

# CURRICULUM VITA

February 2012

**NAME:** Eileen T. Kraemer

**ADDRESS:** Department of Computer Science  
The University of Georgia  
Athens, GA 30602-7404  
eileen@cs.uga.edu  
(706)542-5799 (tel.)  
(706)542-2966 (fax)

## EDUCATION:

Ph.D. – Computer Science	Georgia Institute of Technology	September 1995
M.S. – Computer Science	Polytechnic University	December 1986
B.A. – Biology	Hofstra University	May 1980

## DISSERTATION:

*The manipulation of time and event order in the visualization of parallel and distributed systems*,  
John Stasko, thesis advisor.

## RESEARCH INTERESTS:

The focus of my research is on the development and evaluation of tools for visualization and interaction in support of complex tasks. As such, it includes work both in human-computer interaction and in the domain of the complex task to be supported.

Early work addressed visualization and interaction in support of program comprehension and performance evaluation of parallel and distributed systems. Research in techniques for interactive steering built on this early work. Later work involved the development and evaluation of numerous domain-specific tools employing visualization and interaction, including projects addressing visualization and interaction in support of the monitoring and management of computer networks, micro-array data analysis, gene-finding, visualization of protein-protein interaction data, comparative genomics displays, and more.

Motivated by the lessons learned in the domain-specific projects, I conducted a program of research designed to answer questions about what types of displays are useful and usable, and what properties of those displays promote or inhibit understanding and usability. I have performed empirical studies of the effectiveness of visualization and interaction techniques for program visualization, with an emphasis on applications in computer science education. The development and evaluation of these many systems for visualization and interaction provided the experience needed to abstract out higher-level principles for the design, implementation, evaluation, and use of such systems.

I am currently involved in three main projects: 1) The application of principles for effective design, implementation, and development of user interfaces and visualizations to **EuPathDB**, an

web-based database covering the eukaryotic pathogens in the genera *Cryptosporidium*, *Giardia*, *Leishmania*, *Neospora*, *Plasmodium*, *Toxoplasma*, *Trichomonas* and *Trypanosoma*; 2) Empirical studies of the usability of graphical notations for the software engineering of concurrent systems; and 3) The development of user interfaces for hand-held devices in a program designed to promote medication adherence in pediatric transplant patients.

## POSITIONS:

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|----------------|---|
| 2012 – present | Associate Dean for Student Academic Services, Franklin College of Arts and Sciences (Interim 2011-2012), University of Georgia                        |
| 1998 – present | Head (2008-2011) and Professor (promoted 2007), Dept. of Computer Science, University of Georgia  |
| 1995 – 1998    | Assistant Professor, Computer Science Dept. and Director, Computer Visualization Laboratory, Washington University in St. Louis, St. Louis, Missouri. |
| 1989 – 1995    | Graduate Research Assistant, Georgia Tech, Atlanta, Georgia.  |
| 1987 – 1989    | Instructor, Oglethorpe University, Atlanta, Georgia.  |
| 1986 – 1987    | Training Manager, Online Financial Communications, Atlanta, Georgia.  |
| 1985 – 1986    | Instructor, Polytechnic University, Farmingdale, New York.  |
| 1980 – 1985    | Teacher, Long Island, New York.   |

## GRANTS:

1. Eileen Kraemer –PI, “NSF/TCPP Early Adopter Award: "A Curriculum Initiative on Parallel and Distributed Computing, “ Sept 2011 – 2012, \$2500.
2. Eileen Kraemer – PI, “Seed Money for Middle and High School Computing Summer Camps”, Georgia Institute of Technology, March 1, 2010 – February 28, 2011, \$3,650.
3. Jessica Kissinger- PI, Eileen T. Kraemer, Co-PI, “The Eukaryotic Pathogen Bioinformatics Resource Center”, National Institute of Health (NIH) (subcontract through University of Pennsylvania), October 1, 2009 – September 30, 2014 \$854,350 (CS Portion \$85,435).
4. Eileen Kraemer – PI, “Seed Money for Middle and High School Computing Summer Camps”, Georgia Institute of Technology, March 1, 2009 – February 28, 2010, \$4999.
5. Jessica Kissinger – PI, John A. Miller and Eileen T. Kraemer – Co-PIs, “Integrated Databases for Apicomplexan Pathogens”, National Institutes of Health (NIH), July 2004 – June 2009, \$3,100,000 (CS Portion \$538,816).
6. NSF "Collaborative research: Program Visualization: Using Perceptual and Cognitive Concepts to Quantify Quality, Support Instruction, and Improve Interactions," Eileen Kraemer (PI), Elizabeth Davis (Co-PI), \$303,606 (UGA), \$278,495 (GT) June 15, 2003 – June 14, 2007.
7. FY2003 Learning Technologies Grants Program (E. Kraemer, PI), University of Georgia, Committee for Applied Instructional Technologies, “Enhanced Learning Through Virtual Reality”, with Leon Deligiannidas and John Miller, \$73,074.
8. MCG-UGA Intramural Cancer Grants Program, "Proteomic patterns in sera as a tool in ovarian cancer diagnostics", with W. Dynan (MCG) and J. McDonald (UGA), \$80,000.
9. NSF Award, "Instrumentation Grant for Research in Parallel and Distributed Computing", David K. Lowenthal (P.I.) and Suchendra Bhandarkar, Eileen T. Kraemer (Co-PI's), \$114,000, March 15, 2000 - February 28, 2004.

10. NSF CAREER Award, "An Infrastructure in Support of Configurable, Consistent, Interactive Computational Steering", \$201,617, May 1998 - April 2003.
11. NSF Award, "REU Supplement to: An Infrastructure in Support of Configurable, Consistent, Interactive Computational Steering", \$5,000, 6/1/99 - 5/31/00.
12. NSF Award, Computer and Computation Research, "Query-Based Visualization of Executing Distributed Computations", Gruia-Catalin Roman (P.I.) and Eileen Kraemer (Co-P.I.), \$270,053, July 1997 - June 2001.
13. NSF Award, CISE Research Instrumentation Grant, "Effective Visual Presentation of Computer-Generated Information", \$80,000, February 1997 - July 1998.
14. NSF Award, Networking and Communication Resources and Infrastructure, "Network Monitoring, Visualization and Control with Emphasis on Multi-Layer Protocols and Human-in-the-Loop", Guru Parulkar (P.I.) and Eileen Kraemer, Doug Schmidt, Ron Cytron, Jon Turner (Co-P.I.'s), \$1,200,059, September 1997 - August 2001.
15. Washington University in St. Louis (subcontract), "Network Monitoring, Visualization, and Control of High Speed Networks with Emphasis on Multi-Layer Protocols and Human-in-the-Loop", \$24,677, 1/1/99 - 12/31/99.
16. Washington University in St. Louis (subcontract), "Monitoring, Visualization, and Control of High Speed Networks with Emphasis on Multi-Layer Protocols and Human-in-the-Loop", \$24,677, 01/01/00 - 12/31/00.

## **SUBMITTED GRANTS**

17. "CBT & Smartphones To Promote Adherence In Adolescent Kidney Transplant Recipients," Ronald L. Blount (PI), Eileen T. Kraemer (Co-PI), National Institute of Health, \$762,659, August 1, 2011 to July 31, 2016, proposed.
18. Using Smartphones to Promote Adherence in Adolescent Kidney Transplant Recipients," Ronald L. Blount (PI), Eileen T. Kraemer (Co-PI), National Institute of Health, \$267,436, July 1, 2010 to June 30, 2012, proposed.
19. T. Liu (PI), Eileen T. Kraemer, and S.M. Bhandarkar, (Co-PIs), "SAMBA: Streamlined Analysis and Management of Bioimages for Average-biologists", NSF, \$432,075, August 1, 2010 – July 31, 2013, proposed.
20. "An Integrated Approach to Teaching NeuroImage Analysis," Tianming Liu (PI), Eileen T. Kraemer, Thiab Taha, and Qun Zhao (Co-PIs), National Science Foundation, \$57,651, January 1, 2010 to June 30, 2013, proposed.
21. "Collaborative Research: REESE: Empirical Research: Emerging Research: Evaluating the Development of Expertise in the Design and Maintenance of Concurrent Software", Eileen T. Kraemer (PI), National Science Foundation, \$220,911, June 1, 2009 to May 31, 2012, not funded 2009.
22. "SAMBA: Streamlined Analysis and Management of Bioimages for Average-biologists", Tianming Liu (PI), Eileen T. Kraemer and S.M. Bhandarkar (Co-PI), National Science Foundation, \$917,572, August 1, 2009 to July 31, 2012, not funded 2009.
23. "Applications of Intrinsic Genome Barcode Properties for Cross-scale Analysis", Eileen T. Kraemer (PI), National Science Foundation, \$1,523,844, January 1, 2009 to December 31, 2012, not funded 2009.

## **BOOK CHAPTERS**

1. J. Arnold, H.-B. Schuttler, D.A. Logan, D. Battogtokh, J. Griffith, B. Arpinar, S.M. Bhandarkar, S. Datta, K.J. Kochut, E. Kraemer, J.A. Miller, A. Sheth, G. Strobel, T.

Taha, B. Aleman-Meza, J. Doss, L. Harris and A. Hyong, **Metabolomics**, in *Handbook of Industrial Mycology*, Marcel-Dekker, New York, NY, 2004, Chapter 22, pp. 597 – 633.

2. Eileen Kraemer, **Visualizing Concurrent Programs**, in Marc Brown, John Domingue, Blaine Price, and John Stasko, editors, *Software Visualization: Programming as a Multimedia Experience*, MIT Press, Cambridge, MA, January 1998.

## JOURNAL PUBLICATIONS:

1. Steve Fischer, Cristina Aurrecochea, Brian P. Brunk, Xin Gao, Omar S. Harb, **Eileen T. Kraemer**, Cary Pennington, Charles Treatman, Jessica C. Kissinger, David S. Roos, and Christian J. Stoeckert, “The strategies WDK: a graphical search interface and web development kit for functional genomics databases,” *Database*, Vol. 2011 published online June 23, 2011, doi:10.1093/database/bar027.
2. Cristina Aurrecochea, Ana Barreto, John Brestelli, Brian P. Brunk, Elisabet V. Caler, Steve Fischer, Bindu Gajria, Xin Gao, Alan Gingle, Greg Grant, Omar S. Harb, Mark Heiges, John Iodice, Jessica C. Kissinger, **Eileen T. Kraemer**, Wei Li, Vishal Nayak, Cary Pennington, Deborah F. Pinney, Brian Pitts, David S. Roos, Ganesh Srinivasamoorthy, Christian J. Stoeckert, Charles Treatman, Haiming Wang, “AmoebaDB and MicrosporidiaDB: functional genomic resources for Amoebozoa and Microsporidia species,” *Nucleic acids research (2011) 39 (suppl 1) D612-D619* first published online October 24, 2010, doi:10.1093/nar/gkq1006.
3. Martin Aslett, Cristina Aurrecochea, Matthew Berriman, John Brestelli, Brian P. Brunk, Mark Carrington, Daniel P. Depledge, Steve Fischer, Bindu Gajria, Xin Gao, Malcolm J. Gardner, Alan Gingle, Greg Grant, Omar S. Harb, Mark Heiges, Christiane Hertz-Fowler, Robin Houston, Frank Innamorato, John Iodice, Jessica C. Kissinger, **Eileen Kraemer**, Wei Li, Flora J. Logan, John A. Miller, Siddhartha Mitra, Peter J. Myler, Vishal Nayak, Cary Pennington, Isabelle Phan, Deborah F. Pinney, Gowthaman Ramasamy, Matthew B. Rogers, David S. Roos, Chris Ross, Dhileep Sivam, Deborah F. Smith, Ganesh Srinivasamoorthy, Christian J. Stoeckert Jr., Sandhya Subramanian, Ryan Thibodeau, Adrian Tivey, Charles Treatman, Giles Velarde, and Haiming Wang, “TriTrypDB: a functional genomic resource for the Trypanosomatidae,” *Nucleic Acids Research*, Advance Access published on January 1, 2010, DOI 10.1093/nar/gkp851. *Nucleic Acids Research (2010) 38*: D457-D462.
4. Cristina Aurrecochea, John Brestelli, Brian P. Brunk, Steve Fischer, Bindu Gajria, Xin Gao, Alan Gingle, Greg Grant, Omar S. Harb, Mark Heiges, Frank Innamorato, John Iodice, Jessica C. Kissinger, **Eileen T. Kraemer**, Wei Li, John A. Miller, Vishal Nayak, Cary Pennington, Deborah F. Pinney, David S. Roos, Chris Ross, Ganesh Srinivasamoorthy, Christian J. Stoeckert, Jr., Ryan Thibodeau, Charles Treatman, and Haiming Wang, “EuPathDB: a portal to eukaryotic pathogen databases,” *Nucleic Acids Research*, Advance Access published on January 1, 2010, doi:10.1093/nar/gkp941. *Nucleic Acids Research (2010), 38*: D415-D419.
5. S. Xie, **E. Kraemer**, R.E.K. Stirewalt, L.K. Dillon and S.D. Fleming, “Design and Evaluation of extensions to UML sequence diagrams for modeling multithreaded interactions,” *Information Visualization (2009)*, **8(2)**, 120-136. doi:10.1057/ivs.2009.6
6. Wang, Z., Gao, X., He, C., Miller, J.A., Kissinger, J.C., Heiges, M., Aurrecochea, C., **Kraemer, E.T.** and Pennington, C., “An Evaluation of Multiple Approaches for Federating Biological Data”, *Journal of Information Technology Research (JITR)*, 2009, 2(2):pp. 42-64.

7. Cristina Aurrecochea, John Brestelli, Brian P. Brunk, Jane M. Carlton, Jennifer Dommer, Steve Fischer, Bindu Gajria, Xin Gao, Alan Gingle, Greg Grant, Omar S. Harb, Mark Heiges, Frank Innamorato, John Iodice, Jessica C. Kissinger, **Eileen Kraemer**, Wei Li, John A. Miller, Hilary G. Morrison, Vishal Nayak, Cary Pennington, Deborah F. Pinney, David S. Roos, Chris Ross, Christian J. Stoeckert, Jr. , Steven Sullivan, Charles Treatman, and Haiming Wang, "GiardiaDB and TrichDB: integrated genomic resources for the eukaryotic protist pathogens *Giardia lamblia* and *Trichomonas vaginalis*", *Nucleic Acids Research Advance Access* published on January 1, 2009, doi:10.1093/nar/gkn631. *Nucleic Acids Research* (2009), **37**: D526-D530.
8. Cristina Aurrecochea, John Brestelli, Brian P. Brunk, Jennifer Dommer, Steve Fischer , Bindu Gajria, Xin Gao, Alan Gingle, Greg Grant, Omar S. Harb, Mark Heiges, Frank Innamorato, John Iodice, Jessica C. Kissinger, **Eileen Kraemer**, Wei Li, John A. Miller, Vishal Nayak, Cary Pennington, Deborah F. Pinney, David S. Roos, Chris Ross, Christian J. Stoeckert, Jr. , Charles Treatman, and Haiming Wang, "PlasmoDB: a functional genomic database for malaria parasites", *Nucleic Acids Research Advance Access* published on January 1, 2009, doi:10.1093/nar/gkn814. *Nucleic Acids Research* (2009), **37**: D539-D543.
9. Tudoreanu, M.E. and **Kraemer, E.**, "Balanced Cognitive Load Significantly Improves the Effectiveness of Algorithm Animation as a Problem-solving tool", *JVLC (Journal of Visual Languages and Computing)*, October 2008, 19:5(598-616).
10. **Eileen T. Kraemer**, Bina Reed, Philippa Rhodes, and Ashley Hamilton-Taylor, "SSEA: A System for Studying the Effectiveness of Animations", in *Electronic Notes in Theoretical Computer Science*, 178(4):171-179, June 2007.
11. C. Aurrecochea, M. Heiges, H. Wang, Z. Wang, S. Fischer, P. Rhodes, J. Miller, **E. Kraemer**, C.J. Stoeckert, Jr., D.S. Roos, and J.C. Kissinger, "ApiDB: Integrated Resources for the Apicomplexan Bioinformatics Resource Center", in *Nucleic Acids Research*, Vol 35, D427-D430, 2007.
12. H. Wang, Y. Su, A. Mackey, **E.T. Kraemer** and J.C. Kissinger, "SynView: A GBrowse-compatible Approach to Visualizing Comparative Genome Data", *Bioinformatics*, 2006, 22(18):2308-2309.
13. M. Heiges, H. Wang, E. Robinson, C. Aurrecochea, X. Gao, N. Kaluskar, P. Rhodes, Z. Wang, C. He, Y. Su, J.A. Miller, **E.T. Kraemer** and J.C. Kissinger, "CryptoDB: a *Cryptosporidium* Bioinformatics Resource Update", *Nucleic Acids Research*, 2006, Vol. 34, D419-D422.
14. Susanne Warrentfeltz, Stephen Pavlik, Susmita Datta, **Eileen T. Kraemer**, Benedict Benigno, John F McDonald, "Gene expression profiling of epithelial ovarian tumors correlated with malignant potential", *Molecular Cancer*, 2004 3:27 (October 7, 2004).
15. Kamyar Farahi, William B. Whitman, **Eileen T. Kraemer**, "RED-T: Utilizing the Ratios of Evolutionary Distances for Determination of Alternative Phylogenetic Events", *Bioinformatics*, 19(16):2152-2154 (Nov 2003).
16. Jian Wang and **Eileen Kraemer**, "GFPE: Gene-Finding Program Evaluation", *Bioinformatics*, 19(13):1712-1713 (Sept 2003).
17. Zheng Xu, Britton Lance, Claudia Vargas, I. Budak Arpinar, **Eileen Kraemer**, Krys J. Kochut, John A. Miller, Jeff R. Wagner, Michael J. Weise, John K. Wunderlich, James Stringer, George Smulian, Melanie T. Cushion and Jonathan Arnold, "Mapping by Sequencing the Pneumocystis Genome, Using the Ordering DNA Sequences V3 Tool", *Genetics (GENE)*, 163(4): 1299-1313 (April 2003).
18. Krys J. Kochut, Jonathan Arnold, Amit P. Sheth, John A. Miller, **Eileen Kraemer**, I. Budak Arpinar and Jorge Cardoso, "IntelliGEN: A Distributed Workflow System for

- Discovering Protein-Protein Interactions", *Distributed and Parallel Databases, An International Journal (DAPD)*, Special Issue on Bioinformatics, 13 (1): 43-72; Jan 2003.
19. Ashley George Hamilton-Taylor and **Eileen Kraemer**, "Designing an Algorithm Animation System to Support Instructional Tasks", *International Multimedia Electronic Journal of Computer-Enhanced Learning (IMEJ)*, October 2002.  
<http://imej.wfu.edu/articles/2002/2/04/index.asp>
  20. **Eileen Kraemer**, Jian Wang, Jinhua Guo, Samuel Hopkins, Jonathan Arnold, "An Analysis of Gene-Finding Programs for *Neurospora crassa*", *Bioinformatics*, 17(10):1-12, November 2001.
  21. Delbert Hart and Eileen T. Kraemer, "Consistency Considerations in the Interactive Steering of Computations", *International Journal of Parallel and Distributed Systems and Networks*, 2(3):171-179, 1999.
  22. **Eileen T. Kraemer** and Thomas E. Ferrin, "Molecules to Maps: Tools for Visualization and Interaction in Support of Computational Biology", *Bioinformatics*, 14(9):764-771, October 1998.
  23. **Eileen Kraemer** and John T. Stasko, "Creating an Accurate Portrayal of Concurrent Executions", *IEEE Concurrency*, 6 (1), pp. 36-46, January/March 1998.
  24. Guru Parulkar, Doug Schmidt, **Eileen Kraemer**, Jon Turner, and Anshul Kantawala, "An Architecture for Monitoring, Visualization, and Control of Gigabit Networks", *IEEE Network*, pp. 34-43, September/October 1997.
  25. **Eileen Kraemer** and John T. Stasko, "The Visualization of Parallel Systems: An Overview", *Journal of Parallel and Distributed Computing*, 18 (2), pp. 105-117, June 1993.
  26. John T. Stasko and **Eileen Kraemer**, "A Methodology for Building Application-Specific Visualizations of Parallel Programs", *Journal of Parallel and Distributed Computing*, 18 (2), pp. 258-264, June 1993.

#### CONFERENCE PUBLICATIONS:

27. Rui Wang, Chaitanya Guttula, Maryam Panhiazar, Haseeb Yousaf, John A. Miller, Eileen T. Kraemer and Jessica C. Kissinger, "Web Service Composition Using Service Suggestions," in Proceedings, *2011 IEEE International Workshop on Formal Methods in Services and Cloud Computing*, Washington, DC (July 2011).
28. Rui Wang, Sumedha Ganjoo, John A. Miller, and Eileen T. Kraemer, "Ranking-Based Suggestion Algorithms for Semantic Web Service Composition," in Proceedings, *SERVICES-1, 2010 6<sup>th</sup> World Congress on Services*, July 5-10 2010, pp. 606 – 613, Miami, FL.
29. Scott D. Fleming, Eileen Kraemer, R.E.K. Stirewalt and Laura K. Dillon, "Debugging Concurrent Software: A Study Using Multithreaded Sequence Diagrams," In Proceedings, *IEEE Symposium on Visual Languages and Human-Centered Computing (VL/HCC '10)*, Leganes-Madrid, Spain, September 2010. DOI: 10.1109/VLHCC.2020.14.
30. Rui Wang, Douglas Brewer, Shefali Shastri, Srikalyan Swayampakula, John A. Miller, Eileen T. Kraemer, Jessica C. Kissinger, "Adapting the Galaxy Bioinformatics Tool to Support Semantic Web Service Composition," in Proceedings, *2009 IEEE Congress on Services*, July 2009, pp.283-290, Los Angeles, CA.
31. Kelly Storm, Eileen Kraemer, Cristina Aurrecochea, Mark Heiges, Cary Pennington, and Jessica Kissinger, "Web Site Evolution: Usability Evaluation Using Time-Series

- Analysis of Selected Episode Graphs,” In Proceedings of the 11th IEEE International Symposium on Web Systems Evolution (WSE 2009), Edmonton, Canada, 2009.
32. Yin Xiong, Maria Hybinette, Eileen Kraemer, “Transparent and Adaptive Computation-Block Caching for Agent-Based Simulation on a PDES Core”, 2008 Winter Simulation Conference, December 3-6, 2008, pp. 854-862, Miami, FL.
  33. Xie, S., Kraemer, E., Stirewalt, R.E.K., Dillon, L.K. and Fleming, S.D., “Assessing the Benefits of Synchronization-Adorned Sequence Diagrams: Two Controlled Experiments”, in Proceedings, *SoftVis '08: Proceedings of the 4<sup>th</sup> ACM Symposium on Software Visualization*, September 16-17, 2008, Ammersee, Germany, pp. 9-18.
  34. Fleming, S.D., Kraemer, E., Stirewalt, R.E.K., Dillon, L.K. and Xie, S., “Refining Existing Theories of Program Comprehension During Maintenance for Concurrent Software”, in Proceedings, *ICPC '08: The 16<sup>th</sup> IEEE International Conference on Program Comprehension*, June 10-13, 2008, Amsterdam, Netherlands, pp. 23-32.
  35. Fleming, S.D., Kraemer, E., Stirewalt, R.E.K., Xie, S., and Dillon, L.K., “A Study of Student Strategies for the Corrective Maintenance of Concurrent Software”, in Proceedings, *30th International Conference on Software Engineering (ICSE2008)*, Leipzig, Germany, May 10-18, 2008, pp. 759-768.
  36. Dillon, L.K., Stirewalt, R.E.K., Kraemer, E., Xie, S. and Fleming, S.D., “Using Formal Models to Objectively Judge Quality of Multi-threaded Programs in Empirical Studies”, in Proceedings, *2008 International Workshop on Models in Software Engineering*, May 10-11, 2008, Leipzig, Germany, pp. 33-38.
  37. Fleming, S.D., Stirewalt, R.E.K. and Kraemer, E., “Toward a Task Model of Concurrent Software Maintenance”, in Proceedings, *1<sup>st</sup> ACM International Workshop on Empirical Assessment of Software Engineering Languages and Technologies (WEASELTech '07)*, Atlanta, Georgia, November 5, 2007, pp. 23-24.
  38. DiPenta, M., Stirewalt, R.E.K. and Kraemer, E., “Designing your Next Empirical Study on Program Comprehension”, in Proceedings, *ICPC '07: The 15<sup>th</sup> IEEE Conference on Program Comprehension*, Banff, Alberta, Canada, June 26-29, 2007, pp. 281-285.
  39. Xie, S., Kraemer, E. and Stirewalt, R.E.K., “Empirical Evaluation of a UML Sequence Diagram with Adornments to Support Understanding of Thread Interactions”, in Proceedings, *ICPC '07: 15<sup>th</sup> IEEE International Conference on Program Comprehension*, June 26-29, 2007, pp. 12-134, Banff, Alberta, Canada.
  40. Wang, Z., Gao, X., He, C., Miller, J.A., Kissinger, J.C., Heiges, M., Aurrecochea, C., Kraemer, E.T., and Pennington, C., “A Comparison of Federated Databases with Web Services for the Integration of Bioinformatics Data”, *Proceedings of the 2007 International Conference on Bioinformatics & Computational Biology (BIOCOMP '07)*, Las Vegas, Nevada, June 2007, pp. 334-338.
  41. Xie, S., Kraemer, E. and Stirewalt, R.E.K., “Design and Evaluation of a Diagrammatic Notation to Aid in the Understanding of Concurrency Concepts”, in Proceedings, *29<sup>th</sup> International Conference on Software Engineering (ICSE 2007)*, pp. 727-731, May 20-26, 2007, Minneapolis, MN.
  42. Maria Hybinette, Eileen Kraemer, Yin Xiong, Glenn Matthews and Jaim Ahmed, “SASSY: A design for a scalable agent-based simulation system using a distributed discrete event infrastructure”, in *2006 Winter Simulation Conference*, pp. 926 – 933, December 3-6, 2006, Monterey, CA.
  43. Wang, Z., Gao, X., He, C., Miller, J.A., Kissinger, J.C., Heiges, M., Aurrecochea, C., Kraemer, E.T., Fischer, S. and Stoeckert, Jr., C.J., “Creating a Federation of Bioinformatics Databases in Oracle”, *Proceedings of the 9<sup>th</sup> Annual Conference on Computational Genomics (ACCG '06)*, Baltimore, Maryland, October 2006, pp. 148-149.

44. Philippa Rhodes, Eileen Kraemer, and Bina Reed, "The Importance of Interactive Questioning Techniques in the Comprehension of Software Visualizations", in *Proceedings of ACM Symposium on Software Visualization (SoftVis '06)*, pp. 183 – 184, September 4-5, 2006, Brighton, UK.
45. Bina Reed, Philippa Rhodes, Eileen Kraemer, Ashley Hamilton-Taylor, Elizabeth Thorpe Davis and Kenneth Hailston, "The Effect of Comparison Cueing and Exchange Motion on Comprehension of Program Visualizations", in *Proceedings of ACM Symposium on Software Visualization (SoftVis '06)*, pp. 181 – 182, September 4-5, 2006, Brighton, UK.
46. Philippa Rhodes, Eileen Kraemer, Ashley Hamilton-Taylor, Sujith Thomas, Matthew Ross, Elizabeth Davis, Kenneth Hailston, and Keith Main, "VizEval – An Experimental System for the Study of Program Visualization Quality" in *Proceedings of IEEE Symposium on Visual Languages and Human-Centric Computing 2006 (VL/HCC06)*, pp. 55 – 58, September 4-8, 2006, Brighton, UK.
47. Eileen T. Kraemer, Bina Reed, Philippa Rhodes, and Ashley Taylor, "SSEA: A System for Studying the Effectiveness of Animations", in *Proceedings of Fourth Program Visualization Workshop*, June 29-30, 2006, pp. 81 – 85, Florence, Italy.
48. E.T. Davis, K. Hailston, E. Kraemer, A. Hamilton-Taylor, P. Rhodes, C. Papadimitriou, and B. Garcia, "Examining Perceptual Processing of Program Visualization Displays to Enhance Effectiveness", *50<sup>th</sup> Annual Meeting of Human Factors and Ergonomics Society*, pp. 2066 – 2070, October 16-20, 2006, San Francisco, CA.
49. P. Rhodes, E. Kraemer, B. Reed, "VisION: An Interactive Visualization Ontology", *ACMSE 2006: 44<sup>th</sup> ACM Southeast Conference*, March 10-12, 2006, pp. 405 – 410, Melbourne, FL.
50. V. Sachdev, M. Hybinette, E. Kraemer, "Controlling Over-Optimism in Time-Warp via CPU-based Flow Control", *Proceedings of the 2004 Winter Simulation Conference*, Vol 1, pp 304-402, 2004.
51. Shiming Dong and Eileen Kraemer, "Calculation, Visualization, and Manipulation of MASTs (Maximum Agreement Subtrees)", *Computational Systems Bioinformatics 2004 (CSB 2004)*, pp 405-414.
52. Mihail Tudoreanu, Rong Wu, Ashley Hamilton-Taylor, Eileen Kraemer, "Empirical Evidence that Algorithm Animation Promotes Understanding of Distributed Computations", *Proceedings, IEEE 2002 Symposia on Human Centric Computing Languages and Environments*, Arlington, VA, pp 236-243, Sep. 3-6, 2002.
53. Ashley George Hamilton-Taylor and Eileen Kraemer, "SKA: Supporting Algorithm and Data Structure Discussion," *ACM SIGCSE Bulletin, Proceedings of the 33<sup>rd</sup> SIGCSE Technical Symposium on Computer Science Education*, February 2002, Volume 34, Issue 1, pp 58-63.
54. David Miller, Jinhua Guo, Eileen Kraemer, Yin Xiong "On-the-Fly Calculation and Verification of Consistent Steering Transactions", *Supercomputing 2001*, Denver, CO, Nov. 10-16, 2001. (electronic publication)
55. Eileen Kraemer, Mihail Tudoreanu, Ashley Taylor, "Why Johnny Won't Visualize", in *Proceedings, Workshop on Software Visualization*, Toronto, Canada, May 2001, pp. 17 – 21.
56. Delbert Hart, Mihail Tudoreanu, Eileen Kraemer, "Mobile Agents for Monitoring Distributed Systems", *In Proceedings of the Fifth International Conference on Autonomous Agents*, Montreal, Canada, May 2001, pp 232-233.

57. Delbert, Hart, Mihail Tudoreanu, Eileen Kraemer, "Token Finding Using Mobile Agents", *In Proceedings of the International Conference of Computational Science*, San Francisco, CA, May 2001, pp 791-800.
58. Mihail Tudoreanu, Eileen Kraemer, "Automatic Presentation of Running Programs" in Proceedings, *Electronic Imaging, Visual Data Exploration and Analysis*, San Jose, CA, January 21-26, 2001, pp. 143 – 155.
59. Kohn, B., Kraemer, E., Hart, D. and Miller, D., "An Agent-Based Approach to Dynamic Monitoring and Steering of Distributed Computations," in Proceedings, *IASTED Parallel and Distributed Computing and Systems*, Las Vegas, NV, pp. 646-651, November 7-9, 2000.
60. Vuppula, H., Kraemer, E. and Hart, D., "Algorithms for Collection of Global Snapshots in a Distributed System: An Empirical Evaluation", Proceedings, *ISCA 13<sup>th</sup> International Conference, Parallel and Distributed Computing Systems*, Las Vegas, NV, pp. 197—204, Aug 8 – 10, 2000.
61. Navin Gupta, Eileen Kraemer, Delbert Hart, David Miller, Maria Chinwala, "Exploratory Visualization of Distributed Computations: A Case Study", in Proceedings, *5th International Symposium on Software Engineering for Parallel and Distributed Systems (PDSE 2000)*, Limerick, Ireland, pp. 189-195, June 10-11, 2000.
62. Kraemer, E., "A Java-based Course in Human-Computer Interaction", Proceedings, *Parallel and Distributed Processing Techniques and Applications (PDPTA 2000)*, Las Vegas, NV, pp. 112-116, June 26-29, 2000.
63. Hart, D., Kraemer, E., "Agent Roles in Snapshot Assembly", in Proceedings, *Parallel and Distributed Processing Techniques and Applications (PDPTA 1999)*, Las Vegas, NV, pp. 691-697, June 1999.
64. Eileen Kraemer, Delbert Hart, and Gruia-Catalin Roman, "Balancing Consistency and Lag in Transaction-Based Computational Steering", Proceedings of the *31st Hawaiian International Conference on System Science*, Kohala Coast, HI, pp. 137-147, January 5-9, 1998.
65. Greg Eisenhauer, Weiming Gu, Eileen Kraemer, Karsten Schwan, and John Stasko, "Online Displays of Parallel Programs: Problems and Solutions", Proceedings of the *International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'97)*, Las Vegas, NV, pp. 11-20, July 1997.
66. Eileen Kraemer, "Causality Filters: A Tool for the Online Visualization and Steering of Parallel and Distributed Programs", Proceedings of the *11th International Parallel Processing Symposium (IPPS'97)*, Geneva, Switzerland, pp. 113-120, April 1-5, 1997.
67. Delbert Hart, Eileen Kraemer, and Gruia-Catalin Roman, "Interactive Visual Exploration of Distributed Computations", Proceedings of the *11th International Parallel Processing Symposium (IPPS'97)*, Geneva, Switzerland, pp. 121-127, April 1-5, 1997.
68. Eileen Kraemer and John Wallis, "Visualization and Interactive Steering of Simulated Annealing", Proceedings of the *Symposium on Parallel and Distributing Processing (SPDP) Workshop on Program Visualization and Instrumentation*, New Orleans, LA, pp. 12-20, Oct. 1996.
69. Weiming Gu, Greg Eisenhauer, Eileen Kraemer, John Stasko, and Jeffrey Vetter, "Falcon: On-line Monitoring and Steering of Large-Scale Parallel Programs" Proceedings of the *Fifth Symposium on the Frontiers of Massively Parallel Computation*, McClean, VA, pp. 422-429, February 1995.
70. Eileen Kraemer and John T. Stasko, "Issues in Visualization for the Comprehension of Parallel Programs", Proceedings *Workshop on Program Comprehension*, Washington, D.C., pp. 116-125, November 1994.

71. Eileen Kraemer and John T. Stasko, "Toward Flexible Control of the Temporal Mapping from Concurrent Program Events to Animations", Proceedings of the *Eighth International Parallel Processing Symposium (IPPS)*, Cancun, Mexico, pp. 902-908, May 1994.
72. Bill Appelbe, Eileen Kraemer, Bala Lakshmanan, John Stasko, and Joe Wehrli, "Graphical Support for Debugging Parallel Programs", (extended abstract), Proceedings of the *1993 ACM/ONR Workshop on Parallel and Distributed Debugging*, San Diego, CA, pp. 172-174, May 1993.

#### **OTHER PUBLICATIONS:**

51. Eileen Kraemer, Jian Wang, Jinhua Guo, Samuel Hopkins and Jonathan Arnold, "An Analysis of Gene-Finding Approaches for *Neurospora crassa*", *In silico Biology*, Atlanta, GA, Nov. 15-18, 2001. (2 page poster abstract)
52. Renyi Liu and Eileen Kraemer, "Strategies for Improving Multiple Alignment of Retrotransposon Sequences", *In silico Biology*, Atlanta, GA, Nov. 15-18, 2001. (2 page poster abstract)
53. Tao Wu and Eileen Kraemer, "Expression Profiler: Software to Analyze and Visualize Gene Expression Profiles", *In silico Biology*, Atlanta, GA, Nov. 15-18, 2001. (2 page poster abstract)
54. Yong Zhang, Hui Tian, Jonathan Arnold, Eileen Kraemer, "A Visualization System for Protein Interaction Mapping", *In silico Biology*, Atlanta, GA, Nov. 15-18, 2001. (2 page poster abstract)
55. H.Z. Zhong, E.T. Kraemer, E.W. Taylor, "ProMatch: A program for distantly related protein homology modeling," ABSTR PAP AM CHEM S 221:217-COMP Part 1 April 1, 2001. (2 page poster abstract)
56. Eileen T. Kraemer, "Interaction in Smart Environments" (Book Review) IEEE Multimedia, July-Sept 2000, pp 91-92.
57. Thomas E. Ferrin and Eileen T. Kraemer, "Molecules to Maps: Tools for Visualization and Interaction in Support of Computational Biology", (Session Introduction), *PSB'2000*, Honolulu, HI, 5:200-202, January 3-8, 2000.
58. Wei Yu, Eileen Kraemer, and Will Taylor, "RiboFrShFinder: Prediction of Programmed -1 Ribosomal Frame Shift Sites", Poster Presentation, *Experimental Biology 2000* FASEB J 14(4): A328-A328, March 15, 2000.
59. Thomas E. Ferrin and Eileen T. Kraemer, "Molecules to Maps: Tools for Visualization and Interaction in Support of Computational Biology", (Session Introduction), *PSB'99*, Kohala Coast, HI, 4:338-340, January 3-8, 1999.
60. Delbert Hart and Eileen Kraemer, "An Agent-Based Perspective on Distributed Monitoring and Steering", (Poster Presentation), *Symposium on Parallel and Distributed Tools (SPDT'98)*, Welches, OR, August 3-4, 1998.
61. Thomas E. Ferrin and Eileen T. Kraemer, "Molecules to Maps: Tools for Visualization and Interaction in Support of Computational Biology", (Session Introduction), *PSB'98*, Maui, HI, 3:103-105, January 4-9, 1998.
62. Eileen Kraemer and Jeffrey S. Vetter, "Computational Steering", (Session Introduction), Proceedings of the *31st Hawaiian International Conference on System Science*, Kohala Coast, HI, pp. 126, January 5-9, 1998.
63. Delbert Hart, Eileen Kraemer, Gruia-Catalin Roman, "Using Snapshot Streams to Support Visual Exploration", Technical Report 97-46, Washington University, Department of Computer Science, St. Louis, Missouri,

64. Delbert Hart, Eileen Kraemer, and Gruiia-Catalin Roman, "Query-based Visualization of Distributed Computations", Technical Report WUCS-96-23, Washington University, Department of Computer Science, St. Louis, MO, December 1996.
65. Eileen Kraemer and Mark Borodovsky, "An Entropy-Minimization Technique for the Multiple Alignment of Nucleosomal Sequences", Technical Report GIT-GVU-95/xx, Graphics, Visualization, and Usability Center, Georgia Institute of Technology, Atlanta, GA, 1995.
66. Eileen Kraemer, "A Framework, Tools and Methodology for the Visualization of Parallel and Distributed Systems", Ph.D. thesis, Georgia Institute of Technology, Atlanta, GA, August 1995.
67. Weiming Gu, Greg Eisenhauer, Eileen Kraemer, Karsten Schwan, John Stasko, Jeffrey Vetter, and Nirupama Mallavarupu, "Falcon: On-line Monitoring and Steering of Large-Scale Parallel Programs", Technical Report GIT-CC-94-21, College of Computing, Georgia Institute of Technology, April 1994.
68. Eileen Kraemer and John T. Stasko, "Toward Flexible Control of the Temporal Mapping from Concurrent Program Events to Animations", Technical Report GIT-GVU-94/10, Graphics, Visualization, and Usability Center, Georgia Institute of Technology, March 1994.
69. Eileen Kraemer and John T. Stasko, "The Visualization of Parallel Systems: An Overview", Technical Report GIT-GVU-92/21, Graphics, Visualization and Usability Center, Georgia Institute of Technology, July 1992.
70. John T. Stasko and Eileen Kraemer, "A Methodology for Building Application-Specific Visualizations of Parallel Programs", Technical Report GIT-GVU-92/10, Graphics, Visualization and Usability Center, Georgia Institute of Technology, June 1992.
71. John T. Stasko, William F. Appelbe and Eileen Kraemer, "Applying Program Visualization Techniques to Aid Parallel and Distributed Program Development", Technical Report GIT-GVU-91/08, Graphics, Visualization and Usability Center, Georgia Institute of Technology, June 1991.
72. Eileen Kraemer and W. Michael McCracken, "Test and Evaluation of Adaptability Errors in Software Reuse", Report, Center for Information Management Research, Georgia Institute of Technology, 1991.

#### **INVITED TALKS:**

1. "Adapting the Galaxy Bioinformatics Tool to Support Semantic Web Service Composition," Intelligent Systems for Molecular Biology: Data Analysis and Management Special Interest Group, June 27, 2009, Stockholm, Sweden.
2. "Software Engineering for Concurrent Systems: A Usability Perspective", Georgia Institute of Technology, GVU Brown Bag Seminar Series, December 2007.
3. "Software Engineering for Concurrent Systems: A Usability Perspective", Michigan State University, Computer Science and Engineering Graduate Seminar Series, November 2007.
4. "Evaluation of Program Visualization", Wayne State University, Detroit, MI, December 2006.
5. "Ovarian Cancer: gene expression profiling and proteomic pattern analysis", Michigan State University, East Lansing, MI, Computer Science and Engineering Departmental Seminar, October 25, 2004.
6. "Quantifying Quality of Program Visualization", University of Arkansas, Little Rock, AR, Applied Science Graduate Program Seminar, September 24, 2004.

7. "Gene Expression Analysis and Bioinformatics" at the 11<sup>th</sup> Annual Suddath Symposium and Annual Georgia Cancer Coalition Spring Symposium on March 29, 2003, Atlanta, GA.
8. "Empirically Evaluating Software Visualization Technology", tutorial presentation at the ACM Symposium on Software Visualization, June 11, 2003, San Diego, CA.
9. "An Evaluation of Gene-Finding Programs for *Neurospora crassa*," University of Georgia Genetics Dept. Seminar, October, 2001.
10. "Why Johnny Won't Visualize", Workshop on Software Visualization, Toronto, Canada, May, 2001.
11. "Monitoring, Visualization, and Interactive Steering of Distributed Computations," University of Georgia, Simulational Physics Seminar, February 2001.
12. "Approaches to Fungal Gene Finding", IBC's Third International Symposium on Fungal Genomics, Athens, GA, July 2000.
13. "Exploratory Visualization of Distributed Computations: A Case Study", 5<sup>th</sup> International Symposium on Software Engineering for Parallel and Distributed Systems, Limerick, Ireland, June 2000.
14. "A Java-based Course in Human-Computer Interaction", Parallel and Distributed Programming Tools and Analysis, Las Vegas, NV, June 2000.
15. "Exploratory Visualization of Distributed Systems: A Case Study", Workshop on Parallel and Distributed Software Engineering, Limerick, Ireland, June 2000.
16. "Balancing Consistency and Lag in Transaction-Based Computational Steering", Hawaii International Conference on Software Systems, Kohala Coast, HI, January 1998.
17. "Query-Based Visualization of Distributed Systems", International Parallel Processing Symposium, Geneva, Switzerland, March 1997.
18. "Causality Filters", International Parallel Processing Symposium, Geneva, Switzerland, March 1997.
19. "Issues in Computational Steering", Technical University Munich, Munich, Germany, March 1997.
20. "Visualization of Parallel and Distributed Systems", Lucent Technologies, Naperville, IL, February 1997.
21. "Interactive Steering of Simulated Annealing", Symposium on Parallel and Distributed Processing, Workshop on Program Visualization and Instrumentation, New Orleans, LA, October 1996.
22. "New Frontiers, or Back to the Future", Symposium on Parallel and Distributed Tools, Federated Computing Research Conference, Philadelphia, PA, May, 1996.
23. "First Year Surprises", Workshop on Academic Careers for Women, Federated Computing Research Conference, Philadelphia, PA, May, 1996.
24. "Getting a Job", Workshop on Academic Careers for Women, Federated Computing Research Conference, Philadelphia, PA, May, 1996.
25. "Issues in Visualization for the Comprehension of Parallel Programs", Workshop on Program Comprehension, Washington, DC, November, 1994.
26. "Toward Flexible Control of the Temporal Mapping from Concurrent Program Events to Animations", International Parallel Processing Symposium, Cancun, Mexico, May, 1994.
27. "Visualization of Parallel and Distributed Systems", Intel Foundation Fellows Symposium, Intel Corporation, Santa Clara, CA, January, 1994.

## **PROFESSIONAL ACTIVITIES:**

## **Program Committees:**

- ACM Symposium on Software Visualization, 2003 – 2010.
- VISSOFT, 2007 – 4<sup>th</sup> IEEE International Workshop on Visualizing Software for Understanding and Analysis.
- ICPC 2007 – 15<sup>th</sup> IEEE Conference on Program Comprehension.
- Information Visualization in Biomedical Informatics (IVBI), 2007, 2008.
- The Fifth Georgia Tech International Conference on Bioinformatics, 2005.
- Grace Hopper Conference, New Investigator Papers Committee, 2004.
- Software Area Chair, Technical Papers Committee, Supercomputing 2003 Conference
- The Fourth Georgia Tech and UGA International Conference on Bioinformatics, 2003.
- Workshop on Bio-Inspired Solutions to Parallel Processing Problems (BIOSP3), 1999 – 2003.

## **Other:**

- Member, Anita Borg Technical Leadership Award Committee, Anita Borg Institute for Women and Technology (2006, 2007, 2008, 2009).
- Steering Committee, SoftVis'08 (ACM Symposium on Software Visualization).
- First Workshop on Empirical Assessment of Software Engineering Languages and Technologies (WEASEL Tech'07), Organizer with Jonathan Maletic.
- Working Session on “Designing your Next Empirical Study on Program Comprehension”, held at ICPC2007, Organizer with Massimiliano diPenta and R.E.K. Stirewalt.
- Member, Tutorials Committee, Supercomputing 2006.
- General Chair, SoftVis'06 (ACM Symposium on Software Visualization).
- Member, Diversity Advisory Board, College of Computing, Georgia Institute of Technology, 2005.
- Reviewer, National Sciences and Engineering Research Council of Canada, 2005.
- Finance Chair, 2002 IEEE Symposia on Human Centric Computing, Languages and Environments.
- Member, Nominating Committee, International Society for Computational Biology, 2000, 2001, 2002.
- Session Organizer, Tools for Visualization and Interaction, Pacific Symposium on Biocomputing, 1998, 1999, 2000.
- Mini-track Chair, Computational Steering, HICSS-31, January 1998.
- Participant, Grant Proposal Review Panel, National Science Foundation, 2002, 2003, 2004, 2005.
- Participant, Grant Proposal Review Panel, National Institute of Health, 2002, 2004.
- Member, National Academy of Sciences/Institute of Medicine Committee on Internet Access to the National Library of Medicine's Toxicology and Environmental Health Databases, 3/98 – 3/99.

## **Referee for:**

- IEEE Transactions on Learning Technologies, 2008
- IEEE Transactions on Visualization and Computer Graphics, 2008
- IEEE Transactions on Software Engineering, 2008
- IEEE Transactions on Parallel and Distributed Systems
- IEEE Transactions on Systems, Man, and Cybernetics

- CHI2006 (ACM)
- IEEE Visualization 2004, 2005
- Grace Hopper Conference, 2004
- Grace Hopper Scholarship Competition, 2004
- Journal of Parallel and Distributed Computing, 2004
- International Journal of Human-Computer Systems, 2004
- Supercomputing 1996, 2001, 2002, 2003
- 39th Annual ACM Southeast Conference, 2001
- ACM Transactions on Software Engineering and Methodology
- Bioinformatics
- Heterogeneous Computing Workshop (HCW 2000)
- PSB2000, Pacific Symposium on Biocomputing
- PSB'99, Pacific Symposium on Biocomputing
- PSB'98, Pacific Symposium on Biocomputing
- HICSS'98, Hawaii International Conference on Parallel Processing
- UIST'98, Eleventh ACM Symposium on User Interface Software and Technology
- IPPS'97, International Parallel Processing Symposium
- VL'97, Visual Languages Conference
- ISMB'97, Intelligent Systems for Molecular Biology
- VL'96, Visual Languages Conference
- ICPP 1996, International Conference on Parallel Processing
- ISMB'96, Intelligent Systems for Molecular Biology
- Journal of Parallel and Distributed Computing
- The Computer Journal
- Software-Practice and Experience (SPE)

**Member of:**

IEEE  
 ACM  
 SIGGRAPH  
 SIGBIO

## Directed Students:

1. Delbert Hart, DSc, "Supporting Exploratory Visualization of Distributed Computations", Washington University in St. Louis, August, 2000.
2. Mihail Tudoreanu, DSc, "Economy of Interaction in Program Visualization: Designing Effective Visualization Tools for Reducing User's Cognitive Effort", Washington University in St. Louis, May 2002.
3. Jinhua Guo, Ph.D., "Consistent, Interactive Steering of Distributed Computations: Algorithms and Implementation", August 2002.
4. Ashley Taylor, Ph.D., "The Study and Design of Algorithm Animations", August 2006.
5. Phillipa Rhodes, Ph.D., "Software Visualization: Using Perceptual, Attentional, and Cognitive Concepts to Quantify Quality and Improve Effectiveness", August 2007.
6. Shaohua Xie, Ph.D., "Evaluating and Refining Diagrams that Support the Comprehension of Concurrency and Synchronization", August 2008.
7. Rui Wang, Ph.D., "Algorithms for Semi-Automatic Web Service Composition: Data Mediation and Service Suggestion," May 2011.
8. Kelly Storm, Ph.D., "Improved Web Usage Mining Techniques through Data Mining, User Modeling, Clustering, and Behavioral Heuristic Methodologies", August 2011.
9. Yin Xiong, Ph.D., in progress
10. Rui Wang, Ph.D., in progress
  
11. Himabindu Vuppula, MSCS, "Practical Algorithms for Snapshot Collection in Distributed Processes", May 2000.
12. Navin Gupta, MSCS, "Performance Consideration in the Monitoring and Visualization of Distributed Computations", July 2000.
13. Sneha Rao Kadandale, MSCS, "Visualizations in Support of Network Monitoring and Control", May 2001.
14. Yong Zhang, MSCS, "A Visualization System for Protein Interaction Mapping Using Java 3D Technology", May 2001.
15. James Skinner, MAMS, "Deployment Interface Module for the United States Army", May 2001.
16. Yin Xiong, MSCS, "An Exploratory Environment for Concurrency Control Algorithms", August 2001.
17. Piyush Burte, MSCS, "A Visualization-based Tool in Support of High Throughput Nuclear Magnetic Resonance Studies", August 2001.
18. Renyi Liu, MSCS, "Strategies for Improving Multiple Alignment of Retrotransposon Sequences", August, 2001.
19. Brandon Kohn, MSCS, "Practical Considerations in Monitoring and Steering of Distributed Computations", August 2001.
20. Rong Wu, MSCS, "Visualization as an Aid for Understanding Distributed Algorithms: An Evaluation", December 2001.
21. Ritu Dhawan, MSCS, "Evaluation of Web Personalization Software and Visualization with the Help of Usability Study", December 2001.
22. Tao Wu, MSCS, "An Extensible Framework for Developing Visualization Software for Gene Expression Data", December, 2001.
23. David Miller, MSCS, "An optimistic approach to computational steering", May 2002.
24. Arumugaraja Selvaraj, MSCS, "Interactive Computational Steering: Conservative vs Optimistic Steering Approaches", December 2002.

25. Chetna Warade, MSCS, “Web Services Composition for Microarray Data Analysis”, December 2003.
26. Weicheng Zhang, MSCS, “A user friendly environment for gene-finding program evaluation (GFPE)”, August 2003.
27. Qin Zhang, MSCS, “Mini-Lab: A Tool to Visualize Normal Modes of Vibration using Java3D”, May 2004.
28. Vinay Sachdev, MSCS, “Overcoming over-optimism in time warp via aggregation of fast processes”, January 2004.
29. Shiming Dong, MSCS, “Calculation, Visualization, and Manipulation of MASTs (Maximum Agreement Subtrees)”, August 2004.
30. Jian Wang, MSCS, “Analysis of gene-finding programs for Neurospora Crassa and the Interactive Pattern Search Tool (IPST)”, August 2004.
31. Matthew Ross, MSCS, “A Testing Environment for the Evaluation of Program Visualization Quality”, August 2004.
32. Sujith Thomas, MSCS, “An Experiment Designer Tool for Evaluation of Program Visualization Quality”, December 2004.
33. Yanqi Su, MSCS, “Comparative Genomics Visualization”, December 2005.
34. Nivedita Kaluskar, MSCS, “XML-Based Specification and Automatic Code Generation for Easy Customization of View in the GUS WDK Framework”, December 2005.
35. Bina Reed, MSCS, “Investigating Characteristics of Effective Program Visualizations: A Testing Environment and The Effect of Comparison Cueing and Exchange Techniques on Viewer Comprehension in Algorithm Animations”, May 2006.
36. Shrada Kaldate, MSCS, “Analysis of Viewing Behavior of Program Visualization and Interaction with Individual Differences”, May 2007.
37. Hongyu Yang, MSCS, “Phylogenetic Tree Display: A Web-based Visualization Tool of Phylogenetic Data”, May 2007.
38. Manish Agarwal, MSCS, “Viewing Behavior Model Graphs (VBMGs) for Characterizing User Viewing Behavior in Program Visualizations”, May 2007.
39. Devangana Kar, MSCS, “GeneXplorer: An Interactive Visualization Tool to Study Repeat Gene Sequences in the Human Genome”, MSCS, December 2008.
40. Conrad Ibanez, MSCS, “GUS SB – A Schema Browser for the Genomics Unified Schema (GUS), August 2009.
41. Joseph Hohenstern, MSCS, “Analysis of Ideogram and Non-Speech Audio Techniques in Algorithm Animation”, December 2009.
42. Naveed Ahmed, MSCS, “Webanalyzer”, December 2010.

Served on 7 Ph.D. committees at Washington University in St. Louis (A. Murphy, J. Parwatikar, S. Scott, P. McCann, P. McCartney, R. Sethuraman, D. Mazthias).

Served on 16 Ph.D. committees at University of Georgia (Z. Chen – Kinesiology; J. Dai – Forest Resources; M. Panahiazar – Bioinformatics; J. Qu – Textiles; H. Zhong – Pharmacy; E. Ganko, R. Liu, J. Wang, A. Fiumera – Genetics; W. Zhong – Cellular Biology; W. Yu, B. Chapman, C. Lawrence - Botany, S. Shewanown – Education; J. Guo, Z. Wang, Z. Zhong, X. Yi – Computer Science).

Served on 3 M.S. committees at Washington University in St. Louis (J. Sass, K. Bhatia, A. Venugopalan).

Served on 35 MS committees at University of Georgia (X. Zhang, L. Lin, B. Veal, D. Weatherly, A. Morris, W. Zheng, E. Stiles, X. Fang, H. Wang, Y. Wu, A. Chugh, A. Agarwal, P. Rajasekaran, V. Sachdev, K. Li, F. Sun, X. Gao, H. Tian, D. Morris, B. Narasimhan, J. Myers, C. Pennington, S. Shastri, S. Bhattiprolu, T. He, Z. Xu, V. Mahajan, M. Song, J. Ahmed – Computer Science; K. Farahi – Microbiology, E. McCarthy – Genetics, T. Wang – Plant Pathology; R. Gannamaraju, M. Nakazawa, R. Kommineni – AI).

Serving on 1 Ph.D. committee: M. Panahiazar – Bioinformatics.

Serving on 7 MS committees: Frederick John (AI); Kun Huang, Sivanesan Ganesan, Phani Mullangi, Jianwei Wang, Xingran Xue (CS)

### **UNIVERSITY SERVICE:**

- Distance Education Task Force, 2010.
- Institute of Bioinformatics, Graduate Committee, 2007 – present.
- Search Committee for Physics/Astronomy Dept., 2001
- Search Committee for Eminent Scholar in Bioinformatics, 2001-2002, 2002-2003, 2004-2005.
- Faculty Fellow, Franklin Residential College, 2001-2002, 2002-2003.
- Conflict of Interest Committee, 2003, 2004, 2005
- Member of team teaching BCMB 8210 (Computational Methods in Bioinformatics) Fall 2004, Fall 2005.
- Faculty Research Grants Committee: Physical and Mathematical Sciences 2005-2006, 2006-2007.

### **DEPARTMENTAL SERVICE:**

- Member of the Curriculum Committee, External Relations committees, 2011-2012.
- ACM Advisor 2002-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007.
- Member of the Computer Science Faculty Search Committee, 1998-2001.
- Member of the Computer Science Long Term Planning Committee, 1998-1999.
- Proposed CSCI 4800/6800, Human Computer Interaction, 1999-00.
- Proposed CSCI 8710, Computer Systems Performance Evaluation, 2003.
- Member, Graduate Student Recruiting Committee, 2000-2001; recruiting visits to Oglethorpe University and Spelman College.
- Member, Web Committee, 2002-2003, 2003-2004, 2004-2005, 2005-2006 (Chair).
- Member, Tenured Faculty Committee (since 2001).
- Appointed to the Regular Graduate Faculty (provisional member 1999-2001), (2001 - present).