

Computer Science Department

Annual Report

2005-2006

Summary

For the period July 1, 2005, through June 30, 2006, the resident faculty of the Computer Science Department included 21 full time faculty members (8 Professors, 5 Associate Professors, 8 Assistant Professors), 1 Temporary Assistant Professor, and 1 part-time Instructor. Permanent professional persons associated with the department included 3 office staff members and 3 technical support personnel.

As of Fall 2005, there were 99 graduate students enrolled in degree programs (46 in the doctoral program and 53 in the MS), and 213 declared undergraduate majors. Additionally, there were a total of 1,315 seats offered in service courses, taken primarily by non-majors. During the past fiscal year, 3 students were awarded Ph.D. degrees and 17 graduated with the M.S. degree. Also, 36 Bachelor's degrees were awarded.

As a group, the faculty authored, co-authored, or edited 138 research articles and other publications and gave 30 presentations at professional meetings. Many of the faculty members have served on editorial boards of distinguished journals. Our faculty were PI, CO-PI, or contributors to 16 externally funded grants. The amount of the external funding totaled \$4,738,628. Also, the faculty received 5 internal grants for the total amount of \$35,300.

Professor Amit Sheth has been elected an IEEE Fellow, effective January 1, 2006. This honor was in recognition of his contributions to information integration and workflow management.

Drs. Prashant Doshi and Lakshmi Ramaswamy joined our faculty, in August 2005. Dr. Doshi received his Ph.D. degree in Computer Science from the University of Illinois, Chicago, in August 2005. Dr. Ramaswamy received his Ph.D. in Computer Science from Georgia Tech, in August 2005. The Department did not recruit in 2005-2006.

Major Accomplishments

External Research Funding

2005-2006 has been a very good year for the faculty of the Computer Science Department. A number of new grants were awarded to CS faculty. In total, ten of our faculty members have held externally funded research grants as PIs or Co-PIs. For additional details, please see Appendix B, beginning on page 19.

Dr. Suchi Bhandarkar has continued his work on two externally sponsored grants from the US Dept. of Agriculture.

Dr. Liming Cai has received a new grant from NIH for a project entitled *Searching Genomes for Non-coding RNAs by Their Structure*. The project will last 3 years.

Dr. Rod Canfield has continued work on a project sponsored by the NSA.

Dr. Eileen Kraemer has continued work on an NSF grant entitled *Program Visualization: Using Perceptual and Cognitive Concepts to Quantify Quality, Support Instruction, and Improve Interactions*.

Dr. David Lowenthal has continued work on an NSF grant on *Detecting and Alleviating Sources of Scalability Problems*. Also, he has continued his work on an NSF project: *HC-MPI: A System for Out-of-Core, Heterogeneous Data Distributions*.

John A. Miller and Eileen T. Kraemer (Co-PIs), together with Dr. Jessica Kissinger (PI), a Professor in the Genetics Department at UGA, have continued their work on the NIH funded project entitled *Integrated Databases for Apicomplexan Pathogens*.

Dr. Don Potter has received a new grant from the USDA Forest Service for the project entitled *STP-ET: Spray Treatment Planning Using Evolutionary Techniques*. This is a one year project.

Dr. Amit Sheth, has continued working on the project entitled *Ontology, Metadata and Semantic Association Support for Semantic Agent Based Document Protection*. The project has been funded by ARDA.

Drs. Amit Sheth, Budak Arpinar, John Miller, and Krys Kochut have continued research on a grant from NSF for their project *SemDis: Discovering Complex Relationships in Semantic Web*. (In the past year, the project has been extended for one more year, and funded an additional \$100,000.)

Drs. Amit Sheth, Krys Kochut, and John Miller have continued their work on the NIH-sponsored project entitled *Bioinformatics of Glycan Expression*. This is a part of a large five year project (\$6,700,000) originating from the Complex Carbohydrates Research Center (Dr. Michael Pierce, PI).

Drs. Amit Sheth and John Miller have continued work on an *Eclipse Innovation Grant* from IBM.

Scholarly Publishing

The Computer Science faculty members have been very productive in publishing their research results. We have authored, co-authored, or edited 138 articles and other publications in 2005-2006. They were published or accepted for publication in high quality journals and conference proceedings. Our faculty gave 30 presentations at conferences, 9 of which were presented abroad. Also, we have given one keynote addresses and 3 invited talks. For the list of publications, please see Appendix C, beginning on page 22.

Conference Organization

Dr. Hamid Arabnia has organized the *2006 International MultiConference on Computer Science and Computer Engineering*. The Conference was held in June 2006, Las Vegas, Nevada. Dr. Arabnia has served as the General Chair of the MultiConference.

Strategic Planning

Computer Science Education

We have continued improving the undergraduate program in Computer Science. Our faculty members have introduced 1 new undergraduate and 2 split-level undergraduate/graduate courses to our curriculum. In addition, we have revised a number of courses.

As of Fall 2005, there were 99 students enrolled in graduate degree programs: 46 in the doctoral program and 53 in the MS program. We are happy that our Ph.D. program has continued to grow. At the same time, the continued gradual increase in the number of our Ph.D. students is the primary reason for the overall decline in the total number of our graduate students (we were unable to recruit many new students). This situation should improve once the number of graduating Ph.D. students grows, increasing the number of assistantships available made available for recruiting.

Faculty Recruitment

Drs. Prashant Doshi and Lakshmi Ramaswamy started as Assistant Professors in August, 2005. Also in August, 2005, Dr. Leon Deligiannidis (CS Ph.D., Tufts University) and Dr. Julia Couto (CS Ph.D., Universidad Politecnica de Madrid, Madrid, Spain), our new instructors, started teaching lower-division Computer Science courses. This has brought the number of our faculty to 23. Moreover, all of our faculty have Doctoral degrees.

Space

As in the previous years, the department has continued to suffer from an insufficient amount of space. The new hires only exacerbated our space problems. Our faculty has continued to be located in three different buildings (Boyd, Hardman, and Barrow), which is not a good situation for fostering cohesiveness among the faculty body. A large portion of our graduate students have no office space. There is no room which could serve as the Computer Science commons room.

A. Short-Term Goals for FY 2006

Program Review

Our most recent Program Review and Assessment was conducted during the 2003-2004 academic year. The next review has been scheduled for 2010-2011.

Faculty Recruitment

At present, we have no recruiting plans for AY07.

Space

There was no change in the space available to Computer Science. Both the quantity and quality of the space available to the Department continues to be insufficient.

B. Effectiveness Assessment

The Undergraduate Assessment Report for the academic year 2005-2006 has been created and submitted to the College. The report stated that we are doing a good job of meeting our stated learning objectives. Also, while we would like to attribute our improved performance measurements entirely to better teaching, the improvements may also be partly due to better students. The overall level of student preparation has improved partly in step with the overall rise in the quality of entering UGA students, and partly because the recent decline in the number of Computer Science majors has left us with the most highly motivated students.

C. Student Retention and Graduation Rates

As of Fall 2005, there were 213 declared undergraduate CS majors, a decrease of 18 students in comparison to Fall 2004. Our observed drops in the undergraduate student population over the past few years have been consistent with the decrease in the numbers of undergraduate CS majors across the country, as reported in the "2004-2005 Taulbee Survey," *Computing Research News*, Vol. 18/No. 3, May 2006. Fortunately, the decreasing trend has slowed down considerably in 2005.

In the past year, 36 students graduated with B.S. in Computer Science. This is a lower number than in the previous year and is consistent with the drop in the number of our majors.

As of Fall 2005, there were 99 students enrolled in graduate degree programs: 46 in the doctoral program and 53 in the MS program. In the past year, 3 students were awarded Ph.D. degrees. As in the previous years, the availability of funding for graduate students continues to be a very important factor in the overall health of the graduate program. In Fall 2005, 58 graduate students received financial support, as follows: Graduate Laboratory Assistants, 43%; Graduate Teaching Assistants (in charge of a course), 5%; Research Assistants supported by external funding, 43%; University Wide Assistantships, 9%. In comparison to Fall 2004, a higher percentage of our students were supported by external funding.

Computer Science Ph.D. production was at an all time high, as reported in the 2004-2005 Taulbee Survey.

In addition to graduate students and majors, the department taught several courses of a service nature, including CSCI 1100 (Introduction to Personal Computing), CSCI 1210 (Introduction to Computational Science), CSCI 1301 (Introduction to Computing and Programming), and CSCI 7010 (Computer Programming). A total of 1,315 seats were offered in these courses.

D. Overall Status

It appears that the employment prospects for our graduates have improved and our graduates at all levels have been able to find quality employment. We have graduated 3 Ph.D. students and several more are nearing completion of their doctoral degrees. We have continued to provide quality education to a large number of students, both majors and non-majors.

In terms of research, our record, both in terms of external funding and scholarly publishing, has continued to improve. Prof. Amit Sheth has been elected IEEE Fellow, which is a significant recognition.

We have experienced a continued decrease in the number of undergraduate Computer Science majors. However, the decrease has slowed down significantly. We believe this

trend will be reversed with an upturn in the employment opportunities for computing professionals.

We continue to believe that the professional environment for computer science at UGA has continued to be very good.

APPENDICES

Attached are detailed listings of professional activities, grants, publications, and presentations of the faculty during the past year.

A. PROFESSIONAL HONORS AND RECOGNITIONS

H. R. Arabnia

Editor-in-Chief, Journal of Supercomputing (Kluwer Publishing), Nov. 1997 – present.

Member, Editorial Advisory Board, The International Journal of Communication Systems (IJCS), published by John Wiley, 2000 – present.

Member, Editorial Board, Computing Letters, Cambridge International Science Publishing Ltd., 2001 – present.

Member, Board of Advisors, The International Journal of Information Technology and Systems (Editor-in-Chief, Prof. David Rine, George Mason University), 2002 – present.

Editorial Board Member, International Journal of Information Technology and Web Engineering, 2004 – present.

Member, Advisory Committee, IEEE Task Force on Cluster Computing (IEEE/TFCC), 2003 – present.

Journal of Parallel and Distributed Computing, JPDC, 1994 – present.

IEEE Transactions on Parallel and Distributed Systems, 1995 – present.

Member of Editorial Board Lecture series on Computer and Computational Sciences, VSP (Brill Academic Publishers), 2004 – 2007.

International Journal of Embedded Systems (IJES) (Inderscience, Enterprises Ltd.)

Associate Editor, International Journal of Parallel & Distributed Systems & Networks (IJPDSN), Published by ACTA Press (Since 1999).

Member of Executive Board of Editors, American Journal of Applied Sciences, ISSN#: 1546-9239, USA (since 2003).

Member of Scientific Advisory Board, IOS Press, Medical and Care Compunetics, ISSN# 0926-9630 (since 2004).

Member of Editorial Board, International Journal of Information Technology: Applications and Management (IJITAM) (since 2005).

Member of Editorial Board, International Journal Engineering, Management and Science (IJEMS) (since 2005).

Member of Editorial Board, Engineering Letters, ISSN: 1816-0948 and 1816-093X (since 2005).

General Chair, 1995-2005, International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA).

Program Committee Member, International Conference on Parallel and Distributed Computing and Systems, PDCS, (1996 – 2006).

Chair, International Conference on Imaging Science, Systems, and Technology (CISST), 1997 – 2005.

Member of Advisory Board of Virtual Medical Worlds - an on-line magazine by Euromed (European Commission in Telemedicine), <http://www.hoise.com/project/VMW>, 1997 – present).

General Chair & Coordinator, (1999 – 2005) International Conference on Artificial Intelligence (ICAI).

Program Committee Member, (1999 – 2005) International Symposium on High Performance Computing (ISHPC), Japan.

Program Committee Member, (2000 – 2005) International Conference on Internet Computing.

Program Committee member, (2001 – 2005) International Conference on Parallel and Distributed Computing, Applications, and Techniques (PDCAT), Co-Sponsors: Taiwan, Korea, Japan, China, IEEE Chapters.

Program Committee member (2000 – 2005) International Conference on Communications in Computing (CIC).

Program Committee member (2000 – 2005) International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences (METMBS).

Member, Program Committee, (2002 – 2005) International Conference on Engineering of Reconfigurable Systems and Algorithms.

Member, Program Committee, (2002 – 2005) International Conference on Machine Learning and Applications, ICMLA/MLMTA.

Co-Chair, Program Committee, (2002 – 2005) International Conference on Information & Knowledge Eng., IKE.

Co-Chair, Program Committee, (2002 – 2005) International Conference on Security and Management, SAM.

Co-Chair, Program Committee, (2002 – 2005) International Conference on Software Engineering Research and Practice, SERP.

Program Committee, (2002 – 2005) International Conference on VLSI.

Member, Program Committee, 44th Annual ACM Southeast Conference (ACM-SE'06), Florida Institute of Technology, Florida, USA 2006.

Member, Co-Chair, (2003 – 2005) International Conference on Embedded Systems and Applications (ESA).

Member, Vice Chair, (2003 – 2005) International Conference/Symposium on Web Services (ICWS/ISWS).

Member of IEEE Program Committee for The International Workshop on Performance Modeling and Analysis of Communication in Parallel, Distributed, and Grid Networks (PMAC-PDG'05) in conjunction with IEEE The 11th International Conference on Parallel and Distributed Systems (ICPADS'2005); July 20-22, Fukuoka Institute of Technology, Japan, 2005.

Member of Advisory Committee of ICITA05 (The 3rd International Conference on Information Technology and Applications); Sydney, Australia, July 4-7, 2005.

Member of Steering Committee, (2004 – 2005) International Conference on Pervasive Systems and Computing.

Member of Program Committee, IADIS International Conference on Applied Computing 2006, February 25-28, San Sebastian, Spain, 2006.

Member of Technical Program Committee, International Conference on Internet and Web Applications and Services (ICIW'06), February 23-25, 2006, Guadeloupe, French Caribbean, 2006.

Member of Program Committee, Communicating Process Architectures 2005 (CPA), University of Eindhoven, The Netherlands, September 18-21, 2005.

Member of Technical Program Committee, International Conference on Entertainment Systems and Applications (ENSYS-2005), Hawaii, USA, December 5-10, 2005.

Member of Program Committee, 12th International Conference on Parallel and Distributed Systems (ICPADS) / Systems Architecture, Minneapolis, USA, July 2006.

Member, Steering Committee, 11th CSI Computer Conference, Tehran, Iran, Jan. 24-26, 2006.

Member, International Workshop on Web-based Internet Computing for Science and Engineering (ICSE'06), Harbin, P. R. China, January 2006.

Member, Program Committee, The International Conference on Grid and Pervasive Computing (GPC 2006), Taichung, Taiwan, May 3-5, 2006.

Member, Program Committee, International Symposium on Performance Evaluation and Modeling of Wireless Networks (PEMWN06 – in conjunction with WIRELESSCOM 2006), June 2006, Toronto, Canada, 2006.

Prepared Questions for Educational Testing Service (ETS) GRE Computer Science Subject Test ETS, 2004, 2005, 2006.

Listed in Marquis Who's Who in Science and Engineering (1999 – present)

I. Budak Arpınar

Member, IEEE Computer Society, 2002 – present.

Member, ACM Sigmod, 1999 – present.

Program Committee Chair: *3rd International Workshop on Semantic Web and Databases (SWDB'06)* co-located with ICDE'06, Atlanta, GA, 2006 (General Chair: A. Sheth; PC Co-Chair: T. Ozs).

Local Organization Chair: *International Semantic Web Conference (ISWC'06)*, Athens, GA, 2006.

Program Committee Member: *22nd International Conference on Data Engineering (ICDE'06)*, Atlanta, GA, 2006.

Program Committee Member: *The 21st International Symposium on Computer and Information Sciences*, Istanbul, Turkey 2006.

Program Committee Member: *2nd Indian International Conference on Artificial Intelligence (IIAI-05)*, Pune, India, December 20-22, 2005.

Program Committee Member *2005 IEEE/WIC/ACM International Conference on Web Intelligence*, Sept. 2005, France.

Program Committee Member: *The 20th International Symposium on Computer and Information Sciences*, Istanbul, Turkey, 2005.

Reviewer, IEEE Internet Computing.

Reviewer, IEEE Transactions on Systems, Man, and Cybernetics.

Reviewer, IEICE Transactions on Information and Systems.

Reviewer, Journal of Intelligent Systems.

Reviewer, Data and Knowledge Engineering Journal.

Reviewer, Encyclopedia of Database Technologies and Applications.

Reviewer, WWW Conference, 2005.

Reviewer, ETRI Journal.

S. M. Bhandarkar

Associate Editor, International Journal of Applied Intelligence, November 1999 - present.

Associate Editor, The Computer Journal, May 1999 - present.

Member, Technical Committee on Multimedia Computing, IEEE Computer Society, 1998-present.

Member, Technical Committee on Pattern Analysis and Machine Intelligence, IEEE Computer Society, 1992-present.

Member, Association for Computing Machinery (ACM), 1990-present.

Member, International Society of Photo-optical and Instrumentation Engineers (SPIE), 1987-present.

Member, American Association for Artificial Intelligence (AAAI), 1985-present.

Member, Institute for Electrical and Electronic Engineering (IEEE), 1982-present.

Referee, IEEE Trans. Circuits and Systems for Video Technology, 2002, 2003, 2004.

Reviewer, USDA SBIR Program 2003, 2004, 2005, 2006.

Reviewer, USDA NRIGGP Program, 2003, 2004, 2005, 2006.

Referee, IEEE Trans. Multimedia, 2003, 2004, 2005, 2006.

Referee, IEEE Trans. Circuits and Systems for Video Technology, 2002, 2003, 2004, 2005.

Program Committee Member, European Conference on Parallel and Distributed Computing (Euro Par 2005), August 2005.

Member, Technical Committee on Robot Vision, IEEE Robotics and Automation Society, 1992 - present.

Referee, IEEE Transactions on Parallel and Distributed Systems (1991-2005).

Referee, Journal of Applied Intelligence, 2000 – 2006.

L. Cai

Program Committee, 2006 International Workshop in Bioinformatics Research and Applications (IWBRA2006), Reading, United Kingdom.

Program Committee, 2006 IEEE Granular Computing (IEEE GrC 2006), Atlanta, GA.

Program Committee, 2006 ACM Southeastern Conference, Melbourne, FL.

Guest co-editor: Journal of Computer Science and Technology, 2005 Special Issue in Bioinformatics.

Program Committee, 2005 International Symposium on Intelligent Systems on Molecular Biology (ISMB2005).

Program Committee, 2005 IEEE (Computer Science Society) Bioinformatics Conference (CSB2005), Stanford, CA.

Program Committee, 2005 European Conference on Computational Biology, Spain.

Program Committee, 2005 International Workshop in Bioinformatics Research and Applications (IWBRA2005), Atlanta, GA.

Reviewer for IEEE Transactions on Pattern Analysis and Machine Intelligence, Theoretical Computer Science, 2005.

E. R. Canfield

Reviewer, Math Reviews.

Referee, Journal Combinatorial Theory, Series A and B.

Referee, American Mathematical Monthly.

Referee, National Science Foundation.

Member of the Association for Computing Machinery.

Editor, Electronic Journal of Combinatorics.

P. Doshi

Member, Organization Committee for Workshop on AI-Driven Technologies for Services-Oriented Computing, AAAI, 2006.

Member, Organization Committee for Special session on the Semantic Web: Theory and Applications, IEEE Conference on Granular computing, 2006.

Program Committee Co-Chair, Workshop on Semantic and Dynamic Web Processes, 2006.

Program Committee Member, Workshop on Dynamic Web Processes, ICSOC, 2006.

Program Committee Member, Eighth International Workshop on Game Theory and Decision Theory (GTDT), 2006.

Program Committee Member, International Conference on Self-Organization and Autonomic Systems (SOAS), 2006.

Program Committee Member, IEEE Conference on Granular Computing, 2006.

Program Committee Member, Workshop on Sequential Decision Making in Uncertain Multiagent Environments, AAMAS, 2006.

Program Committee Member, Seventh International Workshop on Game Theory and Decision Theory, 2005.

Reviewer, IEEE Distributed Systems Online, 2006.

S. H. Funk

Member of IEEE

Member of ACM

M. Hybinette

Member, Association for Computing Machinery.

Member, Institute of Electrical and Electronics Engineers.

Reviewer, Journal of Parallel and Distributed Computing.

Reviewer, International Journal of Formal Methods.

Reviewer, Winter Simulation Conference (WSC), 1996 – present.

Reviewer, Workshop on Parallel and Distributed Simulation (PADS), 1997 – present.

K. J. Kochut

Member, Association for Computing Machinery.

Member, SIGMOD.

Member, SIGCOMM.

Reviewer, IEEE Transactions on Knowledge and Data Engineering.

Reviewer, Information Systems.

Referee, The Computer Journal

Referee, Journal of the American Society for Information Science and Technology

Referee, International Journal of Computer Simulation

Referee, Data and Knowledge Engineering

Referee, IEEE Transactions on Knowledge and Data Engineering

Referee, Cole Publishing

E. T. Kraemer

ACM Symposium on Software Visualization, 2003 – 2006.

The Fifth Georgia Tech International Conference on Bioinformatics, 2005.

Member, Anita Borg Technical Leadership Award Committee, Anita Borg Institute for Women and Technology

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.

Referee, IEEE Transactions on Systems, Man, and Cybernetics

Referee, CHI2006 (ACM)

Referee, ACM Transactions on Software Engineering and Methodology

Referee, National Science Foundation, Advanced Computational Research Program.

Referee, IEEE Transactions on Visualization and Computer Graphics.

Referee, IEEE Transactions on Software Engineering.

Referee, IEEE Transactions on Parallel and Distributed Systems.

Referee, Transactions on Software Engineering and Methodology.

Referee, Bioinformatics.

Referee, Journal of Parallel and Distributed Computing.

Referee, The Computer Journal.

Referee, Software-Practice and Experience Cybernetics and Systems.

Kang Li

TPC Member for ACM NOSSDAV, 2006.

TPC Member for ICDE SeNS, 2006.

D. K. Lowenthal

Member, ACM, 1992-present.

Member SIGPLAN, 1992-present.

Member, SIGOPS, 1992-present.

Referee, International Parallel and Distributed Processing Symposium (IPDPS).
Referee, Computer Languages.
Referee, Architectural Support for Programming Languages and Operating Systems (ASPLOS).
Program Committee Member, HiPC (2004, 2005), CLADE (2005), IPDPS, (2006).
Program Committee Member, Supercomputing 2006.
Program Co-Chair, Workshop on High-Performance, Power-Aware Computing, 2005, 2006.
Workshop on the Challenges of Large Applications in Distributed Environments, 2005.

J. A. Miller

Editorial Board Member of International Journal of Simulation and Process Modelling (IJSPM), 2004 – present.
Editorial Board Member of the Journal of Simulation (JOS), 2005 – present.
Associate Editor, ACM Transactions on Modeling and Computer Simulation (TOMACS), 1999 – present.
Associate Editor, IEEE Transactions on Systems, Man and Cybernetics (TSMC), 1999 – present.
Program Committee Member, Annual Simulation Conference (ANSS), 1992 – 2005.
Program Committee Member, International Conference on Web Services (ICWS): 2005
Referee, ACM Transactions on Modeling and Simulation.
Referee, IEEE Transactions on Systems, Man and Cybernetics (TSMC).

W. D. Potter

Editorial Board Member, "Applied Intelligence", since 1993. (The International Journal of Artificial Intelligence, Neural Networks, and Complex Problem-Solving Technologies, Editor-in-Chief: Professor Moonis Ali, Kluwer Academic Publishers).
Regional Editor, International Journal of Hybrid Intelligent Systems, 2003 – present.
Associate Editor, Journal of Intelligent and Fuzzy Systems, 2003 – present.
Referee, IEEE Computer.
Referee, IEEE Trans. On Systems, Man, & Cybernetics.

Referee, International Journal for Applied Intelligence.

Referee, Journal of Intelligent and Fuzzy Systems: JIFS.

Referee, Pattern Recognition Letters.

L. Ramaswamy

Program Committee Co-Chair, International Workshop on Semantic Enabled Networks and Services (SeNS-2006), April 2006.

Program Committee Member, International Workshop on Networks Meets Databases (NetDB-2006), April 2006.

Program committee member, 14th International World Wide Web Conference (WWW-2005), Chiba, Japan.

Reviewer for IEEE Transactions on Knowledge and Data Engineering (TKDE), IEEE Transactions on Parallel and Distributed Systems (TPDS), and VLDB Journal.

Reviewer for IEEE International Parallel & Distributed Processing Symposium (IPDPS) April 2006.

Reviewer for 15th World Wide Web Conference (WWW-2006).

Reviewer for IEEE Internet Computing Journal.

Reviewer for ICDCS-2005, SAINT-2005.

K. M. Rasheed

Member, Institute of Electrical and Electronics Engineers (IEEE).

Member, IEEE Computer Society.

Member, IEEE Neural Network Society.

Member, International Society for Genetic and Evolutionary Computation (ISGEC).

Member, American Association for Artificial Intelligence (AAAI).

Program committee member, The Congress on Evolutionary Computation (CEC'2004, CEC'2005, CEC'2006).

Program committee member, Genetic and Evolutionary Computation Conference (GECCO'99, 2000, 2002, 2003, 2004, 2005, 2006).

Program committee member, The European Workshop on Evolutionary Algorithms in Stochastic and Dynamic Environments (2003, 2004, 2005).

Tutorial organizer, Genetic and Evolutionary Computation Conference (GECCO'2005)
Tutorial on Fitness Approximation in Evolutionary Computation.

Referee, IEEE Intelligent Systems.

Referee, IEEE Transactions on Evolutionary Computation

Referee, IEEE Transactions on Systems, Man and Cybernetics (Part A).

Referee, Journal of Machine Learning Research (JMLF).

Referee, Journal of Artificial Intelligence Research (JAIR).

Referee, Artificial Intelligence in Engineering Design and Manufacturing (AIEDAM).

Referee, International Association for Mathematics and Computers in Simulation (IMACS).

Referee, Machine Learning Journal (MLJ).

Referee, Applied Intelligence.

Referee, Pattern Recognition Letters.

Grant Proposal Reviewer, North Carolina Biotechnology Center (2005)

R. W. Robinson

Editorial Board, Journal of Combinatorial Mathematics and Combinatorial Computing
(1987-present).

A. P. Sheth

Member of the Editorial Board, Journal on Web Semantics: Science, Services and Agents on
the World Wide Web, 2003 – present.

Senior Member (2003), IEEE and IEEE Computer Society, including Technical Committee
on Database Engineering, 1981 – present.

Member of the Editorial Board, International Journal of Intelligent and Cooperative
Information Systems, 1995 – present.

Editor, IEEE Multimedia, November 1998 – present.

Member of the Editorial Board, Information Systems - an Intl. Journal, 1993 – present.

Member of the Editorial Board, Journal on Distributed and Parallel Databases, 1992 -
present.

Associate Editor, SIGMOD Record, 1988 – present.

Member, Association for Computing Machinery, SIGMOD and other SIGs.

Member, IEEE Computer Society, including Technical Committee on Database Engineering.

Member of the Board and Founding Member, International Foundation on Cooperative Information Systems, 1996 – present.

Editorial Board, International Journal of Cooperative Information Systems, 1996 – present.

Editorial Board, Information systems-An International Journal, 1998 – present.

Advisory Board, Coca-Cola Center for Marketing Studies, Terry College of Business, 2001 – present.

Referee, VLDB Journal.

Referee, National Science Foundation.

Referee, Research Council of Norway.

Referee, Information Systems.

Referee, Intelligent Information Systems.

Referee, Distributed and Parallel Databases.

Referee, Intelligent and Cooperative Information Systems.

Referee, Computer.

Referee, IEEE Transaction on Knowledge and Data Engineering.

Referee, Edited 3 Database Research Center Reports for *ACM SIGMOD Record* as Associate.

Referee, Edited 3 Media Reviews for IEEE Multimedia.

J. W. Smith

Member of IEEE

Reviewer for Computing Reviews, 1978 - 1986, 1990, 1994 - present.

T. R. Taha

Member, Association of Computing Machinery (ACM).

Member, Society for Industrial and Applied Mathematics (SIAM).

Member, SIAM SEAS.

Member, International Association for Mathematics and Computers in Simulation (IMACS).

Member, SIAM Activity Group on Supercomputing.

Member, SIAM Activity Group on Computational Science.

Member, IMACS technical committee on Dynamical Systems and Nonlinear Science, 1992 - present.

Member, Institute of Electrical and Electronics Engineers (IEEE), Inc.

Referee, Journal of Computational Physics.

Referee, Applied Numerical Mathematics (IMACS Journal).

Referee, Computers and Mathematics with applications.

Referee, Mathematics and Computers in Simulation.

Referee, Numerical Mathematics for Partial Differential Equations.

Referee, Institute of Physics Publishing Research Journal, UK, 1997 – present.

Referee, Simulation: The Journal of the Society for Computer Simulation, Hong Kong.

Referee, Journal of Science and Technology/Sultan Qaboos University of Oman.

Referee, Derasat/Journal of Sciences, University of Jordan, Jordan.

Referee, Journal of Physics A: Mathematical and General.

Referee, Journal of Physics B: Molecular and Optical Physics.

Referee, Numerical Algorithms, C. Brezinski, Editor-in-Chief, France.

Referee, The Korean Journal of Computational and Applied Mathematics.

Referee, Journal of Parallel and Distributed Computing.

Referee, IEEE Transactions on Systems, Man, and Cybernetics.

Member, Editorial Board of The International Arab Journal of Information Technology (IAJIT).

B. GRANTS AWARDED OR CURRENT

EXTERNALLY FUNDED GRANTS

Bhandarkar, S.M. (with Dr. J. Arnold, Co-PI) US Dept. of Agriculture, “Novel Statistical Methods for Generation of Integrated Genomic Maps”, Sept. 1, 2002 - Aug. 31, 2006, \$280,644.

Bhandarkar, S.M., “Design and Prototype Development of a Computer Vision-based Lumber Production Planning System”, US Department of Agriculture, \$190,000, Dec. 15, 2000 – Aug. 31, 2005. (In addition, \$35,000 matching funds from VP for Research.)

Cai, Liming (PI) (with R. Malmberg of Plant Biology and M. McEachern of Genetics, Co-PI/s), “Searching Genomes for Non-coding RNAs by Their Structure”, National Institutes of Health, Biomedical Informatics Science and Technology Initiative, June 1, 2006 – May 31, 2009, \$716,352.

Canfield, E.R. (PI), National Security Agency, Mathematical Sciences program, “Asymptotic Methods in Combinatorics”, \$87,185, November 26, 2004 – June 30, 2006.

Canfield, E.R. (PI), J.W. Smith and H.R. Arabnia, University of Georgia Yamacraw Program (2005-2006), Georgia Governor’s Office, \$604,756, continued support for permanent/continued staff and faculty positions for the Department of Computer Science.

Kissinger, Jessica (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).

Kraemer, Eileen and Elizabeth Davis, NSF "Program Visualization: Using Perceptual and Cognitive Concepts to Quantify Quality, Support Instruction, and Improve Interactions," \$303,606, June 15, 2003 – June 14, 2006.

Mueller, Frank (PI), David Lowenthal (Co-PI), National Science Foundation Computing Processes and Artifacts (FCPA), “Detecting and Alleviating Sources of Scalability Problems”, September 2004 – August 2007, \$164,152.

Pierce, Michael (PI), et al., Co-PI’s in CS: Amit P. Sheth, Krys J. Kochut and John A. Miller, “Bioinformatics of Glycan Expression,” National Institutes of Health (NIH), July 2003 - July 2008, \$6,700,000 (Computer Science portion \$709,401).

Potter, W.D., “STP-ET: Spray Treatment Planning Using Evolutionary Techniques”, \$15,000, USDA, Forest Service, 5/1/2005 – 5/31/2006.

Sheth, A. (PI) “Ontology, Metadata and Semantic Association Support for Semantic Agent Based Document Protection”, ARDA funded project (subcontract to CTA, Inc.), \$268,716, October 19, 2004 – November 30, 2006.

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PRESENTATIONS AT MEETINGS

1. Bhandarkar, Suchendra M., “Multiple Object Tracking Using Elastic Matching”, *IEEE International Conference on Advanced Video and Signal Based Surveillance*, Como, Italy, September 2005.
2. Bhandarkar, Suchendra M., “Saveface and Sirface: Appearance-based Recognition of Faces and Facial Expressions”, *IEEE Intl. Conf. Image Processing (ICIP 2005)*, Genoa, Italy, Sept. 2005.
3. Canfield, E.R., “The Number of Biregular Bipartite Graphs”, INTEGERS Conference, University of West Georgia, October 30, 2005.
4. Doshi, Prashant, “Tutorial on Stochastic Optimization Frameworks”, Fifth Annual Practical AI Workshop (PAIW) for Businesses and Industry, AI Center, UGA, May 2006.
5. Li, Kang, “Towards a HAM Archive”, invited talk, MIT SPAM Conference, Boston, MA, March 28, 2006.
6. Li, Kang, “MPEG-4 Compression by Indexing”, presented at *13th ACM/SPIE Multimedia Computing and Networking Conference (MMCN 2006)*, San Jose, CA, January 19, 2006.
7. Li, Kang, “System Issues of Anti-spam Filters”, invited talk, Google Inc., Mountain View, CA, January 17, 2006.
8. Li, Kang, “High Speed Anti-Spam System with Hash-base Approximation Inference”, invited talk, Intel, Portland, Oregon, November 21, 2005.
9. Li, Kang, “Throttling Outgoing SPAM for WebMail Services”, presented at *The Second Conference on Email and Anti-Spam (CEAS 2005)*, Mountain View, CA, July 31, 2005.
10. Lowenthal, David K., “Client-Centered Energy Savings for TCP Downloads”, Clemson University, November 2005.
11. Lowenthal, David K., “Client-Centered Energy Savings for TCP Downloads”, Georgia State University, November 2005.
12. Lowenthal, David K., “High Performance, Power Aware Computing”, Lawrence Livermore National Laboratory, December 2005.
13. Miller, John A., “Simulation and the Semantic Web”, *The 2005 Winter Simulation Conference (WSC’05)*, Orlando, FL, December 2005.
14. Miller, John A., “A Semantic Template Based Designer for Semantic Web Processes”, *The 3rd International Conference on Web Services (ICWS’05)*, Orlando, FL, July 2005.
15. Rasheed, Khaled, “Fitness Approximation in Evolutionary Computation”, tutorial at *GECCO’2005* and presented with Yaochu Jin, Washington, D.C., 2005.

16. Robinson, Robert W., "Counting Maps, Feynman Diagrams and Cycle Decompositions", Dept. of Mathematics, Wake Forest University, Winston-Salem, NC, April 18, 2006.
17. Robinson, Robert W., "Counting Unrooted Maps of all Genera", *20th Clemson Mini-Conference on Discrete Mathematics and Related Fields*, Clemson, SC, October 2005.
18. Sheth, Amit P., "Semantics Enabled Industrial and Scientific Applications: Research, Technology and Deployed Applications", *First Online Metadata and Semantic Research Conference*, November 21-30, 2005.
19. Sheth, Amit P., "Semantics for Scientific Experiments and the Web – the implicit, the formal and the powerful", Featured Talk, BISCSE 2005: Forging New Frontiers, "Where Fuzzy Began", Berkeley, CA, November 2-6, 2005.
20. Sheth, Amit P., "Semantic Web and Semantic Web Services: From Research and Technology to Deployed Applications for Enterprises and Scientific Research", Keynote at the IFIP Working Conference on Industrial Applications of Semantic Web (IASW – 2005), Jyväskylä, Finland, August 25-27, 2005.
21. Sheth, Amit P., "Autonomic Web Process", vision paper presented at the *3rd International Conference on Service Oriented Computing*, Amsterdam, The Netherlands, December 13, 2005.
22. Sheth, Amit P., "Web Service Semantics – WDL-S", W3C Advisory Committee Meeting, Montreal, Canada, November 30, 2005.
23. Sheth, Amit P., "What can Semantics do for Bioinformatics", Special Seminar, Institute of Bioinformatics, University of Georgia, September 22, 2005.
24. Sheth, Amit P., "Semantic Web Services: Past, Present, and Future", *International Workshop in Dynamic Web Processes (DWP, 2005)*, Amsterdam, the Netherlands, December 12, 2005.
25. Sheth, Amit P., "FLINT and Semantic Web", BISCSE 2005: Forging New Frontiers, Berkeley, CA, November 2-6, 2005.
26. Sheth, Amit P., "Semantic Web Service Ontology Standard", Ontology Conference Call, October 20, 2005.
27. Sheth, Amit P., "Computing for Human Experience and Wellness", Views from the Labs panel at Emerging Ventures Conference, Boston, MA, October 11, 2005.
28. Taha, Thiab, "Parallel Split-step Fourier Methods for the CMKdV Equation", presented at the *17th IMACS World Congress on Computation and Applied Mathematics*, Paris, France, July 11-15, 2005.
29. Taha, Thiab, "A Linearly Implicit Conservative Scheme for the CNLS Equation", presented at the *17th IMACS World Congress on Computation and Applied Mathematics*, Paris, France, July 11-15, 2005.

30. Taha, Thiab, "GKIN: A graphical User Interface for KINSOLVER", presented at *The International Arabic Conference on Information Technology ACIT'2005*, Al Isra Private University, Amman, Jordan, December 6-8, 2005.