



DEPARTMENT OF  
COMPUTER SCIENCE,  
LOUISIANA STATE  
UNIVERSITY,  
BATON ROUGE, LA

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# Computer Science Newsletter

## Louisiana State University

SPRING / SUMMER 2008

### From the Chairman

Welcome to the Newsletter of the Department of Computer Science at Louisiana State University, Baton Rouge. This Newsletter highlights the progress of our Department in research, education, faculty hiring and student/faculty achievements. The Department has continued to make significant strides in research funding, with external funding amount exceeding USD \$2 Million. The Department of Computer Science believes that computer science is a rapidly evolving discipline directly or indirectly affecting many other disciplines including in science and engineering, arts, business, etc. It is important that we contribute to computer science in a way that our faculty and students can devote themselves to take the maximal advantage of modern computer science to solve a wide range of complex scientific, technological and social problems.

The Department continues promoting innovative research and education programs in the core computer science as well as multidisciplinary application areas. There are many initiatives to

foster research and development and many of them are briefed in this issue. We strive for excellence in teaching, research, and service covering the fundamental as well as applied aspects of computer science. Faculty's efforts and gracious support have yielded a Department that is stronger and more capable than even a



year ago. The mission of the Department of Computer Science is to achieve national prominence by providing outstanding education and research training to our undergraduate and graduate students for their productive careers in industry, academia, and government. I am pleased to report that our Department is ranked 38th out of the top 150 doctoral program in US in terms of research publications (See

for details in June issue of "Communications of ACM" June 2007/Vol. 50, No.6.)

In the coming year, together we will make substantive improvements to enhance the quality and effectiveness of the faculty, your productivity as educators and researchers, and your sense of satisfaction and fulfillment as members of this Department. The perspectives and recommendations of each of you are very important in this time of change and I look forward to benefiting from your insights and suggestions. This is a time of renewed and enhanced standards for our Department in which we can all take pride, improved educational curricula and methods for greater quality of student education, and a closer sense of shared community among the faculty and staff of the Department as we work together to build a happier professional environment.

**Dr. S.S. Iyengar**  
Chair, Department of Computer Science, LSU



Dr. Anita K. Jones  
University of Virginia

## I.T. Eminent Lecture by Dr. Anita K. Jones

**(April 18)** Professor Jones is a University Professor in the University of Virginia and a Professor of Computer Science in the School of Engineering and Applied Science, previously having served as chair of the Department of Computer Science. The Honorable Anita K. Jones was sworn in as the Director of Defense Research and Engineering for the U.S. Department of De-

fense in June 1993. Professor Jones is past vice-chair of the National Science Board, which advises the President on science, engineering, and education as well as oversees the National Science Foundation.

Dr Jones spoke on the title : Cyber Security –Serving Society Badly. The world created a new infrastructure - the cyber, or information, infrastructure. It un-

derpins many of the processes and activities of society. Usefulness of the cyber infrastructure depends on many aspects, and notable among them is security. She characterized the fragility and the failures of today's cyber security and past research, the state of the art and the practice of information security today, and options for improvement.



Dr. Richard M. Karp  
University of California, Berkeley

## I.T. Eminent Lecture by Dr. Richard M. Karp

**(March 24)** Richard M. Karp was born in Boston, Massachusetts on January 3, 1935. He attended Boston Latin School and Harvard University, receiving the Ph.D. in 1959. From 1959 to 1968 he was a member of the Mathematical Sciences Department at IBM Research. From 1968 to 1994 and from 1999 to the present he has been a Profes-

sor at the University of California, Berkeley, where he held the Class of 1939 Chair and is currently a University Professor. His honors and awards include: U.S. National Medal of Science, Turing Award, Fulkerson Prize, Harvey Prize, Centennial Medal etc.

His talk traced the growing influence of fundamental ideas from computer sci-

ence on the nature of research in a number of scientific fields. Dr. Karp indicated how the growth of the Web has created new phenomena to be investigated by sociologists and economists, spurring new developments in computational game theory and the study of social networks. He also focused on computational molecular biology.

## I.T. Eminent Lecture by Dr. Randy Bryant

Dr. Randy Bryant, Carnegie Mellon University



**(March 10)** Dr. Randal E. Bryant is Dean of the Carnegie Mellon University School of Computer Science. He has been on the faculty at Carnegie Mellon for 23 years, starting as an Assistant Professor and progressing to his current rank of University Professor. Much of Dr. Bryant's research focuses on methods for formally verifying digital hardware, and more

recently some forms of software. Dr. Bryant's awards include: the 2007 IEEE Emanuel Piore Award, the 1997 ACM Kanellakis Theory and Practice Award (shared with Edmund M. Clarke, Ken McMillan, and Allen Emerson) and the 1989 IEEE W.R.G. Baker .

Dr. Bryant talked about Web search engine. With Internet search, computing has risen to entirely new

levels of scale. Google and its competitors have created a large-scale computer systems, which we label "Data-Intensive Super Computer" systems. By engaging the academic research community in these issues, he said that we can more systematically and in a more open forum explore fundamental aspects of computing.

# Industry Advisory Committee Meeting

(April 18) The LSU Computer Science Industry Advisory Committee met on April 18th.



**Chris Branton, Chair of the committee**

Leaders from several local technology firms attended it. The Industry Advisory Committee is an important part of

Computer Science department's evaluation and improvement process, and the members have demonstrated a strong commitment to the future of the department. The Industry Advisory Meeting went on well with lots of inputs from the members of the committee who were present. This will certainly be useful to take steps in the strategic direction that the department is moving forward. Many of the Computer Science department faculty members were present for the meeting. The meeting also in-



cluded an update on the improvements being made to the undergraduate CS curriculum.

*"The Industry Advisory Committee is an important part of Computer Science Department's Evaluation"*

## Research Seminars & Workshops

**Seminars:** A series of Research Seminars took place based on various current topics and trends in Computer Science. Some of the keynote speakers were Dr. Frank Zhu from Michigan State University, Dr. Wei Jiang from Purdue University, Dr. Xiaojiang Du from University of Maryland, Dr. Claire Monteleoni from MIT and several others from LSU's Computer Science department and various other universities.

**NSF Sponsored Summer Workshop (May 19 -30):** (see picture on the right) took place in the department, supported by the NSF Collaborative Project: Faculty Development Multi University Research and Training in Information Assurance and Computer Security. The faculty came from universities such as University of Miami-Ohio, University of Nevada-Las Vegas, Grambling University, Louisiana Tech Uni-

versity, Southern University, University of Tennessee-Chattanooga, and South Carolina State University. PI: Dr. S.S. Iyengar.



## Algorithms & Problem Solving Seminar

The Algorithms Seminar is organized by Dr. Rahul Shah and is being held weekly (on Mondays). Every area of computer science research involves formulating and solving problems. The solutions are typically in the form of algorithms. In this seminar, there

are discussions of some interesting problems which arise from research. The emphasis is on clearly formulating and expressing the problem formulations and discuss strategies to solve them. This is more "discussion" oriented rather than one-way "talk"

where the speaker does most of the talking. Nevertheless, there is one driving speaker every week leading the discussions. The seminar is open to the public and every one interested is welcome to attend!

# Faculty Accomplishments



Dr. Sterling receiving his teaching award

The College of Basic Sciences celebrated the 35th annual Dean Arthur R. Choppin Honors Convocation on March 13th. This has been the most spectacular convocation in terms of the Computer Science department's faculty and student's accomplishments. Some of the faculty accomplishments are: Dr. Bijaya Karki has been

awarded the College of Basic Sciences Untenured Faculty Research Award (2008). Dr. Thomas Sterling (see picture on left) is awarded the College of Basic Sciences Graduate Teaching Award. Dr. Gerald Baumgartner (see picture on the right) is awarded the College of Basic Sciences Undergraduate Teaching Award.



*"This is the second research award he (Dr. Karki) is receiving this year"*

## Phi Kappa Phi Faculty Award

Dr. Bijaya Karki of the LSU Computer Science department has won this year's Phi Kappa Phi non-tenured faculty award in the Natural and Physical Sciences (see picture on the right). The award was presented at the Phi Kappa Phi Induction Ceremony on April 21st in the LSU Faculty Club. Provost Dr. Astrid Merget was the guest speaker for this award ceremony. This is the second research award he is receiving this year.



Dr. Karki received his doctorate from the University of Edinburgh, Edinburgh, UK. Before joining the Department of Computer Science at Louisiana State University in 2003, he worked as a research scholar at the University of Minnesota and also at Louisiana State University (Biological Computation and Visualization Center). He has also received National Science Foundation CAREER award in 2004.



Dr. Thomas Sterling, Dr Peter Chen, Dr and Dr. S.S. Iyengar won the Rainmakers Award 2008. The Office

of Research & Economic Development announced the first annual Rainmakers Dinner, a gala celebration in honor of the university's "Top 100" faculty scholars.

### Assist Award

Award of Merit to Donald H. Kraft which recognizes his

extensive contributions to Information Science and to the Society. Donald Kraft has played a pivotal role as Editor of the Journal of the American Society for Information Science and Technology over the past 22 years.

# Student Accomplishments

The LSU Computer Science department's student accomplishments were announced at the 35th annual Dean Arthur R. Choppin Honors Convocation, which took place on March 13 at the LSU faculty club. Below is a list of the given awards.

Dr. Greg Hussey College Achievement Award: Anshul Tandon majoring in CSC & EE with minor in Math. A distinguished undergraduate student presently working with Professor Sterling on ParalleX team. He has a job offer from Google.



Award of Excellence: Razvan Carbenescu (CSC & Math major) working in the Computational Fluid Dynamics group. The meeting also included an update on the improvements being made to the undergraduate CS curriculum. He has been admitted to Ph.D. program in Computer Science at UC-Berkeley.

Award of Distinction: Carrie Butler (CSC with Software Engineering concentration). She has accepted a job offer from

Microsoft.

Other awards that were given are: Adrian Virginia Lazarus Memorial Scholarship, Tyler C. Barker. Chevron Computer Science Scholarship, Vincent Miceli, Michale Karl LeBlanc, Kyle Jonah Nunez, Carrie Lynn Butler, Stacy Lynn Warrick, Louis Paul Ortego. Andrea Martin Memorial Scholarship, Razvan Corneliu Carbenescu. Steve Seiden Memorial Scholarship, Patrick Quinn Stephen Sibley.

## Congratulations to our New Graduates

The LSU Computer Science department congratulates the graduates of the Fall 2007 and Spring 2008 semesters.

### BACHELOR

#### Fall 2007

Brian Joseph Bannon, David Paul Bryant, Clayton Parker Coleman, Bret James Esquivel, Abram Michael Henderson, Stephen Edward Hester, Matthew Prem McAlister, Zachary Duane Parks, Ujjal Kumar Pathak, Stacy Lynn Warrick.

#### Spring 2008

Carrie Lynn Butler (Honors), Philip

Michael Cali, Razvan Corneliu Carbenescu (Honors), Kevin Anthony Cherry, John Frederick Douthat, Kristyn Elizabeth Fontenot, Kyle Brian King, Louis Paul Ortego (Honors), Phillip Ponsion, Jacob Andrew Saltich, Andrew Thomas Triplett, Andre Dale Valentine, David Paul West.

### MASTER

#### Fall 2007

Guohui Deng, Suresh Elavarti, Venkata Kalyanaram Musunuri, Ravishankar Dora Koshaladev, Svetlozar Yordanov Petrov, Anindya Poddar, Madhava Chaithanya Sistla, Dylan

Thomas Stark, Ganesh Sundarraj.

#### Spring 2008

Emrah Ceyhan, Vikram Kumar Gopu, Richard D. Guidry, Jr.

### PHD

#### Spring 2008

Hua Cao, "A novel Automated Approach of Multi-modality Retinal Image Registration and Fusion", Advisors Dr. S.S. Iyengar and Dr. Nathan Brenner.

Coretta Willis Douglas, "Visual Language Representation for Use Case Evolution and Traceability", Advisor Dr. Doris L. Carver.

## Freshmen Initiations

Getting freshmen involved on campus is one of the best ways to make the most of their college experience. The Dept of Computer Science will be initiating a new workshop titled "Computer Science Freshman Initiations - 2008" starting from

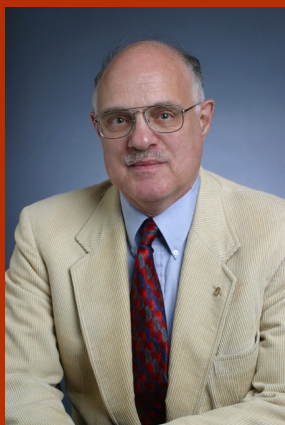
12-17th August, 2008. The following committee would help to develop comprehensive topics in Math and Programming for our students.: Dr. T. Sterling, Dr. K. Busch, Dr. J. Chen, Dr. C. Douglas, and ACM Student members.



Two members of the committee: Dr. Chen (top) and Dr. Douglas (Right)



## Celebration of the Achievements of Dr. Kraft



Dr. Donald Kraft

Professor Donald Kraft is retiring from the LSU Department of Computer Science at the end the Spring 2008 semester. Dr. Kraft

has contributed a lot as a researcher, Chairman and mentor to so many of our students during the last 30 years or more. To honor

his accomplishments, the Department of Computer Science had a party on March 28th, 2008 at the Lod Cook Alumni Center .

## Multidisciplinary Hiring Initiatives

The Department of Computer Science is involved in two Multidisciplinary Hiring Initiatives. The goals of these initiatives are to hire the most promising experts from numerous diverse fields of study in order to enhance the faculty and expand the focus of research at LSU.

### 1. Computational Science : Advancing Research, Society and the

#### Economy.

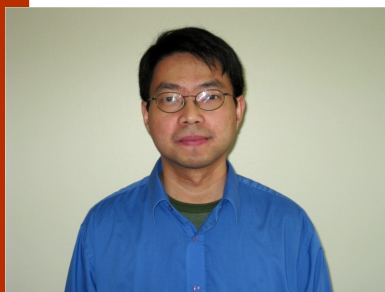
This initiative aims at hiring 8 top new faculty in Computational Sciences and build one of the strongest and most visible groups in the nation. This project is led by Dr. Gabrielle Allen and it involves also other faculty from the Department of Computer Science and the Center for Computation & Technology, (such as Dr. Thomas Sterling).

### 2. AVATAR: The Arts, Visualization, Advanced Technologies and Research .

This initiative is led by Dr. Steven Beck and it involves faculty members from our Department (Dr. Karki, Dr. Ullmer, Dr. Allen, and others). It is focused on digital media techniques involving, arts, visualization, advanced technologies and research.

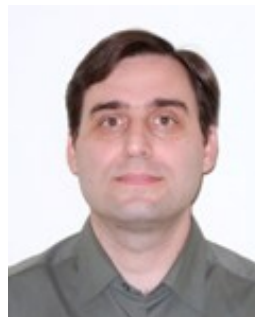
The department has hired three new faculty in the past year

## New Faculty in 2007-2008



Dr. Jian Zhang (see picture above) will join the department in the Fall 2008 as an Assistant Professor. He has received a Ph.D from Yale University in 2005, and currently is working at SRI. His research interests are machine learning, data mining, algorithms design and their applications.

Dr. Konstantin Busch (see picture below) joined the department in the Fall of 2007 as an Assistant Professor. He received a PhD from Brown University in 2000. His research interests are in the area of distributed computing theory, communication algorithms,



Dr. Rahul Shah (see above) joined the department in the Fall of 2007 as an Assistant Professor. He received a PhD from Rutgers University in 2002. His research interests are in algorithms and databases with applications to computational biology, networking, databases, parallel disks and I/O complexity models.

# Alumni Corner



We are pleased to inform you all that Dr. Nageswara S.V. Rao, (see picture on the right) a Ph.D student from CSC Dept (1998) has received the IEEE Fellow Award recently. He published more than 200 research papers in a number of technical areas. He is founding editorial board member of Information Fusion journal and International Journal of Distributed Sensor Systems. He is

Technical Program Committee Vice-Chair, Sensor Networks Track, IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing, June 5-7, 2005, Taichung, Taiwan. He is Technical Program Committee Co-Chair, Innovations and Commercial Applications of Distributed Sensor Networks Symposium, October 18-19, 2005, Washington, DC. (<http://www.csm.ornl.gov/~nrao/>)

David Cordes has been with the Department of Computer Science at University of Alabama since the Fall of 1988.

His research interests focus primarily on software systems, including distributed and networked systems as well as component-based develop-

ment. He graduated from the University of Arkansas with a B.S. in Computer Science in 1982, received his M.S. in Computer Science from Purdue University in 1984, and his Ph.D. in Computer Science from Louisiana State University in 1988, working under Dr. Doris Carver. (<http://www.cs.ua.edu/~cordes/>)



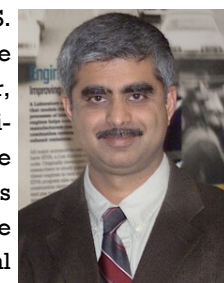
Dr. Xiaojun Qi received her M.S. and Ph.D. degrees in Computer Science from Louisiana State University in 1999 and 2001, respectively. In Fall 2002, she joined the Department of Computer Science at Utah State University as a tenure-track assistant

professor. In April 2008, she received tenure and was promoted to Associate Professor. Dr. Qi's research interests include content-based image retrieval, digital image watermarking and steganography, and computer vision. She has published over 40 peer-reviewed journal and conference publications. (<http://www.cs.usu.edu/~xqi/>)

Lakshman Prasad received his M.S. degree in Mathematics in 1986 from the Indian Institute of Technology, Kanpur, India, and his Ph.D. in Computer Science in 1995 from the Louisiana State University, Baton Rouge, U. S. A. He is currently with the Space and Remote Sensing group at Los Alamos National Laboratory. His research interests are

in the areas of digital signal and image processing, image understanding, artificial perception, computational geometry, wavelet transforms and multiscale methods.

(<http://www.santafenewmexican.com/healthandscience/through-human-eyes>)

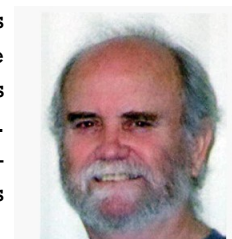


Krzysztof J. Kochut is the Professor and Head of the Computer Science Department at University of Georgia, Athens, Georgia, USA. His research interests include distributed processing (workflow systems and specification of application-level protocols), databases, and genomics. For the past several years, his research has

concentrated on workflow management systems, genomics, and object-oriented data bases. New projects include the semantic Web and application protocol specification. He teaches courses on Advanced Software Engineering, Software Engineering, and Compiler Construction. (<http://www.cs.uga.edu/~kochut/>)



It is with profound sadness that I am informing you that one of our Ph.D students Bob McMorrow passed away on May 3, 2008. He went through some very hard times of his ill health for the last one year and fought very hard. He had hopes that he would finish his degree in this coming year. Bob's research was in software engineering and he was working under Prof. Carver. He was a very special person, and our department is not the same without him.



# Defense Project Research Grant - DEPSCoR Program

“Secure and Survivable Cyber-centric Sensor Networks”

Dr. Sitharama Iyengar, chairman of the Computer Science Department at the LSU System's main campus, will receive money for the study "Secure and Survivable Cyber-centric Sensor Networks: Algorithms and Architecture Research," for the Office of Naval Research. This work will be collaboratively done by Dr. Park, Dr. Hsiao-Chun Wu, Dr. Peter Chen and Dr. Phoha (LaTech). The following was published in the Shreveport Times, March 28, 2008 by author John Andrew Prime (jprime@gannett.com):

“A pair of our LSU researchers are among 24 recipients of advanced science and engineering grants announced by the Defense Department.

One of the awards is for work in the area of cyber warfare, a start

to fulfillment of predictions that cyber will bring research dollars to Louisiana.

And mechanical engineering professor Dimitris Nikitopoulos will receive a grant from the Air Force Office of Scientific Research for the project "Toward Active Control of Film Cooling and Turbine Blade Aerodynamics."

The exact amount of each professor's grant was not given. But, in all, grants to researchers at the two dozen institutions totaled \$15.7 million, according to the Pentagon release.

The money is being doled out as part of the fiscal 2008 Defense Experimental Program to Stimulate Competitive Research, or DEPSCoR.

Grants provide work for the scientists with the ONR, the AFOSR and the Army Research Office, which

solicited proposals through a defense-wide broad agency announcement.

This was published on the Internet and accessed by the DEPSCoR state committees, which solicited and selected projects for each state's proposal.

Other grants have been awarded to researchers in Alaska, Arkansas, Delaware, Idaho, Kansas, Kentucky, Maine, Montana, Nebraska, Nevada, New Hampshire, North Dakota, Oklahoma, Puerto Rico, Rhode Island, South Dakota, South Carolina, Tennessee, the U.S. Virgin Islands, Vermont, West Virginia and Wyoming.

All awards are contingent on the successful completion of negotiations between the Defense Department and the respective academic institutions.”

## Major NSF Funding to LSU

The National Science Foundation (NSF) recently funded Louisiana State University (LSU) \$1 million for the development of PetaShare, which is seen as "a system might become an important testbed for future grids, and a leading site in next-generation petascale research." The unbounded increase in the size of data generated by scientific applications necessitates collaboration and sharing among the nation's education and research institutions.

LSU assistant professor Dr. Tevfik Kosar and his team aim to develop an innovative distributed data archival, analysis and visualization cyber infrastructure for data intensive collaborative research, which they call PetaShare. PetaShare will enable transparent han-

dling of underlying data sharing, archival and retrieval mechanisms, and will make data available to scientists for analysis and visualization on demand. During the development of PetaShare, Kosar and his team are planning to employ a very novel approach to solve the distributed data sharing and management problem

More than 25 senior researchers from five Louisiana institutions, with research areas spanning 10 different disciplines, are actively involved in this project. The PetaShare development team involves researchers with profound expertise in distributed data handling and storage, Grid computing, high-performance data mining and visualization. PetaShare aims to bring together development and applica-

tion groups from different institutions and different disciplines, thereby enabling them to share information and experience, and ultimately create a next generation instrumentation which will accelerate and enhance their research. The computer science faculty involved in PetaShare project include Kosar, Gabrielle Allen, Ed Seidel, S.S. Iyengar, Brygg Ullmer, Bijaya Karki and Evangelos Triantaphyllou. Other collaborators are Robert Twilley from oceanography and coastal studies, William Wischusen from biological sciences and several others including researchers from the University of Louisiana at Lafayette, Louisiana Tech, Tulane and the University of New Orleans.

“a leading site in next-generation petascale research”

1. Thomas Sterling, "A Framework for Adaptable Operating and Runtime Systems", Department of Energy under Mathematical, Information and Computational Sciences, \$517,345, 3 years, starting August 15, 2006.
2. (PI) S.S.Iyengar, (co-PIs) P. Chen, J. Fernandez, R. Kannan, S. S. Pang, "FD-Multi University Research and Training in Information Assurance and Computer Security", NSF, \$443,210, 2 years. (Louisiana Tech is another university involved and their funding is \$35,677 and Southern University will be the subcontractor.)
3. (PI) E.Triantaphyllou, (co-PI) S.S. Iyengar, "Doctoral Research and Training in Information Networks for Monitoring, Assessment and Relief Activities for Natural and Man-Made Disasters", GAANN (Graduate Assistance in Areas of National Need) from United States Department of Education, \$126,675.00, starting August 2006. (Other Key Personnel in the Project: D. Carver, J. Chen, P. Chen, A. Durrresi, R. Kannan, B. Karki, T. Kosar, S.J. Park, S. Pang, A. Wilson.)
4. S.S.Iyengar, R. Kannan and B.J.Karki, "Recruitment of Superior Students to the Doctoral Program in Areas of Distributed Sensor Networking at LSU", Board of Regents, \$92,000, 4 years.
5. S.J. Park, "Developing a Fluid Based Simulator and Transport Protocols for Large-Scale Wireless Sensor Networks and Actor Networks", Board of Regents, \$81,380, 2 years
6. T. Kosar, "Enabling End-to-End Processing and Analysis of Large Scale Coastal Data", Board of Regents, \$135,988, 3 years.
7. E. Triantaphyllou, J. Chen, S.S. Iyengar, "Request for Hardware Enhancement for High Performance Data Mining and Knowledge Discovery Lab in the CS Department at LSU", Board of Regents, \$45,400, 1 year.
8. (PI) G. Baumgartner, (co-PI) Dr.Ramanujam, "Search-Based Model-Driven Framework for Compiler Optimizations", NSF, \$300,000, 3 years, starting December 2005.
9. (PI) B. Ullmer, (Co-PIs) E. Seidel, S.S.Iyengar and S. D.Beck, "MRI: Development of Viz Tangibles and VizNet: Instrumentation for Interactive Visualization, Simulation, and Collaboration", NSF, \$397,121, 3 years, starting September 2005.
10. B. Ullmer, S.S. Iyengar, and E. Siedel, "LIGO Outreach Tangibles: Physical interaction kiosks for middle school education of space science and beyond", NSF, \$150,000, May 2008-September 2009.
11. P. Chen, "Research on a Mathematical Framework and Practical Applications of Systems Architecture", Air Force Office of Scientific Research (AFOSR), \$329,000, 8/1/05-10/31/07.
12. S. S. Iyengar and R. Kannan, S. Wei, "Distributed Sensor Network Design for Efficient Plume Mapping of Chemical, Biological, and Nuclear Radiation Events", \$193,913 (awarded for one year \$64,630), duration 3 years, starting August 2005.
13. A. Wilson, A. Durrresi, B. Karki, R. Kannan, S.S. Iyengar, "Development of High-Performance Sensor Networking Infrastructure—Wireless testbed and Curriculum Innovations", Board of Regents, \$90,000, 2007-2008.
14. (PI) S. Acharya, (Co-PIs) G. Allen, B. Bourdin, D. Nikitopoulos, "IGERT on Multi-scale Computations of Fluid Dynamics", National Science Foundation, \$3,000,000, 5 years.
15. (PI) S.S. Iyengar, (co-PI) N. Brener, B. Karki, "Center for High-Dimensional biomedical data with large bandwidth networking, data fusion and visualization to facilitate medical diagnosis and decision making", NSF/Board of Regents, \$317,948, Oct. 2007- Sept. 2010.
16. Dr. Sadayappan, Dr. Ramanujam (LSU), Dr. Baumgartner (LSU), Dr. Harrison, Dr. Bernholdt, Dr. Nieplocha, "An Integrated Framework for Compile-Time/Run-Time Support for Multi-Scale Applications on High-End Systems", NSF AES, \$708,000 (total), LSU share: \$145,500, 3 years.
17. G. Allen, J. Westerink (Notre Dame), G. Stone (School of Coast and Environment), I. van Heerden (LSU Hurricane Center), B. Aksoylu (Dep. of Mathematics), "A General DDDAS Framework with Coast and Environment Modeling Applications", NSF CISE, \$220,000, 1 year.
18. Dr. T. Sterling, "Advanced Architecture Elements for Next Generation HPC", Sandia National Laboratories, \$164,946, 3 years, starting October 2007.
19. (PI) S.S. Iyengar, (co-PIs) S.J. Park, H-C. Wu, P. Chen and Dr. Phoha (LaTech), "Secure and Survivable Cyber-Centric Sensor Networks: Algorithms and Architecture Research", DoD DEPSCoR Grant, \$761,000, 3 years, starting July 2008.
20. (PI) V. Phoha, (co-PI) S.S. Iyengar, "Center of Excellence in Integrated Smart Cyber-Centric Sensor Surveillance Systems Research", Board of Regents Post-Katrina Funds, \$3.6 M (LSU share is 1.2 M), Starting from 2007.
21. M. Paj, R. Thottethodim, R.Shah, T.N. Vijaykumar, J. Vitter, "Performance Models and Systems Optimization for Disk-Bound Applications", NSF 889,788 (LSU share is \$275,635), 10/1/06-9/30/09.

# Recent Publications (Journals, Conferences, etc.)

1. Wang, X., E. Triantaphyllou, and E. Kujawski (2008), "Communication on the Paper "A Reference-Dependent Regret Model for Deterministic Tradeoff Studies", "Journal of Systems Engineering, accepted for publication.
2. Wang, X., and E. Triantaphyllou, (2008), "Ranking Irregularities When Evaluating Alternatives by Using Some ELECTRE Methods," Omega, Vol. 36, No. 1, pp. 45-63, February 2008
3. B. Xu, S. Tirthapura, C. Busch. Sketching Asynchronous Data Streams over Sliding Windows. Distributed Computing, Vol. 20, No. 5, pp. 359-374, February 2008.
4. P.T. Krishna Kumar, V.V. Phoha, S.S. Iyengar "Classification of radio elements using mutual information: A tool for geological mapping," International Journal of Applied Earth Observation and Geoinformation. 2008 (In Press).
5. C. Busch, M. Magdon-Ismael, J. Xi. "Optimal Oblivious Path Selection on the Mesh," IEEE Transactions on Computers, Vol 57, No. 5, May 2008.
6. M. Karuppasamy, D. Pal1, R. Suryanarayanan, N. E. Brener, S. S. Iyengar, G. Seetharaman, "Functionally important segments in proteins dissected using Gene Ontology and geometric clustering of peptide fragments," Genome Biology, 9:R52, March 2008.
7. P.T. Krishna Kumar, V.V. Phoha, S.S. Iyengar. "Simulation of robust resonance parameters using information theory," Annals of Nuclear Energy. 2008.
8. Q. Wu, M. Zhu, N.S.V.Rao and S.S. Iyengar, "Self-Adaptive Configuration of Visualization Pipeline Over Wide-Area Networks", IEEE Transactions on Computers, Vol. 57, No.1, January 2008.
9. M. Zhu, S. Ding, R. R. Brooks, Qishi Wu, Nageswara S.V. Rao, and S.Sitharama Iyengar, "Fusion of Threshold Rules for Target Detection in Wireless Sensor Networks", ACM Transactions on Sensor Networks (in press).
10. N.Rao, M.Shankar, J.-C. Chin, D. Yau, S.Srivathsan, S.S.Iyengar, Y.Yang, J.Hou, "Identification of Low -Level Point Radiation Sources Using a Sensor Network", Proceedings of International Conference on Information Processing in Sensor Networks (IPSN), April 22-24, 2008, St.Louis, Missouri.
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