



Computer Science Newsletter

*Newsletter of the Department of Computer Science, Louisiana State University (Baton Rouge)
Fall, 2002, Volume 2002, No. 2*

Chairman's Note

Through this newsletter we convey to our colleagues in academia and industry the highlights of our success during the fall of 2002. This has been a very eventful semester. Our joy at the great academic success achieved by our faculty members was tempered by the unfortunate tragedy which took away Dr. Steve Seiden, one of the rising stars in our department. We summarize these events below.

- Our department is experiencing a period of rapid growth. We have several new faculty members joining the department. Drs. Duressi, Wilson and Karki will be joining us in the Fall of 2003.
- We have initiated several new collaborations.
- A Technology fee proposal to enhance the micro computer lab was funded.
- A major NSF grant was funded for IT Technology Training and Academic Enhancement Scholarship program.
- The faculty in the dept have been very active in obtaining federal funding in various areas of computer science.
- We miss Dr. Seiden in the department. His tragic accident left a great void in theory areas of computing. We have established the Steven Seiden memorial scholarship under his name.

- We lost the concurrent computing Group faculty (Drs. Nakano, Kalia and Vashista) to the University of Southern California. We wish them success.
- Dr. Louise Perkins resigned from the department because of illness.

S. S. Iyengar

Distinguished Lecture Success!



Dr. Zadeh with Dr. Chen and Dr. Iyengar

On November 4th, the LSU Computer Science Department hosted Professor Lotfi A. Zadeh, Director, Berkeley Initiative in Soft Computing (BISC), as part of the department's Distinguished Lecture Series. The title of his lecture was "It is a Fundamental Limitation to Base Probability Theory on Bivalent Logic" The lecture was a great success

with faculty and students from neighboring colleges such as Tulane and UL-Lafayette attending.



Dr. Gray, Dr. Chen



Dr. Gray, Dr. Carver



Dr. Hayes, Dr. Kannan
Dr. Iyengar

Dr. Jim Gray from Microsoft Research also spoke as part of the Chancellor's Distinguished Lecture series. He was hosted by Dr. Peter Chen.

Among the speakers in the seminar series was Prof. John P. Hayes from the University of Michigan, who spoke on the relatively new field of Quantum Computing.

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Welcome!

Three new faculty members will be joining our department soon. Dr. Arjan Durressi, Dr. Anitra Wilson and Dr. Bijaya Karki will be joining us as Assistant Professors in the Fall semester.



Dr. Durressi will be joining us from Ohio State University where he is a post-doctoral associate and an adjunct research professor in the Computer Science department.

His research interests are in computer networks and optical networks.

Dr. Wilson's Picture N/A at this time.

Dr. Wilson will be part of the NSF funded JFAP program with another university. She received her Ph.D. in Computer Science from University of Florida.

Her fields of interest are distributed computing, and networking.



Dr. Bijaya Karki has joined the computer science department as an assistant professor in Spring 2003. He got his PhD in computational physics from the University of Edinburgh in 1997.

Before that he was a visiting scientist at ICTP, Trieste Italy (1993 to 1994). Thereafter, he worked as a research associate at the University of Minnesota and Louisiana State University. His research interests focus on scientific computation and visualization of real materials systems including nano-bio-systems.

Congratulations!

This has been an exceptional year for our faculty who have enhanced the visibility of our department by receiving national and international recognition for their achievements.

Award! Professor Carver has been appointed Editor-in-Chief of IEEE COMPUTER. She has also been named a Fellow of the American Association for the Advance of Science (AAAS).



To add to her achievements, Dr. Carver has recently been appointed as LSU's Associate Vice-Chancellor for Research. Congratulations!

Award! Dr. Peter Chen has been selected to receive the Harry M. Goode Memorial Award from the IEEE Computer Society, which has 100,000 members.



The Harry Goode Award is one of the most prestigious awards in the IEEE. The previous winners of the award include some top figures of the IT industry such as

Grace M. Hopper, Allen Newell, Seymour R. Cray, Edsger W. Dijkstra, Kenneth E. Iverson, Jay W. Forrester, Gordon E. Moore, Robert N. Noyce, C.A.R. Hoare, Gene M. Amdahl, and Frederick P. Brooks, Jr.

Award Squared! Dr. Chen, who originated the Entity-Relationship (ER) model, has been named as the recipient of the Allen Newell Award, jointly sponsored by ACM and AAAI (American Association for Artificial Intelligence). This award was established in 1994 in honor of the AI pioneer and a very distinguished scientist. Previous winners of the Allen Newell Award include Frederick Brooks, Jr., and Lotfi Zadeh.

Hearty congratulations to Peter Chen for receiving these prestigious awards.

Award! Chaired Professorship: Dr. S. S. Iyengar has just been awarded a chaired professorship titled "Roy Paul Daniels Professorship of Computer Science".



Professor Iyengar has been just conferred a **Distinguished Alumnus Award** from the Indian Institute of Science, Bangalore, India. This Prestigious award will be presented to Prof. Iyengar on March 3, 2003.

He has also been recognized as visiting Satish Dhawan Professor of Supercomputing Research

center of the Indian Institute of Science Bangalore.



Dr. Kraft was recently elected a fellow of the IEEE. Will the AAAS come calling next?

Ph.D. Degrees!

Nigel Gwee, "Complexity and Heuristics in Rule-Based Algorithmic Music Composition", Major Professor: Sukhmay Kundu, Associate Professor.

Min He, "Efficient Parallel Computation on Multiprocessors with Optical Interconnection Networks", Major Professor: Donald Kraft, Professor.

Brian Edward Pangburn, "Experience-Based Language Acquisition: A Computational Model of Human Language Acquisition", Major Professor: Sitharama S. Iyengar, Professor.

M.S. Degrees! The following students have successfully defended their projects for their M.S. degrees:

Kanthi Kumar Adapa, Renuka Bansal, Song Ding, Qianyu Huang, Wan Lee, Dinakar Nethi, Naveen Kumar Odnam, Prashanth Reddy Pasala, Rajesh Balakrishna Pillai, Sumanth Yenduri, Mengxia Zhu, Xin Zhuang.

B.S. Degrees!

The following list of students received Bachelors of Science degrees at the December 20, 2002 convocation. Dr. Kannan and Dr. Kraft attended as faculty representatives.

Usman syed Aleem, Ronnie Wayne Austin, Christopher Randall Broome, Phillip David Elkins, Jeremiah Thomas Germany, William Neil Hungerford, Richard Alan McKinney, Clovis Adam Mello, Darrell Rhodes Miller, Shawn O'Rourke (Honors), Jerry Waynedom, Jr., Dustin A. Puryear, Douglas Allen

Reynolds, Michael Lynn Simpson, Jake Dean Sink(Honors), Brian Michael Sullivan, Cheng Chih Tang, Murtuza Thaver, David Matthew Turner, John William Vernon, Zachary Adam Ware, Brian Hailey Parker.

Honors! Bin Zhang won the Third Place Award in the Information Technology Category of the graduate student poster competition in the 2002 LA EPSCoR Conference, April 2002. The title of the poster: "Online Intelligent Fabric Search Engine". Faculty advisor: Dr. J. Chen.

Mr. Bin Zhang's poster also won the First Prize Award in the Social Science Category of the LSU Intellectual Gumbo, sponsored by the LSU Graduate Student Association and Graduate School, May 2002.

In Memoriam

We have established the Dr. Steven Seiden Memorial Scholarship in honor of our late faculty member who passed away in a tragic accident. Details of this scholarship are as follows:

ELIGIBILITY, SELECTION AND RETENTION

The recipient of this scholarship must be a full time undergraduate student at Louisiana State University and Agricultural and Mechanical College enrolled in the College of Basic Sciences, Department of Computer Science. The recipient must show an overall grade point average of at least 3.0 on a 4.0 scale for all college work. Financial need may be a consideration in the awarding of the scholarship.

The recipient of this scholarship will be selected by the Chairman of the Computer Science Department and approved by the dean of the College or his/her designee. The recipient of this scholarship may retain this scholarship for an additional year(s) provided funds are available and he/she continues to meet the eligibility requirements. However, this scholarship shall terminate when the recipient receives his/her degree.

This scholarship will be withdrawn for any of the following reasons: the recipient being placed on disciplinary probation; the recipient failing to maintain the required grade point average; the recipient

resigns or "drops out" of the university; or the recipient's failing to remain enrolled in the College of Basic Sciences in the Department of Computer Science.

Computer Update

Yoo-Hwan Hwang was hired as the departments new systems administrator, replacing Dr. Elias Khalaf. Elias is now an Assistant professor at Loyola University, New Orleans. We wish him success.

Events—ACM Programming Contest

The Computer Science Department sponsored the ACM Programming Contest in 2001. The South central USA Regional Programming Contest was held in Coates Hall on Nov.2-3, 2001. Details can be found at <http://acm2001.csc.lsu.edu/print/schedule.html>.

Research Publications

J. Chen, Y. Chen, B. Zhang, A. Gider. "Fuzzy Linear Clustering for Fabric Selection from Online Database", *Proceedings of 2002 NAFIPS-FLINT International Conference*, June 2002, New Orleans.

M.J. Martin-Bautista, D.H. Kraft, M.A. Vila, J. Chen, J. Cruz. "User Profiles and Fuzzy Logic for Web Retrieval Issues", To appear: *Special Issue of Journal of Soft Computing*, August 2002.

P. McDowell, J. Chen, B. Bourgeois. "UUV Teams, Control from a Biological Perspective", *Proceedings of the Oceans Conference*, Oct. 2002.

Jiwen Chen, Jianhua Chen, G. P. Kemp. "Fuzzy Clustering and Decision Tree Learning for Time-series Tidal Data", Accepted for publication in *Proceedings of FUZZ-IEEE2003*, May 2003.

Kraft, D.H., Chen, J., Martin-Bautista, M.J., and Vila, M.A., "Textual Information Retrieval with User Profiles Using Fuzzy Clustering and Inferencing," in Szczepaniak, S., Segovia, J., Kacprzyk, J., and Zadeh, L.A. (eds.), *Intelligent Exploration of the Web*, Heidelberg, Germany: Physica-Verlag, 2002

Gwee, Nigel. "Capturing human musical preferences with fuzzy application of rules." *Proceedings*

of the 40th annual ACM-SE Conference. 139–146. Raleigh, NC. April, 2002.

Gwee, Nigel. "Effective heuristics for algorithmic music composition" Proceedings of the International Conference on Artificial Intelligence. Vol. III. 1027–1033. Las Vegas, NV. June, 2002.

Kraft, D.H., Martin-Bautista, Chen, J., and Sanchez, D., "Rules and Fuzzy Rules in Text: Concept, Extraction and Usage, submitted to Special Issue on Soft Computing Applications to Intelligent Information Retrieval on the Internet, International Journal of Approximate Reasoning, 2003

Martin-Bautista, M.J., Kraft, D.H., Vila, M.A., and Chen, J., "User Profiles and Fuzzy Logic for Web Retrieval," accepted for a special issue of the Journal of Soft Computing, August 2002

Sanchez, S.N., Triantaphyllou, E., and Kraft, D.H., "Classification of Text Documents into Two Disjoint Classes," accepted by Information Processing and Management, 2002

R. Kannan, S. Sarangi, S.S. Iyengar and L. Ray, "Sensor-Centric Quality of Routing in Sensor Networks", in *Proc. of IEEE INFOCOM 2003*, to appear.

R. Kannan, S. Ray, S. Sarangi, S.S. Iyengar, "Minimal Sensor Integrity: Measuring Vulnerability in Sensor Grids", *Information Processing Letters*, In Press.

R. Kannan, S. Sarangi and S.S. Iyengar, "A Simple Model for Reliable Query Reporting in Sensor Networks", in *Fifth Intl. Conf. on Information Fusion*, pp. 754-759, Annapolis, MD, July 2002.

R. Kannan, S. Ray, S. Sarangi and S.S. Iyengar, "Minimal Sensor Integrity: Measuring Integrity in Sensor Grids", in *Intl. Conf. on Parallel Processing (ICPP 2002)*, Vancouver, B. C., July 2002.

Professional Activities

Dr. J. Chen served as the Publication Chair for the 2002 NAFIPS-FLINT International Conference, June 2002, New Orleans. She also presented a paper at the conference.

Dr. J. Chen was awarded a summer faculty fellowship in 2002 by the Naval Research Laboratory to spend the summer at NRL in Stennis Space Center.

Dr. J. Chen attended the Grace Hopper Conference on Celebrations of Women in Computing, October 2002.

Dr. Kannan was awarded an ONR/ASEE summer faculty fellowship in 2002 to spend the summer at NRL in Stennis Space Center.

Dr. Kannan served as a member of the Technical Program Committee for the IEEE ICCCN Conference in 2002.

Hamilton Leeper was awarded a Chancellors Future Leaders in Research scholarship and worked with Dr. Kannan on networking research.

Dr. Kraft served as president of the American Society for Information Science and Technology (ASIST) in 2002.

Dr. Kraft was a co-chair for the North American Fuzzy Information Processing Society (NAFIPS) in 2002.

Dr. Kraft was appointed associate editor for *Scientometrics*.

Grants and Contracts

S. S. Iyengar *et. al.*, "Information Technology Training and Academic Enhancement Program for Computer Science, Engineering and Mathematics Undergraduate Students" Sponsor: National Science Foundation, \$496,604, 01/01/03-01/01/06.

S. S. Iyengar, "Real Time Distributed Data Mining for Sensor Networks," Sponsor: National Science Foundation, \$32,659, 09/15/02-08/31/03.

Raj Kannan, S. S. Iyengar and S. Sarangi, "Enhancing the Quality of Routing in Data-Centric Sensor Networks," DARPA/IPTO, \$40,000, 09/25/02-06/23/03.

Seminars

We had the following outstanding speakers presenting in our seminar series. The series was well

attended by faculty and students from LSU and neighboring universities.

Monday, Nov 4th, "It is a Fundamental Limitation to Base Probability Theory on Bivalent Logic," Chancellors Distinguished Lecture, Speaker: Lotfi A.Zadeh, Director, Berkeley Initiative in Soft Computing(BISC).

Tuesday, Oct 8th, Special Colloquium, "Enabling Science and Engineering Applications on the Grid," Speaker: Ed Seidel, Head of Numerical Relativity Group, Albert Einstein Institute, Pottsdam, Germany

Fri, Oct 21st, 2002, Chancellors Distinguished Lecture Speaker: Dr. Jim Gray, Turing Award Winner, Microsoft Research.

Fri, Sep 20th, "Computing with Quantum Circuits," Speaker: John P. Hayes, Professor, Department of EECS, University of Michigan.

Fri, Nov 15th, "Quality of Service in Service-Oriented Networks" Speaker: Arjan Durrezi, Research Scientist, Ohio State University.

Tuesday, Jan. 21, "Application frameworks for HPC and the Grid," Dr. Gabrielle Allen.

Further Information

The Computer Science Newsletter serves as a guide to activities in the department and other functions on and off campus. The Computer Science Newsletter is published by the Department of Computer Science, Louisiana State University (Baton Rouge).

Items to be included in the newsletter should be submitted to Rajgopal Kannan in 279 Coates (rkannan@bit.csc.lsu.edu).

Previous issues of the newsletter can be found on the departmental home page at

<http://www.csc.lsu.edu/newsletter/>