

**Eugenia Malinnikova**

**Research Group**     Complex and Harmonic Analysis

**Current position**    Associate Professor

**Education** 1999    Ph.D. in Mathematics, St.Petersburg State University

**Experience**

2004-now     Associate Professor, NTNU, Norway  
Fall 2008-Spring 2009,    Visiting scholar, UC Berkeley, USA  
Spring, 2008     Visiting Scholar, Univ. Marseille, France  
Fall, 2003     Visiting Lecturer, UC Davis, USA  
2001-2003     Postdoctoral Fellow, NTNU, Norway  
Fall, 2000     Postdoctoral Fellow, University of Missouri–Columbia, USA

**Publications**

1. (with S.E.Rukshin) *On one Steinhaus problem*, Vestnik St. Petersburg Univ. Math., **28** 1995, no. 1, 28–32.
2. (with V.P.Havin) *Uniform Approximation by Harmonic Differential Forms. A Constructive Approach*, Algebra i Analiz 9 (1997), no. 6, 156-196; English transl., St.Petersburg Math. J. 9 (1998), no. 6, 1149-1180.
3. *Uniform Approximation by Harmonic Differential Forms on Compact Subsets of Riemannian Manifolds*, Algebra i Analiz 11 (1999), no. 4, 115–138, English transl. in St.Petersburg Math. J. 11 (2000), no. 4, 625–641.
4. *The theorem on three spheres for harmonic differential forms*, in “Complex Analysis, Operators and Related Topics”, 213–220, Operator Theory Adv. Applic., Vol. 113, Birkhauser, Basel, 2000.
5. (with Yu.Lyubarskii) *On approximation of subharmonic functions*, J. d’Anal. Math. 83 (2001), 121–149.
6. *Measures on the sphere orthogonal to harmonic gradients*, in “Complex Analysis and Dynamical Systems”, 181–192, Contemp. Math., 364, Amer. Math. Soc., Providence, RI, 2004.
7. *Propagation of smallness for solutions of generalized Cauchy-Riemann systems*, Proc. Edinburgh Math. Soc. 47 (2004), no. 1, 191–204.
8. *On the existence of harmonic differential forms with prescribed singularities*, 207–213, in “Complex analysis and Potential theory”, World Scientific, 2007.

9. *Quantitative transfer of smallness for solutions of elliptic equations with analytic coefficients and their gradients*, 1185-1193, in "More Progress in Analysis", World Scientific, 2008.
10. (with A.Borichev, Yu.Lyubaskii, and P.Thomas) *Radial growth of functions in the Korenblum space*. Algebra i Analiz, 21 (2009), no. 6, 47–65.
11. *Orthonormal sequences in  $L^2(\mathbb{R}^d)$  and time frequency localization*, Journal Fourier Anal. Appl, 16 (2010), 983–1006.

#### Accepted articles

1. (with S.Vessella) *Quantitative uniqueness for elliptic equations with singular lower order terms*, to appear in Math. Ann.,  
doi: 10.1007/s00208-011-0712-x
2. (with Yu.Lyubarskii) *Radial oscillation of harmonic functions in the Korenblum class*, to appear in Bull. London Math. Soc.,  
doi: 10.1112/blms/bdr071
3. (with K.S.Eikrem) *Radial growth of harmonic functions in the unit ball*, to appear in Math. Scand.
4. (with K.Gröchenig) *Time-frequency localization of Riesz bases for  $L^2(\mathbb{R}^d)$* , to appear in Rev. Math. Iberoam.

#### Conference talks

- *Three spheres theorem for harmonic differential forms*, June 1998, Seventh Summer St.Petersburg Meeting on Mathematical Analysis, Russia
- *Approximation of subharmonic functions by logarithms of moduli of entire functions*, June 2000, Workshop: Singular Integrals and Complex Analysis, Trondheim, Norway
- *Uniform approximation by harmonic differential forms*, May 2001, General Meeting of EU Research Training Network "Classical Analysis, Operator Theory, Geometry of Banach Spaces, their interplay, and their applications", St.Petersburg, Russia
- *Measures on the sphere orthogonal to harmonic gradients*, June 2001, Workshop on Complex Analysis and Dynamical Systems, Karmiel, Israel
- *Stability estimates for harmonic gradients and Carleman type inequalities*, August 2003, 12th St.Petersburg meeting on mathematical analysis, Russia

- *Quantitative continuation from a small set for solutions of generalized Cauchy-Riemann systems*, July 2005, 5th ISAAC Congress, Catania, Italy
- *Harmonic differential forms: separation of singularities and Mittag-Leffler theorems*, June 2006, Function theories in higher dimensions, Tampere, Finland
- *Mittag-Leffler theorems for harmonic vector fields*, July 2006, 15th Summer St.Petersburg Meeting on Mathematical Analysis, Russia
- *Runge approximation and Mittag-Leffler theorems for harmonic differential forms on Riemannian manifolds*, September 2006, Complex analysis and Potential theory, Istanbul, Turkey
- *Radial growth of harmonic functions from the Korenblum space*, June 2008, 17th Summer St.Petersburg Meeting on mathematical Analysis, St.Petersburg, Russia
- *Time-frequency localization of orthonormal sequences and bases in  $L^2(\mathbb{R}^d)$* , May 2010, 12th Annual Workshop on Applications and generalizations of Complex Analysis, Aveiro, Portugal
- *Radial behaviour of harmonic functions*, February 2011, Congreso de la Real Sociedad Matemática Española, Avila, Spain
- *Localization of Riesz bases for  $L^2(\mathbb{R}^d)$* , June 2011, Hilbert spaces of entire functions and Operatot Theory, Barcelona, Spain

#### **Student supervision**

Eugenia Malinnikova supervised 4 master projects in 2006-2010 and is currently the adviser of two Ph.D. students, Kjersti Solberg Eikrem and Maru Alamirew Guadie.