

# CV

Anna Vershynina

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## Personal information

Webpage *<http://www.math.ucdavis.edu/~aver/>*  
Birth April 01, 1986, in Zaporozhye, USSR (now Ukraine)  
Citizenship Ukrainian  
Languages English, Russian, Ukrainian  
Address Department of Mathematics, University of California, Davis,  
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## Education

July 2007 B.S.(equivalent of) in Mathematics, Kharkov National University,  
Kharkov, Ukraine  
Thesis Title: On analytic solutions of the heat equation with  
an operator coefficient  
Advisor: Professor Sergey Geftter

March 2012 M.A. in Mathematics, University of California, Davis, CA, USA  
Advisor: Professor Bruno Nachtergaele

Sep 2007 - present Ph.D. student in Mathematics, University of California, Davis, CA, USA  
Thesis Title: Existence of the thermodynamic limit and asymptotic  
behavior of some irreversible quantum dynamical systems  
Advisor: Professor Bruno Nachtergaele

Expected graduation date June 2012

### Granted Awards

UC Davis and Humanitarian Science Graduate Student Award	2011
William K. Schwarze Scholarship in Mathematics (\$10,000)	2011
UC Davis Mathematics Block Grant Fellowship	Winter 2011 Fall 2010 Spring 2010 Winter 2010 Fall 2009 Spring 2009 Fall 2008
Graduate Researcher (with Prof. B.Nachtergaele)	Winter 2012 Fall 2011 Spring 2011 Spring 2010

## Publications

4. B. Nachtergaele, A. Vershynina, V. Zagrebnoy, "Lieb-Robinson bound and the existence of the thermodynamic limit for the class of irreversible dynamics", arXiv:1103.1122, Cont. Math., 552, 161-176, 2011.
3. Q. Xia, A. Vershynina, "On the transport dimension of measures", arXiv:0905.3837, The SIAM journal on Mathematical Analysis, v. 41, no.6.
2. S. Geftter, A. Vershynina, "On analytic solutions of the heat equation with an operator coefficient" (translated from Russian), Journal of Mathematical Sciences, Volume 156, Issue 5, 2009, 799-812. Russian version in Zap. Nauchn. Sem. POMI, 2008, v. 355, 139-162.
1. S. Geftter, A. Vershynina, "On holomorphic solutions of the heat equation with a Volterra operator coefficient", Methods Funct. Anal. Topology 13, 2007, no. 4, 329-332.

## Presentations at conferences and seminars

19. VIGRE RFG "Quantum Phase transitions", April 2012
18. Arizona School of Analysis and Mathematical Physics, Tucson, AZ, March 2012
17. Leading "Quantum Information" reading seminar at UC Davis as a part of VIGRE RFG on "Quantum Phase transitions", Fall 2011-Winter 2012
18. 106th Statistical Mechanics conference, sort talk, Rutgers University NJ, Dec 2011
17. Quantum Information Processing 2012, poster presentation, Montreal, Canada, Dec 2011
16. Weekly seminar of J.Eisert group, Free University of Berlin, Berlin, Germany, Dec 2011
15. Weekly seminar of I.Cirac group, Max-Planck Institute for Quantum Optics, Garching, Germany, Dec 2011
14. Weekly seminar of Institute for Quantum Information, RWTH University of Aachen, Aachen, Germany, Nov 2011
13. Second Davis Mathematical Conference, UC Davis, September 2011
12. Quantum information and computation student conference, poster presentation, Quebec, Canada, June 2011
11. FRG workshop on Quantum spin systems and quantum computation, Harvard University MA, May 2011
10. 105th Statistical Mechanics conference, short talk, Rutgers University NJ, May 2011
9. Mathematical Physics seminar, UC Davis, April 2010
8. Mathematical Physics seminar, UC Davis, January 2010
7. Mathematical Physics seminar, UC Davis, October 2009
6. AMS 2009 Spring Central Sectional Meeting, University of Illinois at Urbana-Champaign, March 2009
5. Entire and subharmonic functions and related topics, international conference dedicated to the centennial of B.Ya.Levin, Kharkov, Ukraine, August 2006
4. Analysis and Partial Differential Equations conference, in honor of Professor Bogdan Bojarski, Bedlewo, Poland, June 2006

3. XI International Scientific Kravchuk Conference, Kiev, Ukraine, May 2006
2. International Science conference in Pure and Applied Mathematics for Graduate Students and Post. Doc., Kharkov, Ukraine, April 2006
1. National Mathematical science conference for Graduate Students and Post. Doc.s Kharkov, Ukraine, May 2005

### **Workshops and schools**

6. Non-Equilibrium Statistical Mechanics, Montreal, Canada, July 1-29, 2011
5. Quantum Information and Computation, Quebec, Canada, June 6-17, 2011
4. Quantum Theory from Small to Large Scales, Les Houches, France, Aug 2-27, 2010
3. Focus Research Group Workshop in Quantum Spin Systems and Quantum Information Theory, Rochester, NY, May 21-25, 2010
2. Arizona School of Analysis with Applications, Tucson, AZ, March 15-19, 2010
1. 16th Southern California Geometric Analysis Seminar, San Diego, CA, February 21-22, 2009

### **Scientific visits**

4. Department of Physics, J. Eisert group, Free University of Berlin, Berlin, Germany, Dec 5-Dec 9, 2011
3. Prof. Ch. Maes, Department of Physics, Katholike University of Leuven, Leuven, Belgium, Dec 2, 2011
2. Max-Planck Institute for Quantum Optics, I. Cirac group, Garching, Germany, Nov 28-Dec 2, 2011
1. Prof. B. Terhal and Prof. D. DiVincenzo, Institute for Quantum Information, Department of Physics, RWTH University of Aachen, Aachen, Germany, Nov 24-25, 2011

## **Teaching Experience**

### ***Associate Instructor***

Summer session II, 2011 16A Short Calculus  
*website of the class* <http://www.math.ucdavis.edu/~aver/16A%20Calculus.html>

### ***Lead Teaching Assistant***

Spring 2010 16C Short Calculus

### ***Teaching Assistant***

Spring 2012 17C Calculus for Bio Science  
Winter 2011 21B Calculus  
Fall 2010 17A Calculus for Bio Science  
Winter 2010 21D Calculus  
Fall 2009 21A Calculus  
Spring 2009 17C Calculus for Bio Sciences  
Winter 2009 21B Calculus  
Fall 2008 201A Analysis  
Spring 2008 21D Calculus  
Winter 2008 21B Calculus  
Fall 2007 21A Calculus

### ***Reader***

Summer session I, 2009 16A Short Calculus  
Summer session II, 2009 22B Differential equations  
Summer session I, 2008 16A Short Calculus  
Summer session II, 2008 16B Short Calculus