

Curriculum Vitae of Shahla Molahajloo

Contact

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Education

2008-2010 **Ph.D.** in Mathematics, York University, Toronto, Canada

2006-2007 **Diploma** in Mathematics (2007), International Center for Theoretical Physics (ICTP), Italy

2004-2006 **M.Sc.** in Mathematics (2006), Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran

2001-2004 **B.Sc.** in Mathematics (2004), Zanjan University, Zanjan, Iran

Honors

Sep 2011-Aug 2013 *Assistant Professor, Coleman Postdoctoral Fellowship*, Queens University, Kingston, Canada

Feb 2011-Aug 2011 *Jacobs University Postdoctoral Fellowship*, Bremen, Germany

Jan 2008-Dec 2010 *York University Graduate Fellowship*, Toronto, Canada

Aug 2006-Aug 2007 *International Center for Theoretical Physics (ICTP) Fellowship*, Italy

Research Interests

Pseudo-Differential Operators

Harmonic Analysis

Partial Differential Equations

Time-Frequency Analysis, Inverse problems and Imaging

Employment

Sep 2011-	Assistant Professor, Postdoctoral fellow, Queens University, Kingston, Canada
Feb 2011-Aug 2011	Postdoctoral fellow, Jacobs University, Bremen, Germany
Fall 2010	Teaching Position, Course: Partial Differential Equations, Third year undergraduate course, York University, Toronto, Canada
2008–2010	Research Assistant, York University, Toronto, Canada
2008–2010	Teaching Assistant, York University, Toronto, Canada

Invited Lectures

- 2011** A talk entitled “Metaplectic Equivalence of the Hierarchical Twisted Laplacian” was given at York University, on September 30, 2011.
- 2011** A talk entitled “Global Hypoellipticity and Heat Semigroup of the Hierarchical Twisted Laplacian” was given at Jacobs University. at Universität Potsdam, Germany, on March 7-11, 2011.
- 2011** A talk entitled “Global Hypoellipticity and Heat Semigroup of the Hierarchical Twisted Laplacian” was given at the international workshop “Geometric and Singular Analysis” at Universität Potsdam, Germany, on March 7-11, 2011.
- 2010** A talk entitled “Diagonalization of Weyl Transforms and Heat Equations for Time-Dependent Hermite Operators” was given at the Workshop “Micro-local Analysis“ at University of Torino, Italy, on May 12, 2010.
- 2010** A talk entitled “Diagonalization of Weyl Transforms and Heat Equations for Time-Dependent Hermite Operators” was given at Institute for Advanced studies in Basic Sciences(IASBS), Iran, on April 27, 2010.
- 2010** A talk entitled “Diagonalization of Weyl Transforms and Heat Equations for Time-Dependent Hermite Operators” was given at the international Workshop “ Operators on Singular Spaces” at Universität Potsdam, Germany, on March 8-12, 2010.
- 2009** A talk entitled “Pseudo-Differential Operators on the Unit Circle” was given at the International Conference “Microlocal Analysis and Spectral Theory on Singular Spaces” at Pennsylvania State University, United States, on October 24-26, 2009.
- 2009** A talk entitled “Hierarchical Weyl Transforms and the Heat Semigroup of the Hierarchical Twisted Laplacian” was given at the “International Conference on Generalized Functions (GF2009)” at the University of Vienna, Austria, on August 31-September 4, 2009.
- 2009** A talk entitled “The Heat Kernel of the τ -Twisted Laplacian” was given at the “7th Congress of the International Society for Analysis, its Applications and Computation (ISAAC)” at Imperial College London, England, on July 13-18, 2009.
- 2008** A talk entitled “Pseudo-Differential Operators on \mathbb{S}^1 ” was given at the International Workshop “Pseudo-Differential Operators: Complex Analysis and Partial Differential Equations” at York University, Toronto, Canada, on August 4-8, 2008.
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Publications

- A. Dasgupta, S. Molahajloo and M. W. Wong, The Spectrum of the Sub-Laplacian on the Heisenberg Group, *Tohoku Mathematical Journal* **63** (2011), 269–276.
- S. Molahajloo, A Characterization of Compact Pseudo-Differential Operators on \mathbb{S}^1 , in *Pseudo-Differential Operators: Analysis, Applications and Computations* **213**, Birkhäuser, Basel, 2011, 25–29.
- S. Molahajloo and M. W. Wong, Diagonalization of Weyl Transforms and Heat Equations for Time-Dependent Heat Equations, *Complex Analysis and Operator Theory* **5** (1) (2011), 283–298.
- S. Molahajloo, M. W. Wong, The Schrödinger Kernel of the Twisted Laplacian and Cyclic Models, *Archiv der Mathematik* **95** (6) (2010), 593–599.
- A. Dasgupta, S. Molahajloo and M. W. Wong, The Inverse, the Heat Semigroup, Liouville’s Theorems and the Spectrum for the Grushin Operator, *Journal of Pseudo-Differential Operators and Applications* **1** (4) (2010), 377–388.
- Q. Guo, S. Molahajloo and M. W. Wong, Phases of Modified Stockwell Transforms and Instantaneous Frequencies, *Journal of Mathematical Physics*, **51** (2010), DOI: 10.1063/1.3416906.
- S. Molahajloo, The Heat Kernel of the τ -Twisted Laplacian, *Journal of Pseudo-Differential Operators and Applications* **1**(3) (2010), 293–311.
- S. Molahajloo, M. W. Wong, Ellipticity, Fredholmness and Spectral Invariance of Pseudo-Differential Operators on \mathbb{S}^1 , *Journal of Pseudo-Differential Operators and Applications* **1** (2)(2010), 183–205.
- S. Molahajloo and M. W. Wong, Hierarchical Weyl Transforms and the Heat Semigroup of the Hierarchical Twisted Laplacian, *Journal of Pseudo-Differential Operators and Applications* **1** (1) (2010), 35–53.
- V. Catană, S. Molahajloo and M. W. Wong, L^p -Boundedness of Multilinear Pseudo-Differential Operators, in *Pseudo-Differential Operators: Complex Analysis and Partial Differential Equations*, Operator Theory: Advances and Applications **205**, Birkhäuser, Basel, 2009, 167–180.
- S. Molahajloo and M. W. Wong, Square-Integrable Group Representations and Localization Operators for Modified Stockwell Transforms, *Rendiconti del Seminario Matematico Università e Politecnico Torino* **67** (2) (2009), 215–227.
- S. Molahajloo, Pseudo-Differential Operators on \mathbb{Z} , in *New Developments in Pseudo-Differential Operators*, Operator Theory: Advances and applications **205**, Birkhäuser, Basel, 2009, 213–221.
- Q. Guo, S. Molahajloo and M. W. Wong, Modified Stockwell Transforms and Time-Frequency Analysis, in *New Developments in Pseudo-Differential Operators*, Operator Theory: Advances and Applications **189**, Birkhäuser, Basel, 2008, 275–285.
- S. Molahajloo and M. W. Wong, Pseudo-Differential Operators on \mathbb{S}^1 , in *New Developments in Pseudo-Differential Operators*, Operator Theory: Advances and applications **189**, Birkhäuser, Basel, 2008, 297–306.

Teaching

2011 Differential Equations, Fall 2011, Queens University, Canada.

2011 Graduate course

- Functional Analysis, February 2011, Jacobs University, Germany.

2010 Undergraduate course

- Partial differential equations, York University, Fall 2010
 - Principles of Mathematical Analysis, Tutorial Instructor, Winter 2008 and 2010.
 - Teaching Assistant, 2008-2010
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Papers Refereed

2011 Journal of Pseudo-Differential Operators and Applications (2 papers).

2010 *Pseudo-Differential Operators: Analysis, Applications and Computations*, Birkhäuser, Basel (1 paper).

2010 Journal of Pseudo-Differential Operators and Applications (2 papers).

2009 *Pseudo-Differential Operators: Complex Analysis and Partial Differential Equations*, Operator Theory: Advances and Applications, Birkhäuser, Basel (1 paper).

Service

2008 Organizer of the *International Workshop on Pseudo-Differential Operators: Complex Analysis and Partial Differential Equations*, August 4-8, 2008, York University, Toronto, Canada.

October 3, 2011