

# Jeremy Graeme Hoskins

## PERSONAL DATA

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## EDUCATION

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MAY 2017 PhD in APPLIED MATHEMATICS, **University of Michigan**  
Thesis: “Discrete Diffuse Optical Tomography on Graphs”  
| Advisors: Anna GILBERT and John SCHOTLAND  
GPA: 4.0 (out of 4.0)

DECEMBER 2012 MSc in APPLIED MATHEMATICS, **University of British Columbia**  
Thesis: “The application of symmetry methods and conservation laws  
to ordinary differential equations and a linear wave equation”  
| Advisors: George BLUMAN and Alexey F. SHEVYAKOV  
GPA: 95.4%

MAY 2011 BSc in HONORS MATHEMATICS AND PHYSICS, **University of British Columbia**  
Thesis: “Quantitative Modelling of Ionic Signalling in Cytosolic  
Nanospaces of Smooth Muscle Cells”  
| Advisor: Nicola FAMELI  
GPA: 92.9%

## SCHOLARSHIPS, FELLOWSHIPS, & GRANTS

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2017	Allen Shields Memorial Fellowship	\$ 9868
2014-2015	Rackham Predoctoral Fellowship	\$32,000 (accepted \$19,635)
2014-2015	NSERC Postgraduate Scholarship (PGS D)	\$42,000
2013	Rackham International Student Fellowship	\$10,000
2011	NSERC Alexander Graham Bell Scholarship (CGS M)	\$17,500
2011	UBC Faculty of Science Graduate Award	\$4,000
2010	John Collison Memorial Scholarship in Mathematics, UBC	\$1,650
2009	Trek Excellence Scholarship for Continuing Students, UBC	\$4,500
2008	Trek Excellence Scholarship for Continuing Students, UBC	\$4,500
2009	NSERC USRA in Mathematics	
2008	Trek Excellence Scholarship for Continuing Students, UBC	\$4,500
2008	Dean of Science Scholarship, UBC	\$1,000
2007	President’s Entrance Scholarship, UBC	\$4,000
2007	Provost’s Entrance Scholarship, UBC	\$5,000
20012-2017	Travel grants to attend conferences in Delphi (Greece), Helsinki (Finland), University of Kentucky, MSRI (Berkeley)	

## PUBLICATIONS & PRESENTATIONS

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### Journal articles

- Hoskins JG, & Schotland JS. Acousto-optic effect in random media (submitted to Phys Rev E).
- Chung FJ, Gilbert AC, Hoskins JG, & Schotland JS. Optical tomography on graphs (submitted to Inverse Problems).
- Gilbert AC, Hoskins JG, & Schotland JS. Diffuse scattering on graphs. *J. Linear Algebra Appl.* (2016), 496 (1) 1-35.
- Hoskins JG & Bluman G. Higher order symmetries and integrating factors for ordinary differential equations. *J. Math. Anal. Appl.* (2016), 435(1) 133-161.
- Esfandiarei M, Fameli N, Choi YY, Tehrani AY, Hoskins JG, & van Breemen C (2013). Waves of calcium depletion in the sarcoplasmic reticulum of vascular smooth muscle cells: an inside view of spatiotemporal Ca<sup>2+</sup> regulation. *PLoS One*, 8 (2).
- Asghari P, Scriven DR, Hoskins JG, Fameli N, van Breemen C, & Moore ED (2012). The structure and functioning of the couplon in the mammalian cardiomyocyte. *Protoplasma*, 249 (1 Supplement): 31-38.

## Conference Talks

- Combinatorial Inverse Problems. Applied Inverse Problems. Helsinki, Finland (May 2015).

## Poster presentations

- Hoskins JG, Michielssen E, & Schotland JS. A Fast Volume Integral Equation Solver for the Radiative Transfer Equation. APS/URSI 2015 - Fajardo, Puerto Rico (2016).
- Hoskins JG, Gilbert AC, & Schotland JS. Diffuse Scattering on Graphs. Eigenvectors in graph theory and related problems in numerical linear algebra- ICERM, Providence, RI (2014).

## Departmental Talks

- Diffuse Optical Tomography and Inverse Problems on Graphs. Inverse Problems Workshop at University of Michigan, Ann Arbor MI, 18 March 2014.
- Combinatorial Inverse Problems and Discrete Diffuse Optical Tomography. Inverse Problems Seminar at University of Michigan, Ann Arbor MI, 3 October 2014.
- Symmetry and differential equations. Student Analysis Seminar at University of Michigan, Ann Arbor MI, 15 November 2012.
- An exact solution for a Wave Equation using Symmetry Methods and Nonlocally Related Systems. Mathematics Department Seminar at University of British Columbia, Vancouver BC, Canada, 2012.
- Symmetries in Differential Equations. USRA Seminar at University of British Columbia, Vancouver BC, Canada, May and July 2011.
- Random Sorting Networks. USRA Seminar at University of British Columbia, Vancouver BC, Canada, 2009.

## Conferences and Workshops Attended

2015	Gene Golub SIAM Summer School - Delphi, Greece.
2015	Applied Inverse Problems Summer School- Helsinki, Finland.
2014	Scattering and Inverse Scattering in Multidimensions- University of Kentucky.
2013	2013 Summer Graduate School: Intro. to the Math. of Seismic Imaging- MSRI, Berkeley.
2013	Workshop on Random Matrices and Applications, University of Michigan.
2013	Workshop on Sparse Fourier Transform Etc., Massachusetts Institute of Technology.
2010	Peter Wall Nanospace Biophysics Conference- University of British Columbia.
2007	Canadian Undergraduate Physics Conference- Simon Fraser University.

## TEACHING

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### University of Michigan, Department of Mathematics

- RECITATION INSTRUCTOR WINTER 2014 *Differential Equations*:  
Introductory course in differential equations. Recitation instructor and grader for four sections. Instructed students in use of Matlab to visualize and solve systems of ordinary differential equations.
- INSTRUCTOR WINTER 2013, FALL 2013, & FALL 2016 *Integral Calculus*:  
Introductory course in integral calculus. Encouraged student involvement through group work. Incorporated technology through in-class computer demonstrations and by creating and maintaining a course website.
- INSTRUCTOR FALL 2012 *Differential Calculus*:  
Introductory course in differential calculus. Encouraged student involvement through group work. Incorporated technology through in-class computer demonstrations and by creating and maintaining a course website.

### University of British Columbia, Department of Mathematics

- TUTORIAL INSTRUCTOR AND GRADER  
2012 *Ordinary Differential Equations with Applications to Chemical Engineering*:  
Weekly tutorial to supplement lecture material and introduce additional examples. Was responsible for creating and updating the course website and writing solutions to weekly homework assignments. Graded assignments and in-class midterm exams.
- WORKSHOP LEADER  
2011 *Differential Calculus with Physical Applications*:  
Three weekly workshops for an introductory class in differential calculus. Responsible for supervising three undergraduate teaching assistants.