



Computer Science Newsletter

*Newsletter of the Department of Computer Science, Louisiana State University (Baton Rouge)
Spring, 2002*

Chairman's Note

This Fall 2001 newsletter presents an overview of our accomplishments in the Department of Computer Science. As you will see from this report, the Department continues to grow, not only in terms of enrollment but with regard to our research reputation and new research funding and programs as well. We had another good Fall in terms of publications and funding. Our faculty have been recognized internationally for their research work. Dr. Kraft became a Fellow of IEEEi, Dr. Iyengar become a Fellow of ACM and finally Dr. Peter Chen won the Software Pioneer Award. I hope you enjoy this report.

- The Governor's IT new initiative on Information Technology external advisory committee recommend "Core Computing Proposal in Computer Science Department" authored by Dr. Seiden as one of the clusters for funding on this program.
- The faculty in the department have been very active in obtaining federal funding in various areas of computer science. Funding sources are DARPA, MURI, NSF, Air-force Office of Scientific Research, Sandia National lab, Oakridge National lab, etc. This is indeed a great step for our department.
- Our Alumnus has been a Commencement Speaker at the Fall College of Basic Sciences Convocation. Keith M. Lasseigne is also on our Advisory Board for the Department of Computer Science.

- Multiple technology fee proposals were implemented this year. A state of the art networking laboratory with multiple CISCO routers and a high-speed ATM switch is being built in Coates 179.

S. S. Iyengar

Distinguished Lecture Success!

On October 5th, the LSU Computer Science Department hosted Professor Juris Hartmanis as part of the Chancellor's Distinguished Lecture Series. The title of his lecture was "The Past and Future of Theoretical Computer Science." The lecture was a great success with faculty and students from neighboring colleges such as Tulane and UL-Lafayette attending.

Inside This Issue

Chairman's Note	page 1
Lecture	page 1
Welcome	page 1
Congratulations	page 1
Computer Update	page 2
Publications	page 2
Activities	page 3
Grants	page 3
Seminars	page 3
Further Information	page 3

Congratulations!

Award! Professor S. S. Iyengar was named an ACM Fellow.

Award! Professor Donald Kraft was named an IEEE Fellow was also awarded honorary membership in Beta Phi Mu, the LIS honorary society.

Award! Professor Peter Chen will be recognized as a software pioneer at the SD&M Conference June 28th and 29th in Bonn, Germany. His development of the Entity/Relationship model is cited as his major contribution.

Award! Best Technical Paper Award, IEEE/ACM Supercomputing 2001 Conference "Scalable atomistic simulation algorithms for materials research" A. Nakano, R. K. Kalia, P. Vashishta, T. J. Campbell, S. Ogata, F. Shimojo, and S. Saini

B.S. Degrees!

The following list of students who received Bachelors of Science degrees at the December 21,2001 convocation.

Charles John Acaldo Jr., Craig Lane Bankston, Christine tran Bui, Vincent Anh Bui, Linda Wan-Ling Chao, Paula Marie Crosby (Summa Cum Laude), Salvadore Julius Denova III, Dana Dippery, Hal William Gould, Kevin Alexander Gravois, Shawn Michael Gregory, Benjamin Ross Kaiser, Mustafa Zuhair Karim, Marcel Charles Lanoux Jr., Micah Duane Olivier, Amar Pragji Parmar (Summa Cum Laude), Francisco Ricardo Polzin, Frederick A.Sangokoya, Robert Keith Williams, Dawn Marie Yates (Magna Cum Laude).

Honors!

Ph.D. Degrees! Sumeet Dua and Xiaojun Qi successfully defended their Ph.D. dissertations.

- Xiaojun Qi's dissertation was on "Compression of 3-D Magnetic Brain Images," with Professor John M. Tyler.
- Sumeet Dua's dissertation was titled "Techniques to Explore Time-related Correlation in Large Datasets," with Professor S. S. Iyengar.

M.S. Degrees! The following students successfully defended their projects for their M.S. degrees: Ashok Kumar Chidige, Priyanka Jain,

Karen Murray Legrand, Benhou Yan, and Tao Zhang.

Computer Update

The departmental backbone network, currently running at 10 Mbps, was upgraded in August, 2001. The new network has Gigabit switches and 100Mbps to the end-user with uplink bandwidth up to 1 Gigabit to the campus backbone.

Events

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

Miguel Serrano, Doris Carver, Carlos Montes de Oca, "Reengineering Legacy Systems for Distributed Environments", to appear in *Journal of Systems and Software*

Steve Oneal and Doris Carver, "Analyzing the Impact of Changng Requirements", in *Proceedings of the International Conference on Software Maintenance*, Florence, Italy, November 2001.

D. Kraft, J. Chen, M.J. Martin-Bautista, M.A. Vila, "Textual Information Retrieval with User Profiles Using Fuzzy Clustering Inferencing," Book chapter in: *Intelligent Exploration of the Web*, Piotr Szczepaniak, Editor, Springer-Verlag, 2002.

M.J. Martin-Bautists, M.A. Vila, D.H. Kraft, J. Chen, "User Profiles in Web Retrieval," in *Proc. of 2001 Bisc International Workshop on Fuzzy Logic and the Internet*, Berkeley, CA, August 2001.

R. Kannan and S. Ray, "A Fair and Efficient Multicast Switch based on Deflection Routing," *IE-ICE Transactions on Communications*, Vol.E84-B, No.12, p.3252-63, Dec. 2001.

R. Kannan and S. Ray, "Sorting Networks with Applications to Hierarchical Optical Interconnects,"

in *Intl. Conf. on Parallel Processing (ICPP'01)*, Valencia, Spain, Oct. 2001.

S. S. Iyengar, E.C. Cho, and V.C. Phoha, "Foundations of Wavelet Network with Applications," CRC Press, Inc., Baco Raton, FL, Forthcoming Book in 2002.

S.S. Iyengar and B. Jones, "Information Fusion Techniques for Pattern Analysis in Large Sensor Data Networks," in *Journal of Franklin Institute*, JFI 338, pp 571-582, July 2001.

Seiden, S., "An optimal online algorithm for bounded space variable-sized bin packing," *SIAM Journal on Discrete Mathematics* 14, 4 (2001), 458-470.

Seiden, S., "Preemptive multiprocessor scheduling with rejection," *Theoretical Computer Science*, 262, 1-2 (July 2001), 437-458.

Noga, J., and Seiden, S. "An optimal online algorithm for scheduling two machines with release times," *Theoretical Computer Science*, 268, 1 (October 2001), 133-143.

Noga, J., Seiden, S., and Woeginger, G., "A faster off-line algorithm for the TCP acknowledgement problem," *Information Processing Letters*, 81, 2 (January 2002), 71-73.

Seiden, S., and van Stee, R., "New bounds for multi-dimensional packing," In *Proc. of the 13th Annual ACM-SIAM Symposium on Discrete Algorithms*, (SODA'02) (January 2002). To appear.

Professional Activities

Prof. Iyengar has been invited to be a speaker at the International Symposium on parallel architectures, algorithms and networks, Phillipines, Manila, May 23-25, 2002.

Prof. Iyengar was organizing chairman of the Advanced Computing and Communication (ADCOM) Conference from Dec 17-19, 2001 in Bhuvaneshwar, India.

Dr. Jianhua Chen serves as a program committee member for the 13th International Symposium

on Methodologies for Intelligent Systems, Lyon, France, July 2002.

Grants and Contracts

"Hierarchical computational-space decomposition: a framework for scalable scientific computing beyond Teraflop" A. Nakano, National Science Foundation, Division of Advanced Computational Infrastructure and Research \$204,951 (2002-05) recommended for funding.

"Scalable quasi-continuum software for advanced mixed atomistic-continuum simulation of material behavior at the nanoscale" A. Nakano, R. K. Kalia, and P. Vashishta, DoD High Performance Computing Modernization Program (HPCMP), Common High Performance Computing Software Support Initiative (CHSSI), Army Research Laboratory \$390,000 (2001-04) funded.

The Shell Oil Company Foundation awarded \$4000 in a departmental grant to upgrade computer facilities and provide recognition awards for distinguished undergraduate students, honorariums for distinguished speakers and student and faculty attendance at conferences. This was part of a \$45,000 overall grant by Shell to various departments at LSU in 2001. For more details, contact Betty Lynn McHam with Shell Oil Company Foundation at (713) 241-1595.

Seminars

Prof. Juris Hartmanis, Walter R. Read Professor of Engineering at Cornell University and Turing Award Winner on, "Computational Complexity and Mathematical Proofs," part of the LSU Computer Science Distinguished Lecture Series on Friday, Oct 5th, 3:00 P.M 155 Coates Hall.

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 288 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/>