

Kai Tsuruta

Hydroclimate Scientist
Pacific Climate Impacts Consortium
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RESEARCH INTERESTS

Geomorphology, hydrology, climate change, hydrological and sediment transport modeling.

EDUCATION

The University of British Columbia, Vancouver, BC
Ph.D. , Forestry
Supervisors: Younes Alila and Marwan Hassan

The University of Iowa, Iowa City, IA
Ph.D., Applied Mathematics and Computer Sciences, Dec 2012
Supervisors: Xiaoyi Zhang and Dong Li
M.S., Mathematics, July 2010

Luther College, Decorah, IA
B.A., Honors Mathematics, May 2007
B.A., Honors Physics, May 2007

HONORS AND AWARDS

Four-Year Fellow, University of British Columbia, 2012-2016
NSF VIGRE Fellow, 2011
Regents Fellow, 2003-2007
Inducted into Phi Beta Kappa Honor Society, 2007
Inducted into Sigma Pi Sigma Honor Society, 2007
Carl Strom Memorial Prize Recipient, 2006
Inducted into Pi Mu Epsilon Honor Society, 2006
Kenneth A. Leuder Scholar in Mathematics, 2005

RESEARCH
EXPERIENCE

Peer Reviewed Publications

- **Tsuruta, K.**, M.A. Hassan, S.D. Donner, Y. Alila, (2018). Development and application of a large-scale, physically-based, distributed suspended sediment transport model on the Fraser River Basin, British Columbia, Canada, *Journal of Geophysical Research: Earth Surface*, 123(10): 2481-2508, doi: 10.1029/2017JF004578
- **Tsuruta, K.**, M.A. Hassan, S.D. Donner, Y. Alila, (2019). Modelling the effects of climatic and hydrological regime changes on the sediment dynamics of the Fraser River Basin, British Columbia, Canada, *Hydrological Processes*, 33(2): 244-260, doi: 10.1002/hyp.13321
- Motew, M., Xi Chen, E.G. Booth, S.R. Carpenter, P. Pinkas , S.C. Zipper, S.P. Loheide, S.D. Donner, **K. Tsuruta**, P. Vadas, C.J. Kucharik, (2017). The influence of legacy P on lake water quality in a Midwestern agricultural watershed, *Ecosystems*, doi:10.1007/s10021-017-0125-0
- **Tsuruta, K.** (2013). Construction of the wave operator for two dimensional Klein-Gordon-Schrodinger systems with Yukawa Coupling, *Electronic Journal of Differential Equations*, 132, 1-23.

Conference Contributions

- **Tsuruta, K.**, M.A. Hassan, S.D. Donner, Y. Alila (2017). Development and application of a large-scale, mechanistic, distributed suspended sediment transport model on the Fraser River Basin, British Columbia, Canada, *CGU/CSAFM National Meeting*, Vancouver, British Columbia, Canada

TEACHING
EXPERIENCE

The University of British Columbia

Teaching Assistant

Introduction to Biometrics and Business Statistics, 2016-2017

The University of Iowa

Instructor

Elementary Spaces and Functions, 2012

College Algebra, 2011

Teaching Assistant

Logic of Arithmetic, 2010

Calculus, 2009-2010

Mathematics for Business, 2008

INVITED TALKS *Where's Waldo? Computer-Based Pattern Recognition*, University of Wisconsin-Eau Claire, Colloquium, April 2010
 Ordinary Generating Functions, Coe College, Colloquium, Dec 2011
 Ordinary Generating Functions, Luther College, Colloquium, Nov 2011
 Rainfall Runoff Modeling, University of Chicago, PEW Conference, Oct 2005

EXPOSITORY
TALKS *Image Processing and Wavelets*, University of Iowa, VIGRE REU, June 2011
 Wave Operator for KGS, University of Iowa, PDE Seminar, April 2012

SERVICES Committee Member, Math Graduate Board, University of Iowa, 2008-2012
 Committee Member, Graduate Student Senate, University of Iowa, 2012
 Graduate Student Supervisor, VIGRE REU, 2011
 Judge, Mathematics Modeling Competition, 2011
 Co-Chair, GAUSS Seminar, University of Iowa, 2011
 Committee Member, Math Club, Luther College, 2006-2007
 Member, Environmental Concerns Organization, Luther College, 2004-2007