

HYE WON KANG

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Education

Ph.D. Expected in mathematics at the **University of Wisconsin-Madison** 2002 – 2008
Academic Advisor: **Thomas G. Kurtz**
Nine credits towards M.S. in mathematics at Yonsei University 2001 – 2001
B.S. in mathematics at **Yonsei University** 1997 – 2001

Scientific/Academic Honors and Grants

Research Assistantship at the University of Wisconsin-Madison 2007 – 2007
Research Assistantship at the University of Wisconsin-Madison 2005 – 2006
Brain Korea 21 Special Fellowship at Yonsei University 2001 – 2001
Merit-based Scholarship at Yonsei University 1998 – 2001

Research Interests

Applications of stochastic analysis to biological models
Various Background: Probability, simulations, statistics, biochemistry, and dynamical systems.

Research Experiences

Multiscale methods and simulation in the heat shock response, 2006 – Present
The central limit theorem in different time scales
FRG Project with **Thomas G. Kurtz, Gheorghe Craciun, David Anderson:**
University of Wisconsin-Madison, Mathematics Department

Distribution of spacing of heterocysts in cyanobacteria 2007 – Present
Project with **Gheorghe Craciun:**
University of Wisconsin-Madison, Mathematics Department

A simple scaling in intracellular viral infection cycle, 2005 – 2006
The length of busy period
Research with **Thomas G. Kurtz:**
University of Wisconsin-Madison, Mathematics Department

Analyzing a mathematical model for sexual selection: 2003 – 2004
Cooperative mating vs. Antagonistic mating
Research with **John Strikwerda:**
University of Wisconsin-Madison, Computer Science Department

Activities for Conferences

Conference Organized at the University of Wisconsin-Madison

Graduate Student Conference in Probability (March 2007)

Organizer, with Sabrina Güettes, Rohini Kumar, Mathew Joseph.

Conference and Seminar Talks and Posters

32nd Conference on Stochastic Processes and their Applications: (August 2007)

Contributed Talk: *Multiscale Methods in a Heat Shock Response Model*

University of Illinois at Urbana-Champaign, Urbana, IL

SIAM Conference on Applications of Dynamical Systems: (May 2007)

AWM Poster: *Multiscale Methods in a Heat Shock Response Model*

Snowbird Ski and Summer Resort, Snowbird, Utah

Multiscale Probability Seminar: (March 2007)

Talk: *Invariant Manifolds for ODEs*

University of Wisconsin-Madison

Biosystems Modeling Workshop: (March 2007)

Presentation: *Computations for a Heat Shock Response Model*

Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC

Probability Seminar: (March 2007)

Talk: *Computations for a Heat Shock Response Model*

University of Wisconsin-Madison

FRG Meeting: (January 2007)

Presentation: *Computations for a Heat Shock Response Model*

University of Louisville, Louisville, KY

Joint Meeting with John Yin Group: (November 2006)

Presentation: *Computations for a Heat Shock Response Model*

University of Wisconsin-Madison, Chemical and Biological Engineering Department

2nd Cornell Summer School in Probability: (June 2006)

Half Hour Talk: *Polyribosomal States in Viral Infection Cycle*

Cornell University, Ithaca, NY

FRG Meeting: (June 2006)

Presentation: *Modeling Polyribosomal States*

University of Wisconsin-Madison

Applied Mathematics Student Seminar: (April 2006)

Talk: *Three Species Model with an Infinite Queuing System*

University of Wisconsin-Madison

Probability Student Seminar: (Spring 2006)
 Talk: *Criteria for Relative Compactness in $D_E[0, \infty)$*
 University of Wisconsin-Madison

Probability Student Seminar: (Spring 2006)
 Talk: *The Compact Sets of $D_E[0, \infty)$*
 University of Wisconsin-Madison

Stochastic Control Seminar: (Spring 2005)
 Talk: *Approximating Impulse Control of Diffusion by Iterated Optimal Stopping*
 University of Wisconsin-Madison

Other Conferences Attended

28th Midwest Probability Colloquium: (October 2006)
 Northwestern University, Evanston, IL

Markov Processes and Related Topics: (July 2006)
 University of Wisconsin-Madison

Conference on Stochastic Networks: (June 2006)
 University of Illinois at Urbana-Champaign, Urbana, IL

27th Midwest Probability Colloquium: (October 2005)
 Northwestern University, Evanston, IL

1st Cornell Summer School in Probability: (July 2005)
 Cornell University, Ithaca, NY

30th Conference on Stochastic Processes and their Applications: (June 2005)
 University of California Santa Barbara, Santa Barbara, CA

Biocomplexity 7: (May 2005)
 Indiana University, Bloomington, IN

Seminar on Stochastic Processes: (March 2005)
 Cornell University, Ithaca, NY

Teaching Activities

Courses taught (at Madison unless otherwise indicated)

Trigonometry (Math 113: Lecture)	2007 Fall
Calculus (Math 211: Discussion)	2006 Fall
Calculus (Math 211: Discussion)	2005 Spring
Topics in Finite Mathematics (Math 210: Discussion)	2004 Fall

Calculus-Functions of Several Variables (Math 234: Discussion)	2004 Spring
Topics in Finite Mathematics (Math 210: Discussion)	2003 Fall
Trigonometry (Math 113: Lecture)	2003 Spring
Calculus and Analytic Geometry (Math 222: Discussion)	2002 Fall
Linear Algebra (Yonsei University)	2001 Spring

Other Working Experiences

Working as a grader (Theory of Probability, Topics in Finite Mathematics, Advanced Calculus I, II, An Introduction to Brownian Motion and Stochastic Calculus, Introduction to Stochastic Processes)

Computing

Computer systems: Matlab, Maple, MMTK(Python), StochKit, Familiarity with Linux

References

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