Irina Holmes

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Education

2008 - 2014	PhD	Mathematics	Louisiana State University
2008 - 2010	MS	Mathematics	Louisiana State University
2004 - 2008	BS	Mathematics	Louisiana State University (Summa cum Laude)

Professional Experience

NSF Mathematical Sciences Postdoctoral Research Fellow
Washington University in St. Louis, June 2016 – July 2018.

Hale Postdoctoral Fellow
School of Mathematics, Georgia Institute of Technology, August 2014 – May 2016.

Publications

1. Irina Holmes, Robert Rahm and Scott Spencer, *Two-Weight Inequalities for Commutators with Fractional Integral Operators*, Submitted. http://arxiv.org/abs/1510.05331.

2. Irina Holmes and Brett D. Wick, *Two Weight Inequalities for Iterated Commutators with Calderón-Zygmund Operators*, Submitted. http://arxiv.org/abs/1509.03769.

3. Irina Holmes, Michael T. Lacey and Brett D. Wick, *Commutators in the Two-Weight Setting*, Mathematische Annalen (to appear). http://arxiv.org/abs/1506.05747.

4. Irina Holmes, Michael T. Lacey and Brett D. Wick, *Bloom's Inequality: Commutators in a Two-Weight Setting*, Archiv der Mathematik, Volume 106, Issue 1, 2016. http://arxiv.org/abs/1505.07947.

5. Irina Holmes and Ambar N. Sengupta, *The Gaussian Radon Transform in Classical Wiener Space*, Communications on Stochastic Analysis, Volume 8, Number 2, 2014. https://www.math.lsu.edu/cosa/8-2-07[444].pdf.

6. Irina Holmes and Ambar N. Sengupta, *The Gaussian Radon Transform and Machine Learning* - to appear in Infinite Dimensional Analysis, Quantum Probability and Related Topics. http://arxiv.org/abs/1310.4794.

7. Irina Holmes, *An Inversion Formula for the Gaussian Radon Transform for Banach Spaces*, Infinite Dimensional Analysis, Quantum Probability and Related Topics, Volume 16, Issue 4, December 2013. http://arxiv.org/abs/1308.1392.

8. Irina Holmes and Ambar N. Sengupta, *A Gaussian Radon transform for Banach spaces*, Journal of Functional Analysis, Volume 263, Issue 11, 1 December 2012. http://arxiv.org/abs/1208.5743.

9. Horst R. Beyer and Irina Holmes, *On a new symmetry of the solutions of the wave equation in the background of a Kerr black hole*, Classical and Quantum Gravity, Volume 25, Issue 13, 17 June 2008. `http://arxiv.org/abs/gr-qc/0607070`.

10. Irina Holmes, *On a Problem in the Stability Discussion of Rotating Black Holes*, Proceedings of the National Conference for Undergraduate Research, 2006.

Grants Awarded

AMS-Simons Travel Grant (July 1, 2015 – June 30, 2017; $4,000)

NSF Mathematical Sciences Postdoctoral Research Fellowship
Award No. 1606270 (June 2016 – July 2018, $150,000)

Teaching Experience

MATH 2551 - Calculus III (Sections L1 – L3)	Georgia Tech, Spring 2016
MATH 2552 - Differential Equations (Sections F1 – F4; L1 – L4)	Georgia Tech, Fall 2015
MATH 2401 - Calculus III (Sections K1 – K3)	Georgia Tech, Spring 2015
MATH 2401 - Calculus III (Sections D1 – D3)	Georgia Tech, Fall 2014
MATH 1552 - Calculus II (Section 18)	LSU, Fall 2012
MATH 1550 - Calculus I (Section 21)	LSU, Fall 2011
MATH 1550 - Calculus I (Section 30)	LSU, Fall 2010
MATH 1022 - Trigonometry (Sections 4, 13)	LSU, Spring 2010
MATH 1021 - College Algebra (Sections 14, 33)	LSU, Fall 2009

Honors and Awards

Distinguished Dissertation Award (LSU College of Science) April 2015.

LSU Dissertation Year Fellowship (LSU Graduate School) Academic Year 2013 – 2014.

GAANN Doctoral Fellowship (LSU Mathematics Department) Academic Years 2010 – 2013.

David Oxley Graduate Teaching Award (LSU Mathematics Department) Fall 2011.

Certificate of Teaching Excellence (LSU Mathematics Department) Fall 2010 and Fall 2012.

Robert and Betti Giles Senior Mathematics Award In Recognition of Outstanding Academic Achievement by an Undergraduate Student in the Department of Mathematics (LSU Mathematics Department) April 2008.

Academic Excellence Award (LSU College of Arts and Sciences) April 2007 and 2008.

Herbert Huey McElveen Scholarship (LSU College of Arts and Sciences) May 2007.

Talks and Presentations

Two-Weight Inequalities for Commutators with Calderón-Zygmund Operators – Joint Meetings of the AMS, Seattle WA; January 2016.

Commutators in the two-weight setting (Board Talk) – Analysis Seminar, Institut de Mathématiques de Toulouse, Toulouse France; December 2015.

Commutators in the two-weight setting (Board Talk) – Analysis Seminar, Clemson University, Clemson SC; October 2015.

Commutators in the two-weight setting (Board Talk) – Analysis Seminar, Washington University – St. Louis, St. Louis MO; September 2015.

Commutators in the two-weight setting (Board Talk) – Analysis Seminar, Kansas State University, Manhattan KS; September 2015.

The Gaussian Radon Transform for Infinite-Dimensional Banach Spaces (Board Talk) – High-Dimensional Phenomena in Statistics and Machine Learning Seminar, Georgia Institute of Technology, Atlanta GA; September 2014.

The Gaussian Radon Transform for Banach Spaces and Machine Learning – Stochastics Seminar, Georgia Institute of Technology, Atlanta GA; April 2014.

An Infinite-Dimensional Radon Transform for Banach Spaces – Cornell Summer School in Probability, Cornell University, Ithaca NY; July 2013.

A Gaussian Radon Transform for Banach Spaces – AMS Fall Southeastern Section Meeting, Tulane University, New Orleans LA; October 2012.

Gaussian Measure for Subspaces of a Banach Space – Probability Seminar, Louisiana State University, Baton Rouge LA; October 2012.

Limitations of the Riemann Integral – GEAUX Program at LSU, Louisiana State University, Baton Rouge LA; August 2011.

An Introduction to the Set-Theoretic Foundations of Measure Theory – GEAUX Program at LSU, Louisiana State University, Baton Rouge LA; August 2010.

On a Problem in the Stability Discussion of Rotating Black Holes – National Conference for Undergraduate Research, UNC Asheville, Asheville NC; April 2006.

Workshop Participation

Cornell Summer School in Probability (July 2013)
Cornell University, Ithaca NY.

LSU Workshop in Analysis and Geometry (January 2011)
Louisiana State University, Baton Rouge, LA.

Random Matrix Theory Graduate Workshop at MSRI (July 2009)
MSRI, Berkeley, CA.