

William Thompson

Department of Mathematics
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Citizenship: Canadian

Research Interests

Stochastic differential equations, Stochastic averaging, Time series analysis, Dynamical systems, Statistical methods, Climate dynamics.

Education

University of British Columbia Vancouver, Canada

PH.D CANDIDATE, MATHEMATICS May 2014 (expected)

Thesis topic: *Parametrization and multiple time scale problems with non-Gaussian statistics in climate dynamics*

Advisors: Dr. R. A. Kuske, Dr. A. H. Monahan

M.SC., MATHEMATICS 2010

Thesis topic: *Stochastic phase dynamics of noise driven synchronization of uncoupled conditional coherent oscillators*

Advisor: Dr. R. A. Kuske

University of Waterloo Waterloo, Canada

B.MATH., MATHEMATICAL PHYSICS HON. 2008

Graduated with distinction: Dean's Honour's List

Research Experience

RESEARCH INTERN, School of Earth and Ocean Science, Jan. 2011 – Aug. 2011
University of Victoria (Supervisor: Dr. A. H. Monahan)

RESEARCH ASSISTANT, Institute for Quantum Computing, 2006 – 2007
University of Waterloo (Supervisor: Dr. F. Wilhelm)

Teaching Experience

COURSE INSTRUCTOR, University of British Columbia
MATH 104: Differential Calculus with Appl. to Soc. Sci. and Commerce, Fall 2013, Fall 2011

TEACHING ASSISTANT, University of British Columbia
MATH 406: Variational and Approximate Methods in Applied Mathematics Fall 2014
Math Learning Centre Teaching Assistant Fall 2012, Winter 2012, Fall 2010
MATH 345: Chaos and Dynamical Systems Winter 2012, Winter 2010
MECH 221/222: Numerical Methods for Engineering I/II Fall 2008/Winter 2009

Publications & Preprints

Stochastic averaging of systems with multiple time scales forced with α stable noise, W. F. THOMPSON, R. KUSKE, A. MONAHAN, (submitted to SIAM Multi. Model Simul., Preprint available on arXiv.org),

Parametric estimation of diffusions for surface wind velocity data, W. F. THOMPSON, A. MONAHAN, D. CROMMELIN, J. Atmos. Sci, 71(9), 3465–3483, (2014)

Stochastic phase dynamics of noise driven synchronization of two conditional coherent oscillators, W. F. THOMPSON, R. KUSKE, Y.-X. LI, DCDS-A, 32(8), 2971–2995, (2012)

Long-range coupling and scalable architecture for superconducting flux qubits, A. G. FOWLER, W. F. THOMPSON, Z. YAN, A. M. STEPHENS, B. L. T. PLOURDE, F. K. WILHELM, Can. Jour. of Phys., 86(4), 533–540, (2008)

Presentations

Conference Presentation, Royal Statistical Society of Canada Annual Meeting May 2014
TORONTO, ONTARIO, CANADA

Seminar Presentation, UBC Math Graduate Colloquium Feb 2014
VANCOUVER, BRITISH COLUMBIA, CANADA

Conference Presentation, Joint CMOS-CGU-CWRA Annual Meeting May 2013
SASKATOON, SASKATCHEWAN, CANADA

Poster, Joint CMOS-CGU-CWRA Annual Meeting May 2013
SASKATOON, SASKATCHEWAN, CANADA

Poster, Stochastic modelling of the oceans and atmosphere workshop Mar. 2013
MINNEAPOLIS, MINNESOTA, USA

Conference Presentation, Exploring Climate Variability Conference and Workshop Feb. 2013
BIELEFELD, NORTH RHINE-WESTPHALIA, GERMANY

Seminar Presentation, UBC stochastic dynamics working group seminar Nov. 2012
VANCOUVER, BRITISH COLUMBIA, CANADA

Poster, American Geophysical Union Meeting Dec. 2011
SAN FRANCISCO, CALIFORNIA, USA

Awards

Alexander Graham Bell Canadian Graduate Scholarship - Doctoral, NSERC¹, Sep. 2012 – Aug. 2014
Postgraduate Scholarship – Masters, NSERC, Sep. 2008 – Aug. 2010
Undergraduate Student Research Awards, NSERC, Summer 2008, Summer 2007

¹National Science and Engineering Research Council, Canada

Projects

MATH EXAM/EDUCATIONAL RESOURCES WIKI

A free online resource for UBC students taking first and second year mathematics courses. My contributions include modifying both the back-end operations and the appearance of the wiki as well as contributing solutions for past examinations. This project also involves analyzing Google analytics data to gain insight into use of the wiki and consulting with the Center for Teaching and Learning Technology at UBC in order to improve service. (http://wiki.ubc.ca/Science:Math_Exam_Resources).

Other professional activity

Participant in <i>PIMS-IMA Industrial Mathematics Workshop</i> , UBC	Aug. 2014
Member of the Student Committee for the <i>Institute of Applied Mathematics</i> , UBC	2011 – 2013
Co-organizer of the stochastic dynamics working group, UBC	Fall 2012
Participant in <i>Instructional Skills Workshop</i> , Math Dept., UBC	Fall 2011

Last updated on October 11, 2014.