

CURRICULUM VITAE

Personal

Name ANDRE REZNIKOV

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Fields of Interests

Representation Theory and Automorphic Functions with applications to
Analytic Number Theory, Geometry, Spectral Analysis and Quantum Chaos.

Education

1980–86 M.Sc. in Applied Mathematics, Moscow Oil and Gas Institute, Moscow.
1987–91 Ph.D. in Mathematics, The Weizmann Institute of Science.
Thesis: “Existence of Cusp Forms in Rank One Symmetric Spaces”.
Advisers: Prof. S. Gelbart and Prof. I. Piatetski-Shapiro.

Positions

1991–93 Bar-Ilan University, postdoctoral position.
1993–94 Princeton University, Princeton, USA, Rothschild fellow.
1995–97 Mathematical Sciences Research Institute, Berkeley, USA (Spring 1995),
Max-Plank Institute, Bonn, Germany (Spring 1996),
Institut des Hautes Études Scientifiques, Bures-sur-Yvette, France (Fall 1997),
postdoctoral positions.
1996–98 Ben-Gurion University of the Negev, postdoctoral position.
1998–2001 Weizmann Institute and Bar-Ilan University, research assistant.
2001–2008 Bar-Ilan University, senior lecturer.
2008–2020 Bar-Ilan University, associate professor.
Since 2020 Bar-Ilan University, professor.

Long term research visits

Summers 1995–99, 2002, 2007, 2013 Institut des Hautes Études Scientifiques, France.
Fall 1998 Princeton University, Princeton, USA.
Summers 2004–9, 2011 Max-Plank Institute, Bonn, Germany.
Fall 2002&2004 Courant Institute, NY, USA.
Spring 2010, Fall 2017 IAS, Princeton, USA (member).
Fall 2014 MSRI, Berkeley, USA (member).

Citations, Fellowships and Grants

1992 The John F. Kennedy Prize for the excellent Ph.D. thesis. The Weizmann Institute.
1993 Rothschild Postdoctoral Fellowship. Yad Hanadiv foundation.
2003 BSF grant (2003-7). Analytic theory of automorphic forms.
2007 GIF grant (2007-9). Holomorphic structures in automorphic forms and representations.
2007 ISF grant (2007-10). Center of Excellence grant. Representation theory and automorphic functions.
2007 BSF grant (2007-11). Periods and equidistribution.
2010 ISF grant (2010-13). Center of Excellence grant. Representation theory and automorphic forms.
2012 ERC FP7 grant (2012-17). Stacks and representation theory. PI in Prof. J. Bernstein grant at Tel Aviv.
2014 ISF grant (2014-18). Automorphic periods and special values of L -functions.
2017 ISF conference grant (2017). Topics in non-commutative algebra and representation theory.
2019 ISF grant (2019-23). Periods of automorphic functions and quantization.

Conferences

- 1987 Special Year in Automorphic and L-Functions. Jerusalem, Israel.
- 1991 Bordeaux-Weizmann Conference, Rehovot, Israel (invited speaker).
- 1992 US-Israel Workshop in Automorphic Functions, Jerusalem (invited speaker).
- 1992 Hyperbolic Geometry and Spectral Analysis, University of Maryland, USA.
- 1994 Spectral Theory of Automorphic Forms, MSRI, Berkeley, USA (invited speaker).
- 1998 Algebraic Methods in Representation Theory, Antwerpen, Belgium (invited speaker).
- 2000 Analytic and Geometric Aspects of the Langlands Program, Tel-Aviv (invited speaker).
- 2002 Automorphic Forms and Applications, Park City, Utah, USA.
- 2003 Israel Mathematical Union Meeting, Israel (invited speaker).
- 2004 Geometry and Spectral Theory, Technion, Haifa, Israel (invited speaker).
- 2004 Spectral Theory and Automorphic Forms, Montreal, Canada (invited speaker).
- 2004 Arithmetic Aspects of Quantum Chaos, Cambridge, UK (invited speaker).
- 2005 Analytic aspects of Automorphic Functions, Hangzhou, China (invited speaker).
- 2005 Locally Symmetric Spaces and Number Theory, Pderborn, Germany (invited speaker).
- 2005 Applications of Representation Theory to Analytic Number Theory, Technion (invited speaker).
- 2006 Automorphic Representations, L -functions, and Periods, RIMS, Kyoto, Japan (invited speaker).
- 2006 Subconvexity of L -functions, American Institute of Mathematics, Palo Alto, USA (organizer).
- 2007 Israel Mathematical Union Meeting, Israel (invited speaker).
- 2007 Different approaches to complexity, Haifa, Israel (invited speaker).
- 2007 Harmonic analysis and representations, Oberwolfach, Germany (invited speaker).
- 2008 Analytic number theory and higher rank groups, NYU, NY, USA (invited speaker).
- 2009 Analytic theory of automorphic forms, Utrecht, Netherlands (invited speaker).
- 2009 Relative trace formula and periods, AIM, Palo Alto, USA (invited speaker).
- 2010 Automorphic forms and L -functions, CIMPA School, Weihai, China (invited lecture course).
- 2011 Analytic theory of automorphic functions, Oberwolfach, Germany (invited speaker).
- 2012 International colloquium on automorphic representations, Tata Institute, Mumbai, India (invited speaker).
- 2013 Representation Theory, Automorphic Forms, and Complex Geometry, Harvard, Cambridge (invited speaker).
- 2013 Joseph Bernstein day, Tel Aviv University, Israel (invited speaker).
- 2013 Whittaker Functions: Number Theory, Geometry and Physics, BIRS, Banff, Canada (invited speaker).
- 2013 L -functions, spectra and equidistribution, Jerusalem, Israel (invited speaker).
- 2013 Automorphic Periods and Spherical Varieties, Sanya, China (invited speaker).
- 2014 Representation Theory and Analysis on Reductive Groups, Oberwolfach, Germany (invited speaker).
- 2014 Joint AMS-IMU meeting, Israel (invited speaker).
- 2015 Automorphic representations and harmonic analysis, Nisyros, Greece (invited speaker).
- 2015 Computational aspects of L -functions, ICERM, Brown University, USA (invited speaker).
- 2016 Spectral Theory, Automorphic Forms and Arithmetic, Copenhagen University, Denmark (invited speaker).
- 2017 Representation Theory and Algebraic Geometry, Weizmann Institute, Israel (invited speaker).
- 2017 Advances in Non-commutative Algebra and Representation Theory, Bar-Ilan University (organizer).
- 2019 Automorphic forms and representation theory, Weizmann Institute (invited speaker).
- 2020 Representation theory and algebraic analysis, Weizmann Institute (organizer)

Thesis supervision

MSc. N. Schwartz (2017).

Postdoctoral students

2006-7 K. Snitz (Israel).
2010-12 R. Knevel (Germany).
2010-12 C. Hoyt (USA).
2015-17 F. Su (China).
2020 M. Kumari (India).

Service

AMS reviewer.
Review of grant proposals for ISF, BSF, ERC.
Participation in ISF panel committees.
Reviewer for numerous journals (Annals of Math., Compositio Math., Duke Math. J., IMRN, Selecta Math., J. of Differential Geometry, J. of Number Theory, Israel Math. J., Internat. J. of Math., Illinois Journal of Math.).

Teaching

Variety of courses on undergraduate and graduate levels:

Linear algebra (for math and for computer sciences students).
Number Theory (for math and for computer sciences students).
Algebraic Number Theory.
Topics in advanced Number Theory.
Modular functions.
Automorphic representations.
L-functions.

List of Publications

- 1) A. Reznikov, “Existence of cusp forms in rank one symmetric spaces”, *GAF*, vol. 3, no 1, 79–105 (1993).
- 2) A. Reznikov, “Kuznetsov asymptotic formula for rank one groups”, *Mathematische Zeitschrift*, vol. 213, 557–574 (1993).
- 3) J. Bernstein, A. Reznikov, “Sobolev norm of automorphic functionals and Fourier coefficients of cusp forms”, *C. R. Acad. Sci. Paris*, t. 327, 111–116 (1998).
- 4) J. Bernstein, A. Reznikov, “Analytic continuation of representations and estimates of automorphic forms”, *Annals of Math.*, vol. 150, 329–352 (1999).
- 5) A. Reznikov, “Non-vanishing of periods of automorphic functions”, *Forum Mathematicum*, vol. 13, no. 4, 485–493 (2001).
- 6) A. Reznikov, “Laplace–Beltrami operator on a Riemann surface and equidistribution of measures”, *Communications in Math. Phys.*, vol. 222, 249–267 (2001).
- 7) J. Bernstein, A. Reznikov, “Sobolev norms of automorphic functionals”, *Internat. Math. Res. Notices*, vol. 2002:40, 2155–74 (2002).
- 8) J. Bernstein, A. Reznikov, “Estimates of automorphic functions”, *Moscow Math. J.*, vol. 4, no. 1, 19–37 (2004).
- 9) A. Reznikov, “Microlocalization of eigenfunctions and trilinear functionals”, preprint, arXiv:0404294 (2004).
- 10) J. Bernstein, A. Reznikov, “Periods, Subconvexity of L -functions and representation theory”, *J. of Diff. Geometry*, vol. 70, no. 1, 129–142 (2005).
- 11) A. Reznikov, “Gelfand pairs and bounds for various Fourier coefficients of automorphic functions”, *RIMS Proceedings, Kyoto*, 1523, 158–172 (2006).
- 12) A. Reznikov, “Rankin-Selberg type spectral identities and Gelfand pairs”, *Oberwolfach Reports proceedings*, vol. 4, no. 4, 2909–12, (2007).
- 13) A. Reznikov, “Rankin-Selberg identities without unfolding and bounds for spherical Fourier coefficients of Maass forms”, *Journal of AMS*, vol. 21, no. 2, 439–477 (2008).
- 14) J. Bernstein, A. Reznikov, “Subconvexity bounds for triple L -functions and representation theory”, *Annals of Math.*, vol. 172, no. 3, 1679–1718 (2010).
- 15) A. Reznikov, “Geodesic restrictions for the Casimir operator”, *J. of Functional Analysis*, vol. 261, no. 9, 2437–2460 (2011).
- 16) A. Reznikov, “Torus periods and Dirichlet series”, *Oberwolfach Reports proceedings*, vol. 8, no.3, 2410–12 (2011).
- 17) A. Reznikov, “Torus periods coefficients on $PGL(2)$ and Dirichlet Series”, *J. of Number Theory*, vol. 133, no. 1, 328–342 (2013).
- 18) A. Ghosh, A. Reznikov, P. Sarnak, “Nodal domains of Hecke–Maass forms I”, *GAF*, vol. 23, no. 5, 1515–1568 (2013).
- 19) J. Bernstein, A. Reznikov, “Adelic action on periods”, *J. of Number Theory*, accepted, arXiv:1312.2898 (2013).
- 20) A. Reznikov, “Periods of automorphic functions and representation theory”, Chapter in a book “Automorphic Forms and L -functions”, *Advanced Lect. in Math.*, vol. 30, Internat. Press (2014).
- 21) A. Reznikov, “Adelic action on periods”, *Oberwolfach Reports proceedings*, vol. 11, no. 1, 166–169 (2014).
- 22) A. Reznikov, “A uniform bound for geodesic periods of eigenfunctions on hyperbolic surfaces”, *Forum Mathematicum*, vol. 27, no. 3, 1569–1590 (2015).
- 23) A. Reznikov, “Estimates of triple products of automorphic functions II”, Appendix to “Multiple Dirichlet Series and Shifted Convolutions” by J. Hoffstein and T. Hulse, *J. of Number Theory*, vol. 161, 457–533 (2016).
- 24) A. Ghosh, A. Reznikov, P. Sarnak, “Nodal domains of Hecke–Maass forms II”, *American Math. J.*, 139, 1395–1447 (2017).
- 25) A. Reznikov, F. Su, “Lattice points counting and bounds on periods of Maass forms”, *Transactions of AMS*, 372, no.3, 2073–2102 (2019).
- 26) A. Reznikov, “Limiting cycles and periods of Maass forms”, *Representations of Reductive Groups*, vol. 101, 351–360, *AMS Proceedings of Symposia in Pure Mathematics*, (2019).