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RESEARCH INTERESTS	Global Optimization, Finite Mixture Models, EM Algorithm, Network Optimization, Operations Research in Healthcare	
EDUCATION	<p><b>University of Maryland</b>, College Park, MD Ph.D., Applied Mathematics and Scientific Computation, expected May 2007 Advisors: Michael Fu and Wolfgang Jank M.S., Applied Mathematics and Scientific Computation, May 2006 GPA: 3.92</p> <p><b>Georgetown College</b>, Georgetown, KY B.S., Mathematics, May 2003 GPA: 4.00, <i>Summa Cum Laude</i></p> <p><b>Oxford University</b>, Oxford, UK Visiting Student at Regent's Park College, Fall 2002.</p>	
PROFESSIONAL EXPERIENCE	<p><b>University of Maryland</b>, College Park, MD <i>Teaching Assistant</i> <span style="float: right;"><b>Fall 2004 - Spring 2006</b></span> Led discussion sections for Calculus III, Numerical Methods for Engineers, and two semesters of Elementary Calculus I.</p> <p><b>Johns Hopkins University, Applied Physics Laboratory</b>, Laurel, MD <i>Information Operations Analysis Intern</i> <span style="float: right;"><b>May 2005 - Present</b></span> Work part-time on several internal research projects including steganography and multi-objective optimization problems.</p> <p><b>Institute for Defense Analyses Center for Computing Sciences</b>, Bowie, MD <i>Student Intern</i> <span style="float: right;"><b>May - August, 2004</b></span> Collaborated on several classified projects on topics including data mining and graph theory.</p> <p><b>Department of Defense</b> <i>Student Intern</i> <span style="float: right;"><b>May - August, 2003</b></span> Designed algorithms in C for a cryptologic mathematics project.</p> <p><b>Colorado School of Mines</b>, Golden, CO <i>Research Experience for Undergraduates (REU) participant</i> <span style="float: right;"><b>May - June, 2002</b></span> Advisor: Willy Hereman Developed a symbolic software package in Mathematica to compute exact hyperbolic and elliptical solutions to systems of nonlinear partial differential equations.</p> <p><b>Georgetown College</b>, Georgetown, KY <i>Tutor</i> <span style="float: right;"><b>Fall 2000 - Spring 2002</b></span> Tutored undergraduate courses in math and chemistry.</p> <p><i>Spanish Lab Instructor and Coordinator</i> <span style="float: right;"><b>Fall 2000 - Spring 2002</b></span></p>	

Served as a student instructor for weekly Spanish labs and coordinated schedules of other instructors.

*Teaching Assistant*

**June 2000**

Assisted the instructor during a two week cryptology course for a high school science camp.

**Accenture**, Tallahassee, FL

*Student Intern*

**June - August, 2001**

Worked on the Product Test Team for the State of Florida's Department of Business and Professional Regulations online licensing project.

PUBLICATIONS

Gulczynski, D., Heath, J., and Price, C. Close-Enough Traveling Salesman Problem: A Discussion of Several Heuristics, *Perspectives in Operations Research: Papers in Honor of Saul Gass' 80th Birthday*. Springer (2006): 271-283.

Heath, J., Fu, M., and Jank, W. New Global Optimization Algorithms for Model-Based Clustering. Working paper.

Heath, J., Fu, M., and Jank, W. Global Convergence of Model Reference Adaptive Search in Gaussian Mixtures. Working paper.

SCIENTIFIC SOFTWARE

Blevins, J., Heath, J., and Hereman, W. `PDESolutionTester.m`. A Mathematica program for the symbolic verification of exact solutions of nonlinear partial differential equations. 2002.

CONFERENCE PRESENTATIONS

Heath, J., Fu, M., and Jank, W. Global Convergence of Gaussian Mixture Models.

- Bellarmine University Mathematics Department, Louisville, KY. Jan. 2007 (invited).
- Centre College Mathematics Program, Danville, KY. Jan. 2007 (invited).
- Joint Mathematics Meetings, New Orleans, LA. Jan. 2007.

Heath, J., Fu, M., and Jank, W. Global Optimization in Model-Based Clustering.

- INFORMS Annual Meeting, Pittsburgh, PA. Nov. 2006.
- University of Maryland Department of Mathematics Graduation Conference, College Park, MD. Apr. 2006 (invited).

SERVICE

**University of Maryland**, College Park, MD

- AMSC Student Council **Fall 2006 - Spring 2007**
- Graduate Student Government Representative for AMSC **Fall 2006 - Spring 2007**
- Co-Founder and Organizer of AMSC Student Seminar **Fall 2006**
- SIAM Student Chapter Representative **Fall 2006 - Spring 2007**
- Mentor for First-Year Graduate Students **Falls 2004 - 2006**
- Served on *Panel for Undergraduates On Applying to Graduate School* **Oct. 2006**
- Judge for *Spotlight on Graduate Research* Presentation Competition **Nov. 2006**

HONORS AND AWARDS

**University of Maryland**, College Park, MD

- NSF VIGRE fellowship **Fall 2003 - Spring 2007**
- Seymour Prize Winner for best technical paper, Dept. of Mathematics **Spring 2006**
- 2nd Place Teaching Assistant Award, Dept. of Mathematics **Spring 2006**
- VIGRE Travel Awards **2006, 2007**

**Georgetown College**, Georgetown, KY

- Dean's Honor Award, given to three graduates based on academic achievement **Spring 2003**
- Brown Scholar (full tuition scholarship) **Fall 1999 - Spring 2003**

SKILLS

- Programming: Matlab, C/C++, Mathematica, Perl, L<sup>A</sup>T<sub>E</sub>X.
- Operating Systems: Unix/Linux, Windows.

PROFESSIONAL  
AFFILIATIONS

- Institute for Operations Research and the Management Sciences (INFORMS)
- American Mathematical Society (AMS)
- Society of Industrial and Applied Mathematics (SIAM)
- Phi Kappa Phi
- Omicron Delta Kappa

REFERENCES

**Michael Fu**

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Management Science  
Robert H. Smith School of Business  
University of Maryland, College Park  
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**Wolfgang Jank**

Assistant Professor of Management  
Science and Statistics  
Robert H. Smith School of Business  
University of Maryland, College Park  
*Phone:* (301) 405-1118  
*Email:* wjank@rhsmith.umd.edu

**Elizabeth Kyle-Bowlsbey**

Information Operations Analyst  
Johns Hopkins University  
Applied Physics Laboratory, Laurel, MD  
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**Frances Gulick** (Teaching)

Lecturer  
Department of Mathematics  
University of Maryland, College Park  
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*Email:* ffg@math.umd.edu