Christopher Scott Jones

Department of Mathematics
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Education

Ph.D. in Mathematics — University of Pittsburgh, expected August 2012
Dissertation advisor: Xinfu Chen

M.A. in Mathematics — University of Pittsburgh, May 2007

B.S. in Mathematics & Statistics — Youngstown State University, May 2003

Research Areas

Mathematical Finance · Free Boundary Problems · Partial Differential Equations
Ordinary Differential Equations · Special Functions and Asymptotic Approximations
Numerical Solutions of Differential Equations · Numerical Linear Algebra
Quantitative Statistics and Probability Theory · Graph Theory · Numerical Optimization

Professional Experience

Graduate Teaching Fellow, University of Pittsburgh, 2006 - present
Consultant in science and mathematics, ASSET, Inc. (assetinc.org), 2008

Fellowships & Awards

National Science Foundation research grant (under Xinfu Chen), DMS-1008905
Travel/Workshop Grant, Institute of Mathematics and Its Applications (IMA), summer 2008
National Science Foundation teaching fellowship (GK-12 Program), 2006 - 2008
Certificate of Recognition: Outstanding Accomplishments as President of SIAM, 2009
Elizabeth Baranger Excellence in Teaching Award, Nominee, 2010, 2011
MAA Prize for Outstanding Solution, 2003 Mathematical Competition in Modeling
Emily Goldstein Award for Outstanding Achievement in Statistics (Youngstown State University), 2003

Publications

(1) C. JONES, *Optimal Mortgage Termination: Analytical and Numerical Approximations* (in preparation)

(2) X. CHEN and C. JONES, *Mathematical Analysis of Optimal Mortgage Termination with the Cox-Ingersoll-Ross Model*, submitted.

(3) C. JONES, CHAI WAH WU, ET AL., *Performance Study of Peer-to-peer Video Streaming on Complex Networks*, ISCAS 2009, 1613-1616, DOI: 10.1109/ISCAS.2009.5118080

(4) S. GROVE, C. JONES and J. LEPAK, *Shoot to Kill!*, UMAP Journal, 24(3), 2003.

Technical Skills

Software Languages: Matlab, C++, Mathematica, OCaml, Objective C

Experience developing numerical solutions of free boundary problems and differential equations, iterative and recursive instantiations of large and sparse array data structures. Ongoing projects involve developing algorithms for optimal mortgage payment under stochastic term structure models.

Experience analyzing time-series data and implementing algorithms focused on forecasting, prediction and model calibration. Ongoing projects involve analyzing factors of current and future risk given historical price information of a security.

Extensive writing experience in journalistic style and in distilling scientific information into a style comprehensible to the average lay person.

Spoken Languages: Hungarian, Serbian and Croatian

Teaching Experiencing

Discrete Mathematical Structures

Probability & Statistics

Calculus 1,2,3

Business Calculus

Algebra & Trigonometry