

Kevin R. Sanft

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Education	9/2006-Present Ph.D. program in Computer Science Emphasis: Computational Science and Engineering Advisor: Professor Linda Petzold <ul style="list-style-type: none">• NSF Graduate Research Fellowship• NSF IGERT Fellowship (Computational Science and Engineering)• NSF Graduate Research Fellowship Honorable Mention (2007)• Lisa Kaz Graduate Fellowship	University of California	Santa Barbara, CA
	Master of Science in Computer Science (6/2011) Summer Teaching Institute for Associates Certificate (2010)		
	9/1998-5/2002 Bachelor of Science in Computer Science Bachelor of Arts in Mathematics <ul style="list-style-type: none">• Graduation with Distinction (highest honors)• Honors Program Graduate• Departmental Honors (Mathematics)• NSF CSEM Scholarship• Augsburg Faculty Leadership Scholarship• Augsburg College Regents' Scholarship• Beverly Durkee Mathematics Scholarship• Dean's List (8/8 semesters)• Alpha Chi National College Honor Scholarship Society (top 5%)• OA & ME Hull Educational Foundation Scholarship (full tuition U of MN, declined)	Augsburg College	Minneapolis, MN
Teaching	6/2010-8/2010 Instructor Dept. of Computer Science <ul style="list-style-type: none">• Instructor for undergraduate course: Object Oriented Design and Implementation (CS 32)	University of California	Santa Barbara, CA
	1/2009-3/2009 Teaching Assistant (TA) Dept. of Computer Science <ul style="list-style-type: none">• TA for Prof. Linda Petzold's graduate course in Numerical Simulation (CS 211B, cross-listed in ME/Math/ECE/ChemE)	University of California	Santa Barbara, CA
	1/2002-5/2002 Supplemental Instructor (SI) Dept. of Mathematics <ul style="list-style-type: none">• SI for Calculus II (MAT 146)	Augsburg College	Minneapolis, MN
	9/2001-12/2001 Tutor Dept. of Mathematics <ul style="list-style-type: none">• Individual and group tutor, with a specialty in discrete mathematics	Augsburg College	Minneapolis, MN

Publications

- E. Wallace, D.T. Gillespie, **K.R. Sanft**, L.R. Petzold. *A new perspective on the linear noise approximation*. Submitted.
- K.R. Sanft**, S. Wu, M. Roh, J. Fu, R.K. Lim, L.R. Petzold. *StochKit2: software for discrete stochastic simulation of biochemical systems with events*. Bioinformatics 2011; 27(17):2457-8.
- K.R. Sanft**, D.T. Gillespie, L.R. Petzold. *Legitimacy of the stochastic Michaelis-Menten approximation*. IET Systems Biology 2011; 5(1):58-69.
- C. Luni, J.E. Shoemaker, **K.R. Sanft**, L.R. Petzold, F.J. Doyle III. *Confidence from uncertainty - A multi-target drug screening method from robust control theory*. BMC Systems Biology 2010; 4:161.
- C. Luni, **K.R. Sanft**, L.R. Petzold, F.J. Doyle III. *Modeling of detailed insulin receptor kinetics affects sensitivity and noise in the downstream signaling pathway*. Proc. IFAC Intl. Symposium on Dynamics and Control of Process Systems (DYCOPS) 2010.
- D.T. Gillespie, Y. Cao, **K.R. Sanft**, L.R. Petzold. *Abridging chemical reaction networks: it's a subtle business*. Proc. Foundations of Systems Biology in Engineering (FOSBE) Conf. 2009.
- E.C. Kwei, J.E. Shoemaker, **K.R. Sanft**, L.R. Petzold, F.J. Doyle III. *Model-based therapeutic target discrimination using stochastic simulation and robustness analysis in an insulin signaling pathway*. Proc. FOSBE Conf. 2009.
- D.T. Gillespie, Y. Cao, **K.R. Sanft**, L.R. Petzold. *The subtle business of model reduction for stochastic chemical kinetics*. J Chem Phys 2009; 130, 064103.
- E.C. Kwei, **K.R. Sanft**, J.E. Shoemaker, L.R. Petzold, F.J. Doyle III. *Modeling and systems analysis of insulin signaling*. [Extended Abstract] Proc. AIChE Annual Meeting 2008.
- E.C. Kwei, **K.R. Sanft**, L.R. Petzold, F.J. Doyle III. *Systems analysis of the insulin signaling pathway*. Proc. 17th IFAC World Congress, July 2008.
- R. Frigerio, M.M.B. Breteler, L.M.L. de Lau, **K.R. Sanft**, J.H. Bower, J.E. Ahlskog, B.R. Grossardt, M. de Andrade, D.M. Maraganore, W.A. Rocca. *Number of children and risk of Parkinson's disease*. Movement Disorders 2007; 22(5):632-9.
- R. Frigerio, **K.R. Sanft**, B.R. Grossardt, B.J. Peterson, A. Elbaz, J.H. Bower, J.E. Ahlskog, M. de Andrade, D.M. Maraganore, W.A. Rocca. *Chemical exposures in Parkinson's disease: A population-based case-control study*. Movement Disorders 2006; 21(10):1688-92.
- W.A. Rocca, B.R. Grossardt, B.J. Peterson, J.H. Bower, M.R. Trennery, J.E. Ahlskog, **K.R. Sanft**, M.de Andrade, D.M. Maraganore. *The Mayo Clinic cohort study of personality and aging: design and sampling, reliability and validity of instruments, and baseline description*. Neuroepidemiology 2006; 26(3):119-29.
- R. Frigerio, A. Elbaz, **K.R. Sanft**, B.J. Peterson, J.H. Bower, J.E. Ahlskog, B.R. Grossardt, M. de Andrade, D.M. Maraganore, W.A. Rocca. *Education and occupations preceding Parkinson's disease: A population-based case-control study*. Neurology 2005 Nov 22; 65(10):1575-83.

Presentations

Stochastic modeling and simulation in biology. Augsburg College Mathematics Department Colloquium, Minneapolis, MN, 26 April 2011.

Stochastic simulation using StochKit2.0. UCSB IGERT Systems Biology Seminar, Santa Barbara, CA, 10 January 2011.

Model reduction in stochastic simulation of the enzyme-substrate reaction set. Workshop for Young Researchers in Mathematical Biology, Mathematical Biosciences Institute, Ohio State University, Columbus, OH, 1 September 2010.

Multiscale computational modeling of metabolic insulin signaling pathways. [Poster] Bioengineering Insights Conference, Santa Barbara, CA, 26 October 2009.

Multiscale computational modeling of metabolic insulin signaling pathways. [Poster] Institute for Collaborative Biotechnologies (ICB) Army-Industry Collaboration Conference, Santa Barbara, CA, 4-5 March 2009.

Michaelis-Menten kinetics: deterministic and stochastic. UCSB IGERT Systems Biology Seminar, Santa Barbara, CA 20 May 2008.

An introduction to regular expressions in SAS. Medtronic CRM Statistical Programming Forum, Saint Paul, MN, 12 October 2005.

Advanced programming in an XP environment. Medtronic CRM Statistical Programming Forum, Saint Paul, MN, 31 August 2005.

Using JavaScript for edit checks in web forms. Mayo Clinic Dept. of HSR SUMIT (Software, Unix, Mainframe, Internet, Technology) Seminar, Rochester, MN, 13 July 2004.

My role as a Data Analyst and advice for math majors. Augsburg College Mathematics Department Colloquium, Minneapolis, MN, 18 February 2004.

Unix scripting, gawking, and the SED. Mayo Clinic Dept. of HSR SUMIT Seminar, Rochester, MN, 10 February 2004.

Calculating the motion of waves. Pi Mu Epsilon Undergraduate Research Conference, Collegeville, MN, 13 April 2002.

Professional	6/2005-9/2006	Medtronic, Inc.	Saint Paul, MN
	Statistical Programmer Bioinformatics Group Dept. of Cardiac Rhythm Management Clinical Research <ul style="list-style-type: none"> • Developed software for more than a dozen medical device clinical trials 		
	2/2003-5/2005	Mayo Clinic	Rochester, MN
	Data Analyst Div. of Biostatistics Dept. of Health Sciences Research (HSR) <ul style="list-style-type: none"> • Statistical programmer for NIH-funded “Epidemiology and Genetics of Parkinson's Disease” research study (PI: Dr. Walter Rocca) 		

6/2002-10/2002

Retek, Inc.

Minneapolis, MN

6/2001-8/2001

(acquired by Oracle in 2005)

Software Engineer (6/2002-10/2002)

- Worked in an extreme programming environment developing Retek's Invoice Matching 10.2 release, a web-based Java application

Software Engineer Intern (6/2001-8/2001)

- Developed web-based reporting component of Retek's Merchandising System 10.0 release

Outreach

Presented "Creating and Presenting Research Posters" to UCSB Institute for Collaborative Biotechnologies SABRE (Summer Applied Biotechnologies Research Experience) students [undergraduate and M.S. students from HBCUs and MIs in STEM fields], 1 July 2011.

Volunteer participant in the UCSB W.E.B. Du Bois Event to teach Educational Opportunity Program students about graduate school, 3 March 2010.

LEAPS (Let's Explore Applied Physical Science) FUSE (Family Ultimate Science Exploration): presented interactive science demonstrations to students and parents at Santa Barbara Junior High, 12 November 2008.

UCSB Graduate Division fellowship funding workshop panel participant. Presented advice for preparing a competitive NSF Graduate Research Fellowship application, 26 September 2008.

Career Day participant at Dos Pueblos High School in Goleta, CA 28 February 2007. Spoke to high school students about careers in computer science.

Group mentor in Prof. Chandra Krintz's "Information Technology and the Community" class (CS 193 - UCSB Winter 2007). Led a group of undergraduate students who made presentations to students at Dos Pueblos High School to encourage them to attend college and to consider majoring in computer science.