augsburg, Germany
01.94 – 06.94 Department of Mathematical Sciences, Rensselaer Polytechnic Institute, Troy, N.Y., USA

Selected Invited Lectures (2012-2017):

1. *"Perturbative methods for Schroedinger operator: from Periodic to Quasiperiodic Potentials*, XVIII International Congress on Mathematical Physics (Topical Session: Quantum Mechanics and Spectral Theory), Santiago de Chile, July 27 - August 1, 2015.
2. *Spectral Properties of Schroedinger Operator with a Quasi-periodic Potential in Dimension*, Workshop "Almost-Periodic and Other Ergodic Problems", Newton Institute of Mathematical Science, Cambridge, April, 7 - 10, 2015.
3. *Perturbative methods for Schrdinger operator: from Periodic to Quasiperiodic potentials*, Workshop "Periodic and Other Ergodic Problems", Newton Institute of Mathematical Science, Cambridge, March 23-27, 2015.
4. *Absolutely Continuous Branch of the Spectrum and Quantum Transport Properties of Schroedinger Operator with a Limit-Periodic Potential in Dimension Two*. Paris-London Analysis Seminar, Kings College, London, March 27, 2015.

5. Yulia Karpeshina “*Multiscale Analysis in Momentum Space for Quasi-periodic Potential in Dimension Two* Arizona School of Analysis and Mathematical Physics, Tucson, Arizona, March 12-16, 2012.

Selected publications (from a total of 54).

1. Yu. Karpeshina, R. Shterenberg “*Extended States for the Schrödinger Operator with Quasi-periodic Potential in Dimension Two* 149 pp, accepted for publication to *Memoirs of AMS* in 2016.
2. Yu. Karpeshina, Young-Ran Lee, R. Shterenberg, G. Stolz *Ballistic Transport for the Schrödinger Operator with Limit-Periodic or Quasi-periodic Potential in Dimension Two*, *Comm. in Math. Phys.* August 2017, **354**, 1, pp 85 -113
3. Yu. Karpeshina and R. Shterenberg *Multiscale analysis in Momentum Space for Quasiperiodic Potential in Dimension Two*, *J. Math. Phys.* **54**(7), 073507 (2013) (featured article), 92 pp
4. Yu. Karpeshina and Young-Ran Lee “*Spectral Properties of a Limit-periodic Schrödinger Operator in Dimension Two*”, *J. d’Analyse Math.* **120**(2013), 82 pp
5. Yulia Karpeshina, Young-Ran Lee “*Absolutely Continuous Spectrum of a Polyharmonic Operator with a Limit Periodic Potential in Dimension Two*” in *Comm. in PDE* **33** (2008), 9, pp 1711-1128.
6. Karpeshina Yu.E. “*Perturbation theory for the Schrödinger operator with a periodic potential*”, in series “*Lecture Notes in Mathematics*”, **1663** (1997), Springer-Verlag, 352 pp.

Funding (2012-2017):

1. PI: National Science Foundation, “Spectral and Transport Properties of Multidimensional Almost-Periodic Schroedinger Operators, 2012-2017, \$145,207.00, the years 2015-2017 being no cost extension.
2. PI: GAANN grant (US Department of Education), P200A120249, (2012-2016), Total \$501,798 (Federal funds \$399,798 plus matching UAB funds \$102,000)

PhD Students: Young-Ran Lee (Associate Professor, Sogang University, S. Korea), Seong-Uk Kim (Postdoctoral Scholar, DePauw University, USA)

Collaborators: Seong-Uk Kim, Young-Ran Lee, Leonid Parnovski, Roman Shterenberg, Gunter Stolz.