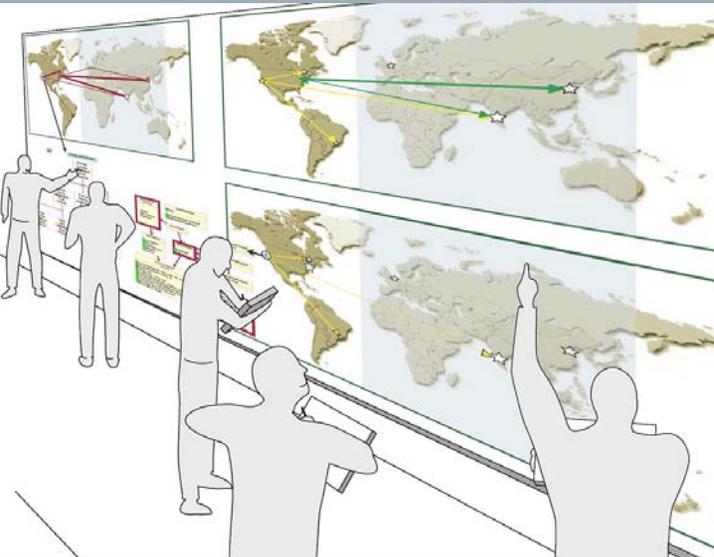


Annual Report 2005-06



Donald Bren School of Information and Computer Sciences

UCIrvine



Statistics Chair Hal Stern, Computer Science Chair Sandra Irani,
Informatics Chair David Redmiles, Dean Debra Richardson

Dear Bren School Community,

It is my pleasure to introduce the 2005-06 Donald Bren School of Information and Computer Sciences Annual Report. Through our annual report we hope to keep you – our close friends and colleagues – abreast of our accomplishments, as well as challenges.

Today, we are an academic community of more than 1,500 students, over 100 full-time faculty and staff, and approximately 6,500 alumni worldwide. In teaching and scholarship, we continue to be among the top in information and computer sciences. *The Chronicle of Higher Education* ranked us third in Information Sciences research.

I invite you stay in touch with us throughout the year by subscribing to our RSS feed or visiting our Web site regularly (www.ics.uci.edu).

Many thanks for your continued support of our vision as well as our research and education.



Debra J. Richardson

The Ted and Janice Smith Family Foundation Dean

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Bren School Faculty

Faculty members in the Bren School are of national and international renown, including ACM and IEEE Fellows, AAAI Career Fellows respected authors, and preeminent researchers and scholars.

Despite an exhaustive list of accolades, the most notable trait of each faculty member is the unparalleled commitment to teaching and instruction as demonstrated in the classroom.

The Bren School's 68 faculty (and their primary research area) are listed in alphabetical order. For more about our faculty and their research, please visit: www.ics.uci.edu/faculty.

Thomas A. Alspaugh
Software Engineering

James Arvo
Computer Graphics

Pierre Baldi
Artificial Intelligence and Machine Learning

Lichun Bao
Networked and Distributed Systems

Lubomir Bic
Networked and Distributed Systems

Alfred Bork
Computer Science Education

Elaheh (Eli) Bozorgzadeh
Embedded System Design

Rina Dechter
Artificial Intelligence and Machine Learning

Michael Dillencourt
Theory of Computing

Paul Dourish
Human-Computer Interaction

Nikil Dutt
Embedded System Design

Magda El Zarki
Networked and Distributed Systems

David Eppstein
Theory of Computing

Julian Feldman
Computer Science Education

Stephen D. Franklin
Networked and Distributed Systems

Michael Franz
Compilers and Operating Systems

Dan Frost
Computer Science Education

Daniel Gillen
Statistics (Biostatistics)

Tony Givargis
Embedded System Design

Michael T. Goodrich
Security, Privacy and Cryptography

Richard Granger
Bio-Medical Informatics

Ian G. Harris
Embedded System Design

Wayne Hayes
Database and Information Management

Daniel S. Hirschberg
Theory of Computing

Sandra Irani
Theory of Computing

Norman Jacobson
Computer Science Education

Ramesh Jain, Bren Chair in ICS
Experiential Multimedia Computing

Stanislaw Jarecki
Security, Privacy and Cryptography

Wesley O. Johnson
Statistics

David G. Kay
Software Engineering

Dennis Kibler
Artificial Intelligence and Machine Learning

Alfred Kobsa
Human Computer Interaction

Roberta Lamb
Social Informatics

Richard Lathrop
Artificial Intelligence and Machine Learning

Chen Li
Database and Information Management

Gang Liang
Statistics (Machine Learning)

Cristina V. Lopes
Compilers and Operating Systems

George S. Lueker
Theory of Computing

Aditi Majumder
Graphics and Visual Computing

Gloria Mark
Human Computer Interaction

Gopi Meenakshisundaram
Graphics and Visual Computing

Sharad Mehrotra
Database and Information Management

Eric Mjolsness
Artificial Intelligence and Machine Learning

Bonnie Nardi
Human Computer Interaction

Alexandru Nicolau
Embedded System Design

Renato Pajorola
Graphics and Visual Computing

Donald J Patterson
Artificial Intelligence and Machine Learning

Natasa Przulj
Bio-Medical Informatics

David Redmiles
Software Engineering

Amelia C. Regan
Database and Information Management

Debra J. Richardson
Software Engineering

Suzanne K. Schaeffer
Software Engineering

Isaac D. Scherson
Network and Distributed Systems

Susan E. Sim
Software Engineering

Padhraic Smyth
Artificial Intelligence and Machine Learning





Bren School Faculty

Thomas A. Standish

Software Engineering

Hal Stern

Statistics (Bayesian Statistics)

Tatsuya Suda

Networked and Distributed Systems

Shannon Tauro

Embedded Systems Design

Richard Taylor

Software Engineering

Alex Thornton

Computer Science Education

Bill Tomlinson

Arts Computation Engineering

Gene Tsudik

Security, Privacy and Cryptography

Andre van der Hoek

Software Engineering

David van Dyk

Statistics (Bayesian Statistics)

Alexander Veidenbaum

Computer Architecture

Nalini Venkatasubramanian

Experiential Multimedia Computing

Max Welling

Artificial Intelligence and Machine Learning

Xiaowei Yang

Network and Distributed Systems

Yaming Yu

Statistics (Statistical Computing)

Hadar Ziv

Software Engineering

Curiosity about the world and a commitment to solving problems are the passions that drive faculty at the Bren School. Their research in the information and computer sciences are applicable to many scholarly and scientific fields. But, our faculty don't do it alone. Students work side-by-side with nationally renowned professors to advance knowledge - and improve lives. Below is a list of key research areas tackled by our faculty.

» Computer Architecture

Computer architecture is the conceptual design and fundamental operational structure of a computer system. It is a blueprint and functional description of requirements and design implementations for the various parts of a computer — focusing largely on the way by which the CPU performs internally and accesses addresses in memory.

» Embedded System Design

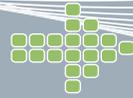
Focuses on issues relating to embedded systems, a special-purpose system in which the computer is completely encapsulated by the device it controls. Unlike a general-purpose computer, such as a personal computer, an embedded system performs pre-defined tasks, usually with very specific requirements.

» Network and Distributed Systems

Researchers investigate various issues in the design and analysis of high-speed networks for multimedia applications. They are actively involved in research on computer networks and distributed systems, with the goal of designing, analyzing and implementing communication systems that allow high-speed transport of multimedia information between end-users.

» Compilers and Operating Systems

Compilers and Operating Systems concentrates on reasons for wanting to translate source code is to create an executable program and the set of computer programs that manage the hardware and software resources of a compute. At the foundation of all system software, an



Research Areas

operating system performs basic tasks such as controlling and allocating memory, prioritizing system requests, controlling input and output devices, facilitating networking, and managing files.

» Programming Models and Languages

Sets of software technologies express parallel algorithms and match applications with the underlying parallel systems. Programming models and languages enclose the areas of applications, programming languages, compilers, libraries, communications systems, and parallel I/O. A programming model is usually judged by its expressibility and simplicity, which are by all meanings conflicting factors. The ultimate goal is to improve productivity of programming.

» Security, Privacy and Cryptography

The development of secure communication protocols is a critical issue in today's age of pervasive communication and researchers in this area work on issues that include anonymity and authentication in network security, key agreement and digital signatures.

» Ubiquitous Computing

Ubiquitous computing builds upon and unites virtually all of the current research strengths in the Bren School. Researchers are addressing issues such as context-aware computing, whereby mobile computing responds to one's current context.

» Experiential Multimedia Computing

A very important but often ignored fact in information-centric computing environment designs is that humans are

very efficient in perceptual analysis and relatively weak in logical analysis; computers today are exactly opposite. By using computers and users synergistically as a system, a very different type of computing environment, experiential environments, could be developed. Experiential environments allow a user to directly observe data and information of interest related to an event and to interact with the data based on his interests in the context of that event.

» Graphics and Visual Computing

Focuses on the field of visual computing, where one utilizes computers both to generate visual images synthetically and to integrate or alter visual and spatial information sampled from the real world. Current and future research areas include multi resolution modeling, surface reconstruction and image based rendering.

» Artificial Intelligence and Machine Learning

Research in AI is concerned with producing machines to automate tasks requiring intelligent behavior. Examples include computer vision, bioinformatics, constraint-based problem solving, text understanding, data mining and smart sensor networks.

» Bio-Medical Informatics

Involves the use of techniques from applied mathematics, informatics, statistics, and computer science to solve biological problems. Current areas of research at the Bren School include medical information access and knowledge representation for health-care guidelines.

» Scientific Computing

Refers to the application of computers to scientific problems, from astrophysics to zoology. The mode of application can be system modelling, data analysis and mining, or visualization. The focus can be on developing new computational techniques, such as parallel algorithms or new data mining ideas, or on the novel application of existing techniques to new scientific problems.

» Theory of Computing

Bren School faculty members have made significant contributions to many topics in this field, including graph algorithms and graph drawing (computing with systems of pairwise interactions between objects such as web page links, protein interactions, or social networks) and computational geometry (computing with planar or spatial data).

» Statistics

Researchers are concerned with developing and studying methods for collecting, analyzing, interpreting and presenting empirical data. Statistical principles and methods are important for addressing questions in public policy, medicine, industry and virtually every branch of science.

» Databases and Information Management

Database and Information Management studies both the structure and behavior of computers systems from repositories, interfaces and channels to services and messages.



Research Areas

» Information Design

Information Design is the art and science of preparing information so that human beings can use it with efficiency and effectiveness. More specifically, it focuses on visual displays of data, information architecture, the design of information systems, databases and data structures.

» Software Engineering

Software research is aimed at creating new software technology and solutions, furthering the information revolution. The central goal of this research is improvement in software development, evolution, deployment, quality, understandability and cost-effectiveness.

» Human Computer Interaction

Human Computer Interaction explores the interaction between people (users) and computers. It is an interdisciplinary subject, relating computer science with many other fields of study and research. Interaction between users and computers occurs at the user interface, which includes both software and hardware, for example, general-purpose computer peripherals and large-scale mechanical systems such as aircraft and power plants.

» Computer Supported Collaborative Work

Computer Supported Collaborative Work researches and innovates collaborative technologies. The discipline studies the hardware, software and processes designed to aid in group related tasks such as basic communication, information sharing, decision making, scheduling, and design.

» Social Informatics

Social informatics is part of a larger body of socio-economic research that examines the ways in which the technological artifact and human social context mutually constitute the information and communications technology ensemble. UCI is an

internationally recognized center for research on the social and managerial dimensions of computerization, computer-supported cooperative work, and human-computer interaction.

» Arts Computation Engineering

Arts Computation Engineering (ACE) addresses emerging practices and career paths that combine skills and sensibilities of technical and scientific disciplines with arts and humanities. The ACE program is oriented towards informed production. ACE students make things that work, and they understand the technical, historical and socio-cultural locations of their work. ACE favors originators of novel techno-cultural formations, makers of machines, responsive environments, socio-politically situated action and non-standard technological systems.

» Computer Science Education

Computer Science Education concentrates on curricular development and evaluation of student software. The program at the Bren School focuses on finding new delivery methods for materials being taught instead of the traditional research in software engineering education that tends to focus on the materials to be taught or the kinds of class projects to be used in training students.



Department of Computer Science

About Computer Science

Computer science is the catalyst for every evolutionary — and revolutionary — step in computer development. From mathematical theories, data structures and algorithms to the operating systems and programs that employ them, an understanding of computer science is essential if you wish to develop the next advances in computer technology and applications.

The Department is internationally recognized as a unique group of faculty, visiting researchers, students and educational programs. Computer science faculty conduct research in numerous aspects of computer science including:

- » Computer Architecture
- » Embedded Systems Design
- » Networked & Distributed Systems
- » Compilers and Operating Systems
- » Programming Models & Languages
- » Databases and Information Management
- » Artificial Intelligence and Machine Learning
- » Security, Privacy and Cryptography
- » Ubiquitous Computing
- » Graphics and Visual Computing
- » Experiential Multimedia Computing
- » Scientific Computing
- » Theory of Computing
- » Computational Biology and BioInformatics

New Faculty



Natasa Przulj joined Computer Science in July 2005. She received her Ph.D. from the University of Toronto. Dr. Przulj's research includes the analysis and modeling of biological, technological, and social networks. The current focus of her interest is biological networks, with an emphasis on protein-protein interaction networks. Przulj is interested in practical and theoretical problems in various areas of systems biology, proteomics, cancer informatics, chemo-informatics, and graph theoretic problems arising from these applications.

Notable Financial Awards



Pierre Baldi and information theorist Laurent Itti of USC joined with electro physiologist Douglas Muñoz of Queens University, Canada on a study of how brains measure "surprise" in a data stream. The computational theory of surprise was developed by Baldi in 1999 and first published in 2002. The NSF award will allow the multi-organizational team to put the theory to test.



Rina Dechter was awarded a fellowship from the Radcliffe Institute for Advanced Study at Harvard University to conduct her research in automated reasoning. Dechter spent her 2005-06 academic year at the Radcliffe Institute to pursue her project on advanced search strategies for mixed probabilistic and deterministic networks.



Michael Franz received a \$400,000 NSF grant for his research project entitled MLS-VM: Design and Implementation of a Next-Generation Information-Centric Target Platform for Trusted Internet Computing. He is also the recipient of a \$300,000 NSF grant in Computer Systems Research for his project, "Virtual-Machine Techniques for Resource-Constrained Devices: Reconciling Reliability with Reusability and Low Development Costs in the Embedded Systems Space."



Richard Lathrop and **Pierre Baldi** were awarded an \$1.8 million NIH grant for a project that applies machine learning to the central tumor-suppressor protein known as "p53." The ultimate goal of the project is to identify new anti-cancer drugs.



Department of Computer Science



Padhraic Smyth along with professor of earth systems science Gudrun Magnusdottir and professor of statistics **Hal Stern** were awarded a three-year

\$618,000 NSF grant to develop statistical image analysis and tracking algorithms for analyzing satellite images of large-scale atmospheric disturbances over time.

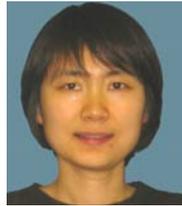


Tatsuya Suda has received grants totaling more than \$1.35 million for his research in molecular communication aimed at creating a communication system for biological nano machines to communicate. The first grant of \$100,000 from the NSF's Nanoscale Exploratory Research program supports Suda's

research entitled Exploratory Research in Molecular Communication between Nanomachines. Two additional grants from the National Institute of Information and Communications Technology will support his research project entitled Molecular Communication: Exploratory Research to Integrate Bio Technology.



Max Welling along with Pietro Perona at Caltech received a joint NSF grant to build a computer vision system that learns a taxonomy of visual object categories without supervision.



Xiaowei Yang is the recipient of two NSF awards to study ways to improve Internet architecture. The first award, provides \$300,000 to NeTS FIND: An Internet Architecture For User Controlled Routes. The second project, awarded \$200,000 and entitled a CT-ER: A DoS-Resistant Internet Architecture, a project to design

and evaluate an Internet architecture that is resistant to Denial-of-Service flooding attacks of any scale.

Best Paper Awards



Pablo Diaz-Gutierrez and professors **Gopi Meenakshisundaram** (left) and **Renato Pajarola** won the a best paper award at the annual *Eurographics* conference held in Dublin, Ireland in August 2005. Their paper was title "Hierarchyless Simplification, Stripification, and Compression of Triangulated Two-Manifolds.



Ph.D. candidate **Jun Lu** and professors **Lichun Bao** (left) and **Tatsuya Suda** received the best paper award at the 2005 IFIP *International Conference on Embedded And Ubiquitous Computing*. The paper, titled "Coverage-Aware Sensor Engagement in Dense Sensor Networks," proposed a novel coverage maintenance

scheme for sensor networks, which considerably improves the energy efficiency and reduces the computation and communication costs to maintain the required coverage degree in a dense sensor network. The conference was held in Nagasaki, Japan, December 2005.



A paper written by professors **Magda El Zarki**, **Nikil Dutt** and **Nalini Venkatasubramanian** was awarded the Best Paper Award, 1st Place Winner at the 3rd *IEEE Consumer Communications and Networking Conference* that took place in Las Vegas, January 2006. The paper titled "Backlight Optimization



Scheme for Video Playback on Mobile Devices," examined ways to create substantial energy savings by dynamically adapting backlight intensity levels on low power portable devices like the Compaq iPAQ.



The Editorial Board of ACM TODAES selected **Tony Givargis'** paper, entitled "Zero Cost Indexing for Improved Processor Cache Performance," for the *ACM Transaction on Design Automation of Electronic Systems (TODAES)* 2006 Best Paper Award. Givargis received the award at the 43rd Design Automation Conference in San Francisco.

Ph.D. candidate **Sudeep Pasricha** and professor **Nikil Dutt** received the Best Paper Award at the *Asia and South Pacific Design Automation Conference (ASPDAC)* that took place in Yokohama, Japan in January 2006. The paper, titled "Constraint-driven Bus Matrix Synthesis for MPSoC," proposes novel techniques to reduce the cost and development time of communication architectures for high performance electronic systems used in the next generation electronic devices.



Love Singhal, a Ph.D. candidate in computer science, and professor **Eli Bozorgzadeh** (left) received the Best Paper Award at the 2006 IEEE *International Conference on Field Programmable Logic and Applications* that took place in Madrid, Spain, August 28-30 2006. The awarded paper is titled

"Multi-layer Floorplanning on a Sequence of Reconfigurable Designs".

Accolades

Pierre Baldi and **Nikil Dutt** have been awarded the title of Chancellor's Professor. The title is conferred for a five-year renewable term and recognizes scholars who have demonstrated unusual academic merit and whose continued promise for scholarly achievement makes them of exceptional value to the university.

Magda El Zarki has been appointed Cor Wit Chair at Delft University of Technology in the Netherlands. Established in 2003 by the Cor Wit Foundation, the Cor Wit Chair is awarded annually to international researchers in the field of telecommunications and informatics who focus on research questions at the interface of technology and society.

Michael Franz and **Michael Goodrich** have been elected a Distinguished Scientist of The Association for Computing Machinery. Distinguished Member status is a rare honor and is awarded only to those who have made significant impact on the computing field.



Goodrich has also been awarded the 2006 Technical Achievement Award from IEEE. The award cites his "outstanding contributions to the design of parallel and distributed algorithms for fundamental combinatorial and geometric problems".

Tatsuya Suda received the IEEE Communications Society 2006 Outstanding Service Awards at the INFOCOM 2006 conference in Barcelona.



Gene Tsudik has been awarded a Fulbright Scholar grant to lecture and conduct research at the University of Rome, Italy during the 2006-07 academic year. **Tsudik** also chaired the technical program at the second annual IEEE International Conference on Security and Privacy in

Communication Networks.



Sharad Mehrotra, professor of computer science, was awarded the 2005-06 Bren School Outstanding Mentor Award. Mehrotra was nominated by eight of his Ph.D. students.

Research Highlights

Professor **Padhraic Smyth** along with professor of earth system science Gudrun Magnusdottir and professor of statistics **Hal Stern** are developing statistical image analysis and tracking algorithms for analyzing satellite images of large-scale atmospheric disturbances over time. The interdisciplinary trio's research focuses specifically on developing tools to better understand a phenomenon known as the Inter-Tropical Convergence Zone (ITCZ), an important part of global large-scale atmospheric circulation. New models and algorithms are being investigated for tracking dynamic objects in images over time, using historical image data from visible and infra-red imagery, as well as satellite estimates of winds and liquid cloud water content.



Inspired by the popular newspaper puzzle Sudoku, professor **David Eppstein** has been working on a computer algorithm for finding paths in graphs. Sudoku problems can be solved by trial and error, but human solvers more typically

use a style of reasoning based on pattern matching and deduction, in which the existence of certain patterns of filled-in digits allows one to deduce which digit should be placed in each successive square. Eppstein has been working on modeling these kinds of deductions as efficient computer algorithms, and implementing them in a Sudoku puzzle solver that uses this same style of deductive reasoning. In contrast to a trial and error

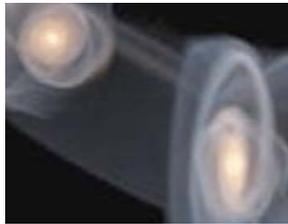
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Department of Computer Science

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solver, the program based on these algorithms is able to automatically grade puzzles by their difficulty, and can automatically generate random puzzles at all levels of difficulty for finding paths in graphs.

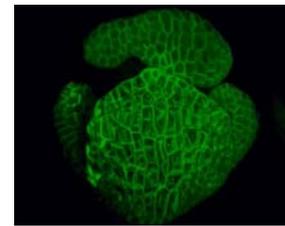


Professor **Wayne Hayes** is interested in the numerical reliability of simulations of physical systems. An example is the image at left, which is from a computer simulation of a collision between two galaxies. Since numerical simulations of physical systems form a crucial link between theory

and observation, it is important to verify that the numerical aspects of such simulations are accurate enough to properly represent a theory that is being tested. Recently he demonstrated that the above galaxy simulation is more than 95 percent accurate, but that some other galaxy simulations are significantly less accurate. His technique can be used to test the reliability of any simulation of a large number of particles, such as a molecular system.

Assistant professor **Natasa Przulj** is researching large real-world networks with the emphasis on biological networks. Understanding the inner workings of the cell constitutes the foremost fundamental problem of modern biology. The information contained in large protein-protein interaction (PPI) networks is being exploited for understanding the cell and developing new drugs. Przulj has proposed a new model for PPI networks. She has introduced a new measure of local network structure based on finding and counting all instances of small connected induced subgraphs of a large

network, called graphlets. Using this new measure, she showed that PPI networks are better modeled by geometric random graphs than by previously proposed models, including scale-free networks. She used this new model to develop efficient and scalable heuristic algorithms for estimating graphlet frequency distribution patterns in PPI networks.



Professor Eric Mjolsness and his colleague Elliot Meyerowitz at the California Institute of Technology (Caltech) are researching how genetic makeup and the environment interact to shape intricate developmental processes that lead to functional tissues, organs and organisms

from undifferentiated plant cells. Advances in biological knowledge, imaging instrumentation, applied biomathematics, and computing, has made it possible to create and apply computational modeling to integrate multidisciplinary approaches and different types of biological data in studying development. With a \$5 million National Science Foundation (NSF) Frontiers in Integrative Biological Research (FIBR) grant, Mjolsness and Meyerowitz plan to develop a mathematical and computational infrastructure to characterize the pathways and interactions between complex molecules and the cellular environment.



Department of Informatics



Professor Bill Tomlinson and his Social Code Group have created the Protohuman Project, a creation of communities of believable autonomous characters that inhabit heterogeneous networks of computational devices.

About Informatics

Informatics is the interdisciplinary study of the design, application, use and impacts of information technology. It goes beyond technical design, to focus on the relationship between information system design and use in real-world settings. These investigations lead to new forms of system architecture, new approaches to system design and development, new means of information system implementation and deployment as well as new models of interaction between technology and social, cultural and organizational settings.

Informatics faculty conduct research in numerous aspects of Informatics including:

- » Social Informatics
- » Ubiquitous Computing
- » Computer Supported Collaborative Work
- » Software Engineering
- » Programming Models & Languages
- » Computer Science Education, Informatics Curriculum
- » World Wide Web / Internet Technology
- » Arts Computation Engineering
- » Human Computer Interaction
- » Information Visualization
- » Information Design & Management
- » Usable Security and Privacy

New Faculty



Informatics welcomed **Donald J. Patterson** in July 2005. Patterson received his Ph.D. from the Computer Science Department at the University of Washington, working with Henry Kautz and Dieter Fox on devices that provide cognitive assistance for the elderly, such as the "Activity Compass" and the "Opportunity Knocks" system. Patterson was a National Defense Science and Engineering Graduate fellow; and the recipient of the UW CSE Educator's Fellowship for 2004-05. He was also awarded the 2000-01 Bob Bandes Teaching Award and served as the 2001-02 Graduate Student Coordinator and the 2002-03 Prospective Grad Student Recruiting Co-chair.

Patterson's research interests lie at the intersection of artificial intelligence and ubiquitous computing and he has applied this work to transportation and activity assistance.



Alumna **Roberta Lamb** joined the Bren School as Associate Professor of Informatics in April 2006 from the University of Hawaii's College of Business Administration. Her research interests included social and organizational informatics, information systems, and socio-technical network simulation. Lamb's research focused on information and communication technology use within organizations and in widely dispersed socio-technical networks. Lamb also served as deputy editor of *The Information Society*, associate editor of *Information Technology and People* and, social aspects theme editor of *Journal of Digital Information*.

Unfortunately, seven months after her arrival, Roberta passed away unexpectedly.



Department of Informatics

Notable Financial Awards



Paul Dourish, Simon Cole and Jennifer Terry were awarded a \$750,000 NSF award to investigate the ways new and emerging technologies such as blogging and text messaging are transforming peoples' privacy and identity in today's society. The project brings together researchers from the Bren School and the Schools of Humanities and Social Ecology to take a broad view of the ways in which technology and everyday life intersect, placing technology in a broader social and cultural context. The project is titled "Privacy, Identity and Technology."



David F. Redmiles and **Andre van der Hoek** were awarded \$680,000 in funding from NSF to explore new ways of supporting collaboration in complex, dynamic, and distributed settings. The project will focus on: designing a generic infrastructure for continuous coordination (Neon), exploring the use of Neon to construct three new applications that resolve around

the continuous coordination paradigm, and evaluating the technology and overall approach through focused studies and trial use by our industrial partners.



Richard N. Taylor was awarded \$455,000 in funding from the National Science Foundation to explore software architecture-based approaches for engineering secure decentralized applications with **Paul Dourish**. The project will focus on developing effective design principles and software architectural styles for incorporating trust management in decentralized applications.

Andre van der Hoek received a \$125,000 award from the National Science Foundation to pursue the creation of an innovative, educational software design environment. The project aims to create a layered software design environment, EASEL, that operates much

like Adobe Photoshop but is specifically engineered to support software design. EASEL will explore how layers can support students in the creative exercise of design, help them separate concerns when they are designing, and provide them with examples after which they can pattern their designs.

Best Paper Awards

Donald J. Patterson received a best paper award at the ninth annual *International Symposium on Wearable Computers (ISWC 2005)* for work on activity recognition. His paper, "Fine-Grained Activity Recognition by Aggregating Abstract Object Usage" looked at ways that RFIDs could be leveraged to provide context for intelligent user interfaces.

Accolades



Alfred Kobsa was awarded the coveted Alexander von Humboldt Research Award, conferred by the government of Germany upon senior foreign scientists and scholars. He will be accepting the award next Spring in Germany. Kobsa will work with Professor Oliver Günther and Dr. Sarah Spiekermann from Humboldt University, Berlin, and jointly study privacy implications of the usage of radio frequency identification tags in the retail industry.



Gloria Mark and **Renato Pajarola** received the Bren School Outstanding Student Mentor Award. This award recognizes faculty members who have shown uncommon dedication to graduate students.

In recognition for his research activities involving IBM technology, **André van der Hoek** has been awarded an IBM Technology Fellowship for the year 2006. The fellowship supports his ongoing research in coordination technology for software development, particularly his work in extending configuration management systems with awareness.

Research Highlights



Professor **Paul Dourish**, research associate **Johanna Brewer** and Ph.D. student **Amanda Williams** have created ambient displays for the Calit2 building. Ambient displays build on the observation that people use clues in the everyday world to understand activities around them; they rely on the periphery rather than the focus of people's attention and exploit the physical structure of the world as a display medium. Typically designed

with aesthetics in mind, they augment the user's environment rather than increasing their already heavy cognitive load.

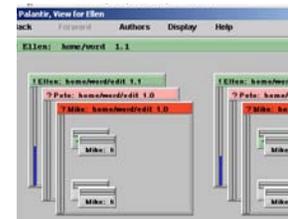


Professor **Crista Lopes** and professor of chemical engineering Stanley Grant are developing a web-based watershed information and management tool called the California Sustainable Wetland Information Manager, CalSWIM. CalSWIM is an academic-government initiative to develop an intelligent database for accessing and interacting with environmental monitoring data. An interdisciplinary team of researchers conduct field work and

modeling studies collectively aimed at creating and implementing this web-based expert system and integrated information manager. CalSWIM is designed both as a public forum for exploring local watersheds and as a web location to help coastal managers make cost-effective and scientifically justifiable decisions regarding the monitoring, management, and alteration of coastal urban wetlands and their associated watersheds.

Professor **Debra Richardson** and **Hadar Ziv** with Ph.D. student **Lihua Xu** are conducting research in the area of analysis and testing of software architectures against stated requirements, in particular specifications of one or more desirable

software qualities. With respect to requirements, they are interested in the known distinction between functional requirements and non-functional requirements as well as the more recent one between "regular" and "crosscutting" concerns. Utilizing these distinctions, they seek to analyze a given software architecture against critical non-functional requirements and crosscutting concerns, such as security, usability, integrity, and performance, before the architecture is implemented.



Professor **André van der Hoek** and graduate student **Anita Sarma** have developed Palantir, a novel configuration management (CM) workspace awareness tool. Configuration management systems enable parallel development, that is, tens or hundreds of developers all implementing parts of a single software system. Palantir informs a developer of which other developers are changing which other artifacts in parallel. Developers, thus, do not have

to wait until their changes have been completed to know that a conflict may exist; the awareness raised by Palantir allows them to proactively self-coordinate and avoid conflicts as they arise. Palantir incorporates a series of different visualizations to illustrate the presence of conflicts and also has been integrated with the Eclipse integrated development environment.



Department of Statistics

About Statistics

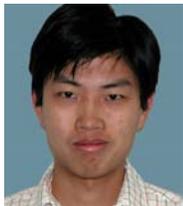
The Department of Statistics was founded in 2002 with an emphasis on research in statistical theory and interdisciplinary collaborations. Statistics — concerned with developing and studying methods for collecting, analyzing, interpreting and presenting empirical data — is important for addressing questions in public policy, medicine, industry and virtually every branch of science.

Interest in statistical methods has increased dramatically with the abundance of large databases in fields like computer science (Internet and Web traffic), business and marketing (transaction records), and biology (the human genome and related data). It is the substantial questions in the various areas of application that drive the development of new statistical methods and motivate the mathematical study of the methods' properties.

Statistics faculty conduct research in numerous aspects of Statistics including:

- » Bayesian Methodology
- » Biostatistics
- » Statistical Computing
- » Astrostatistics

New Faculty



Statistics welcomed **Yaming Yu**, a 2005 Harvard University graduate, as Assistant Professor in July 2005. Dr. Yu's research interests include Bayesian modeling (as applied to astrophysical data obtained by today's high resolution telescopes); missing data problems (multiple imputation of public-use databases by iteratively fitting conditional models based on monotone missing data patterns); and statistical computing (numerical analysis tools to accelerate the EM algorithm, and efficient data augmentation schemes to speed up Markov chain Monte Carlo simulations).

Faculty Awards and Accolades

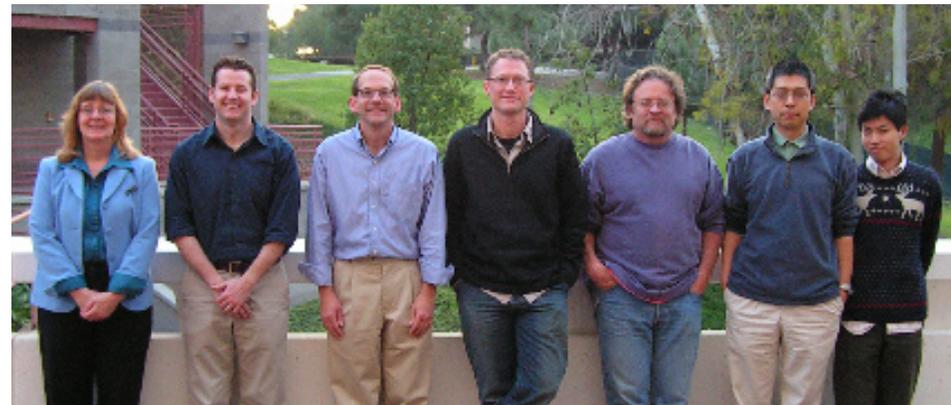


Daniel Gillen was appointed to the Federal Drug Administration's advisory committee for Reproductive Drugs as a statistician for the panel. Gillen was recommended and selected for the four-year appointment based upon his work in the design and analysis of clinical trials.



David van Dyk was selected as a Fellow of the American Statistical Association (ASA) by the 2006 ASA Committee on Fellows. Each year, ASA members nominate their peers as fellows of the ASA. Qualifications include having made outstanding contributions in some aspect of statistical work." ASA annually selects no more than one-third of one percent of its members as fellows.

Van Dyk was also named Editor-elect for the Journal of Computational and Graphical Statistics. Established in 1992, this journal contains cutting-edge research, data, surveys, and more on numerical graphical displays and methods, and perception. Articles are written for readers who have a strong background in statistics but are not necessarily experts in computing.



Statistics Faculty: Rosemary Busta (department manager), Daniel Gillen, Hal Stern, David van Dyk, Wesley Johnson, Gang Liang, Yaming Yu

Statistics Introduces New M.S. and Ph.D. Degrees

Effective June 2006, the Donald Bren School of Information and Computer Sciences began offering Master of Science and Doctor of Philosophy degrees in Statistics.

Statistics has acquired a greater focus on interdisciplinary work with statisticians as key members of collaborative teams working on important scientific problems in medicine, engineering, the natural sciences and the social sciences. The Department of Statistics at UCI was formed with this interdisciplinary model in mind.

Bren School faculty are strong in statistical theory and methodology relevant to one or more applied domain. Students in the M.S./Ph.D. program will benefit from the presence of faculty expertise in all of the departments in the Bren School.

The increased interdependence of computing and statistics is apparent in computer science research. Advances in statistical areas such as re-sampling methods, non-parametric methods, and advanced Bayesian modeling rely on the availability of powerful computers and Monte Carlo algorithms. In addition, research by computational scientists in artificial intelligence and machine learning has become increasingly reliant on probabilistic and statistical models.

The M.S./Ph.D. program focuses on the development, understanding, and application of statistical methods as they are used to solve problems in a variety of disciplines. Training statisticians to fill this role is important because more and more fields are reliant on the ability to collect, analyze, and interpret large amounts of quantitative information. Examples include studies of climate prediction in the natural sciences, combination of genetic and clinical information in medicine, and mining information in business and industry to improve products and services.

Statistics expertise is increasingly important for research universities as a consequence of the explosive growth of data in various disciplines in the biological, medical, policy, natural and social sciences and the changing computing environments that provide new opportunities for their analyses.



The goal of the Ph.D. program is to train statistical researchers to be leaders in the development of statistical methodology and statistical theory and to be active participants in interdisciplinary collaborations. The M.S. program meets the needs of three distinct groups of students: (1) incoming graduate students unwilling to commit to the Ph.D. program; (2) Ph.D. candidates in other fields with substantial interests in statistics; and (3) professional M.S. students desiring high-level training for employment.

Seven UC campuses offer doctoral programs in Statistics and each program emphasizes different aspects of the field: mathematical theory underlying statistical methods, social sciences, agricultural applications, applied probability, engineering and the physical sciences.

Employers for M.S. degree recipients include pharmaceutical companies, medical school research centers, and financial service firms. The U.S. Census Bureau, the Bureau of Labor Statistics, other federal agencies, governments, and state and city agencies all employ statisticians.

The Department of Statistics will initially enroll up to six Ph.D. students and 15 M.S./Ph.D. students each year, eventually reaching up to 40 students.



Bren School Events

The Bren School is proud to feature colloquiums, seminars and speaker series' sponsored by our departments and research centers. The following is a selected list of events that the Bren School offered to our faculty and students during the 2005-06 academic year.

Fall Quarter '05

- Quality Driven Software Reengineering¹
- Southern California Security and Cryptography Workshop
- Disaster Prediction Response and Recovery (DisPRR) – Australia coming to the RESCUE
- ACE 'Free Range Intellectuals' Lecture Series: Andrew Pickering
- Self-consistency in the Context of Bayesian Inference
- Google Information Session
- Jeffrey Skolnick (Univ. at Buffalo)²
- DFuse and MediaBroker: System Support for Sensor-Based Distributed Computing
- PIE - Programmable Internet Environment
- Leslie Orgel (Salk Institute)²
- Michael Muller (Lotus Development Corp.)¹

¹Informatics Seminar Series

²IGB Distinguished Speaker

³RESCUE Seminar

⁴IGB Colloquium

⁵ISR Distinguished Speaker

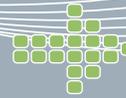
Podcast the Chancellor's Distinguished Fellow Series Speaker, Marvin Minsky at www.ics.uci.edu/minsky

Winter Quarter '06

- Ted & Janice Smith Distinguished Lecture Series (2)
- Colloquium: Yee Whye Teh (NUS)
- Terrence Sejnowski (Salk Institute)²
- GeoDec: Enabling Geospatial Decision Making³
- Przemyslaw Prusinkiewicz (Univ. of Calgary)⁴
- ACM Career Expo
- Dimension Reduction in Regression: Methods with a Unified Index
- Some Recent Developments in Bayesian Model Selection
- Some Contributions to Robust Nonparametric Smoothing
- Statistics Seminar Series (3)
- John Sören Pettersson: Model-Driven Discovery and the NF-kappaB Signaling Network
- www.chmoogle.com: Finding, Curating and Searching the Internet's Chemistry
- Genomic Approaches to Understanding the Genetic Basis of Human Disease
- High-Productivity Programming Languages for Peta-Scale Systems
- Kimmen Sjolander (UC Berkeley)⁴
- Ontologies for the Semantic Web
- Real-Time Rendering of Non-Height-Field Surface Details
- Laurie Williams (North Carolina State Univ.)²
- Learning Joint Motion and Illumination Models From Video
- The Georgia Tech Biotracking Project
- 2006 Orange County/Los Angeles Biomedical Forum

Spring Quarter '06

- Computational Biology: Innovative Research Ignites Successful Startup
- TechWork: Bren School Career Night
- Network Systems Distinguished Speaker Series
- MASSIVE: Research Summit on the Future of Networked Multiplayer Games
- Network Systems Distinguished Speaker Series
- RESCUE Distinguished Lecture Series: Is the Tail Wagging the Dog?
- Les Gasser (UIUC)⁵
- Soren Brunak (Technical University of Denmark) ²
- Combining Biomechanical Simulation and Planning Algorithms to Optimize Medical Needle Insertion⁴
- Applying Cryptography in 3G Cellular Security
- Wayne Wolf, Modeling Disease Incidence Data with Spatial and Spatio-Temporal
- Computer Science Colloquium: Director of Design Verification, Scott Runner (Qualcomm)
- Stephen Altschul (NIH)²
- Context, Context, Context: The Next Law of Search
- Colloquium: Neural Representation of Visual Information
- Colloquium: Experimental and Computational Methods in Molecular Biology
- Faceted Metadata in Search User Interfaces³
- Networked Systems Distinguished Speaker: Constantine Dvrolis (Georgia Tech)
- Securing Topology Maintenance Protocols for Sensor Networks: Attacks and Countermeasures
- Robocode Tournament
- Chancellor's Distinguished Fellows Series: Marvin Minsky (MIT)
- ISR Research Forum
- Grad Student Research Forum
- Commencement



In the News

Subscribe to the Bren School's RSS (Really Simple Syndication) feed to get news delivered directly to your desktop. To view the Bren School feed in your RSS Aggregator, copy and paste this URL into your reader:

<http://www.ics.uci.edu/community/news/rss/news.xml>

Press Releases

- » UCI receives funding to create first interdisciplinary Ph.D. program across five schools
- » UC Irvine Informatics professor earns Humbolt Research Award
- » UCI faculty span the globe as Fulbright Scholars
- » Donald Bren School of Information and Computer Sciences Receives \$1.3 Million Gift
- » National Academy of Engineering Elects 76 members and nine foreign associates
- » UCI Alumni Association announces 2006 Lauds & Laurels Recipients
- » UCI receives major grant to help create national methods and standards for functional brain imaging
- » Orange County CEOs receive 'Advocate of the Year' awards from Alumni Associations of the UC
- » Researchers determine how plants decide where to position their leaves and flowers

- » New online database lets consumers share product information at point of purchase
- » Roberta Lamb Ph.D. '97 joins Informatics

In the News

- » **Meet the Life Hackers**
The New York Times
Person Quoted: **Gloria Mark**
- » **Ecology research as good green fun**
The Orange County Register
Person Quoted: **Bill Tomlinson**
- » **Givers from the beginning**
The Orange County Register
Person Quoted: **Ted Smith**
- » **Why modern offices only let you work for 11 minutes**
The Herald
Person Quoted: **Gloria Mark**
- » **Help! I've Lost My Focus**
TIME
Person Quoted: **Gloria Mark**
- » **Engaging kids to appreciate habitat restoration**
Irvine World News
Person Quoted: **Bill Tomlinson**

- » **UCI students bring female perspective to gaming**
The Orange County Register
Person Quoted: **André van der Hoek**
- » **Businesses find real uses in virtual world**
The Orange County Register
Person Quoted: **André van der Hoek**
- » **D-Link Leader Pushes Gear for Wireless Home**
Orange County Business Journal
Person Quoted: **Steven Joe**
- » **UCI team takes second place in computer-game competition**
The Orange County Register
Person Quoted: N/A



Dean Dabra, J. Richardson
Donald Bren School of Information and
Computer Sciences
UC Irvine



Centers of Excellence

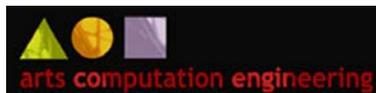
The Bren School is proud to be affiliated with nearly a dozen research centers on the UCI campus. Many of the centers are under the auspices of the School or its faculty.

Organized research programs provide a mechanism and organizational structure within which collective research activities can take place that are fundamentally different from those that occur normally within the schools and departments. They are intended to foster the development of short- and long-term research programs that span disciplines and academic units thereby making it possible for faculty to acquire extramural resources for which they might not otherwise qualify.



The Ada Byron Research Center for Diversity in Computing and Information Technology (ABRC) – a virtual research center created within the Bren School – studies and promotes diverse access to and participation in computer science, engineering, digital media and related information technology fields.

ABRC is an active participant with the National Center for Women and Information Technology, a coalition of organizations joining forces to ensure that women are fully represented in the influential work of information technology. ABRC serves as the University of California hub of this national effort. abrc.uci.edu



The Arts, Computing and Engineering (ACE) program addresses emerging practices and career paths that combine skills and sensibilities of technical and scientific disciplines with arts and humanities. ACE exists at the intersection of Arts, Humanities, Social Sciences, Computer Sciences, Engineering and other disciplines.

The sensibilities of sculpture, installation and performance art, graphics, improvisatory dance, drama and music are central in the production of new cultural forms. Real time computation, robotics and motion control, microcontroller and sensor technologies, immersive media technologies, computer graphics, networking/telematics, gaming,

embedded and wireless technologies are key technical areas. ACE is a partnership between the Bren School, the Claire Trevor School of the Arts, and The Henry Samueli School of Engineering. www.ace.uci.edu



California Institute for Telecommunications and Information Technology (Calit2) is one of four institutes launched in December 2000 through the California Institutes for Science and Innovation initiative. An experiment in inventing the collaborative research environment for the digital future, Calit2 creates research teams consisting of members from multiple academic departments often across multiple campuses. These teams integrate individuals' deep expertise across a broad range of disciplines to enable more comprehensive studies beyond those led by single principal investigators.

The Institute extends its involvement beyond faculty to students, industry, government, and community partners. "Living laboratories of the future" make it possible to push prototype projects one step beyond academic theory and peer-reviewed publishing to building and testing integrated systems under real world conditions. Calit2 also Provides technical professionals as the bridge between academia and industry to support activity in the living labs. www.calit2.net



The Center for Cyber-Security and Privacy (CCSP) focuses on the importance of security and privacy in our increasingly computerized life is difficult to overestimate. This importance is evident in the prevalence of major news stories about identity theft, privacy-eroding legislation and industry practices, spam, phishing, worms, and viruses.

CCSP aims to develop feasible and effective remedies that are legally permissible and enforceable, and understandable and acceptable for computer users. Building on the efforts of the SCONCE Lab, the CCSP focuses on the following areas: applied cryptography, network security, information assurance, intrusion detection, wireless security, peer-to-peer integrity, computational grid protection, user trust assurance, usability issues in security and privacy, anomaly control in databases, mobile code safety, and privacy enforcement.
www.ics.uci.edu/~ccsp



The Center for Embedded Computer Systems conducts leading-edge interdisciplinary research in embedded systems, emphasizing automotive, communications and medical applications, and promotes technology and knowledge transfer for the benefit of the individual and society.

Embedded systems are having a profound impact on society as it transitions into the information era. With applications ranging from electronic wallets to information appliances, implanted adaptive insulin pumps, smart automobile air bag systems, and wireless wrist communicators - they are changing the way we live. CECS continually strives to be at the forefront of this exciting product and technology evolution. The Center is a collaboration between the Bren School and The Henry Samueli School of Engineering. www.cecs.uci.edu

CML

The Center for Machine Learning and Data Mining address the challenges of the modern data-driven world, using computer algorithms to discover useful information from vast data archives. The applications range across areas as different as web search engines, text mining, spam e-mail filtering, information retrieval, image and video data analysis, sensor networks, astronomy and planetary sciences, ocean and atmospheric sciences, systems biology, medical diagnosis, chemical informatics, and microarray genomics. Huge data repositories, including genomic data, satellite imagery of the Earth, and even Web pages and their hyperlinks, have created unprecedented scientific opportunities and challenges.

Machine learning also has a strong interdisciplinary component. For example within computer science at UC Irvine, researchers in the Center are engaged in collaborations in areas ranging from sensors and ubiquitous computing, to databases and computer vision, to software engineering and Web applications. And projects outside of computer science are also numerous, including automated analysis of brain images, analysis of microarray gene expression data with microarrays, tracking storms in satellite data of the Earth's oceans, and many more.



The Center for Research on Information Technology and Organizations (CRITO) is one of the world's leading think tanks on the impact of information technology on organizations and society, and on the management of information technology. CRITO has a rich tradition of studying the impacts of information technology (IT) on organizations and society that stretches back more than two decades. It is home to well over a dozen internationally recognized experts in the fields of management, computer science, and social science, often bringing the advantages of multidisciplinary perspectives to the problems at hand.



Centers of Excellence

Researchers focus on the management of IT, the IT-enabled enterprise, technology-intensive user environments, and the increasingly global nature of IT use and production. They have been consultants to international corporations and government agencies, have published over a dozen books and have won numerous major awards for excellence in their fields. CRITO conducts both academic and applied research.

The Center's core group of investigators is comprised of faculty from The Paul Merage School of Business, the Donald Bren School of Information and Computer Sciences, School of Social Sciences, and the Department of Education.

www.crito.uci.edu



The Center for Pervasive Communications and Computing (CPCC) is dedicated to serving the vision of wearable computers with wireless connections that enable anyone to have continuous voice, video, and data connectivity.

Fueled by the widespread development of the Internet, as well as digital cellular voice service, the vision of voice, video, and data communication anytime, anywhere is becoming closer to reality every day. CPCC researchers help develop the technologies to realize this vision of not only man-to-man but man-to-machine and machine-to-machine communication anytime, anywhere possible.

www.cpcc.uci.edu

ISR The Institute for Software Research (ISR) aims to Advance software and information technology through research partnerships. ISR fosters innovative basic and applied research in software and information technologies. Researchers work with established companies, start-ups, government agencies, and standards bodies to develop and transition the technologies to widespread and practical application.

ISR also aims to educate the next generation of software researchers and practitioners in advanced software technologies, while supporting the public service mission of the University of California in developing the economic basis of the State of California.

ISR's research emphases include software, interactive and collaborative technologies, design, ubiquitous computing, gaming culture and technologies.

www.isr.uci.edu



The mission of the UCI Institute for Genomics and Bioinformatics (IGB) is to promote innovation at the intersection of the life and computational sciences. This interface is leading the way in revolutionizing biology, medicine, and society. As part of the revolution, IGB fosters collaborative multi- and interdisciplinary research, institutes major innovative educational programs for computational biologists, and actively transfers research information and technologies through outreach efforts.

IGB investigators collaborate with scientists at UCI and other universities, as well as scientists and representatives of industry and government. Key institute activities include: the Biomedical Informatics Training (BIT) program; the leading and seeding of major inter- and intra-campus research projects; and, the development and public dissemination of extensive software, databases and servers. IGB also takes pride in its innovative approaches to furthering technology transfer from the Institute into widespread use, including the active incubation and development of commercially-relevant research and start-up ideas.

www.igb.uci.edu



LUCI, the Laboratory for Ubiquitous Computing and Interaction, serves as a focal point for research that follows from this vision. Our group of researchers are interested in the challenges of designing, using, and understanding the elements of a ubiquitous computing world. Some of these different facets include computing

in the face of mobile computers and mobile users, understanding and exploring new patterns of socio-technical behavior, and the design and construction of technology which supports ubiquitous computing.

LUCI explore the thought in ubiquitous computing, which predicts that we will each have tens or hundreds of computers -- not just on our desktop, but computers that we carry with us, computers that we wear, and computers that are embedded in our world. These computers will gracefully leave the offices and research labs and move into the larger, uncontrolled, everyday world of people. luci.ics.uci.edu



The Networked Systems Center (NSC) addresses the need for computing devices to communicate and interact has exploded: consider internet communications such as web surfing, e-commerce, e-mail, and chat; teleconferencing; transportation networks; and all kinds of defense vehicles and devices. The last decade has seen an explosion in the number and types of computing devices: laptop and desktop PCs, wireless phones, PDAs, vehicles (planes, trains, and automobiles), appliances, sensors, and even the buildings where we live and work. We see a future in which all kinds of these intelligent devices are networked. Our vision is to advance the science and technology of networking to meet the challenges of this future.

NSC goals are to facilitate research on large-scale problems with integrated solutions by providing shared infrastructure for collaborations between research groups; promote synergistic research between academia and industry, both educating and learning from the rest of the networking community; and support the public service mission of the University of California in developing the economic basis of the State of California. www.networkedsystems.uci.edu



Student Affairs

About Student Affairs

The Student Affairs Office (SAO) is staffed by nine professionals and several peer advisors who are committed to the success of our students, guiding them through important milestones and encouraging their timely progress to graduation. In a typical year, SAO has about 3,200 advising contacts with undergraduates and about 1,200 with graduate students.

Additionally, SAO hosts numerous special events for prospective and current students, fosters student leadership and campus involvement, and encourages community among School faculty and student scholars. These efforts contribute to the School's goals of attracting, retaining and graduating students whose accomplishments while at UCI - and later - reflect the quality and scope of their Bren School of ICS education.

Highlights for 2005-06

Student Affairs hosts and participates in many outreach and student programs throughout the year. From student recruitment to career nights, below is a list of highlights from the 2005-06 academic year for prospective, undergraduate and graduate students in the Bren School.

Graduate Activities

- » New Graduate Student Orientation
- » ACE Orientation
- » TA Orientation
- » Dean's Lunch
- » Grad Student/Faculty Wine and Cheese Mixer
- » Grad Visit Day
- » Commencement

Undergraduate Activities

- » New Student Welcome
- » Transfer student Welcome
- » Success Strategies Workshop
- » ICS/Campuswide Honors Experience
- » ICS High School Scholars Day
- » Destination UCI (Northern California)
- » Experience ICS
- » Explore UCI 2006
- » ICS Transfer Scholars Day
- » ICS Faculty Forum
- » ICS Honors and Awards Banquet
- » Commencement

2005-06 Students by the Numbers

	Enrollment	Average Test Scores
Undergraduates		
Bachelor of Science	960	598 Verbal
Minor	40	670 Math
Total	1,000	1268*
Graduates		
Master of Science	60	534 GRE Verbal
Doctor of Philosophy	221	760 GRE Quantitative
Total	281	1294

* Based on Fall 2005 admit data at 1600 SAT scale





Bren School Alumni

About the Bren School Alumni Chapter

2005-06 Officers:

President	Farshad Farhand '94
Vice President, Connect	Mark Bryant '82
Vice President, Engage	Erica Yamaguchi '96
Vice President, Serve	Eric Smith '96

The Bren School Alumni Chapter welcomes alumni interested in leadership and volunteer roles. In addition to networking and alumni outreach, the chapter offers opportunities to get involved with Bren School student groups. To get involved, e-mail alumni@ics.uci.edu.

Be sure to check out the Alumni Chapter blog for the latest news and events: alumni.ics.uci.edu.

Steven Joe '90

Steven Joe, President and CEO of D-Link North America, who was recognized by the editors of CMP Media's VARBusiness as one of North America's "Top 50 Technology Innovators," was honored on April 27th at the UCI Alumni Association's Lauds & Laurels Ceremony. UC Irvine Chancellor Michael V. Drake also presented Steven Joe with the "Advocate of the Year" award during the March 17 meeting of the UCI Chief Executive Roundtable.

Paul Mockapetris, Ph.D. '81

Paul Mockapetris, chairman and chief scientist of Nominum Inc. in Redwood City, California was elected to the National Academy of Engineering for his contributions to the Internet, including pioneering and standardizing the Domain Name System (DNS).

Bren School Alumni Sponsored Programs

Mentoring Program

The alumni mentoring program matches Bren School alumni with current students. Similar career goals, shared interests or common academic backgrounds provide the foundation for the student/mentor relationship.

www.ics.uci.edu/community/alumni/mentor

Notable Alumni 2005-06

Jim Berney '89

Sony Pictures Imageworks Visual Effects Supervisor Jim Berney was nominated for an Academy Award in 2006 for his achievement in visual effects. His nomination was for Buena Vista's *The Chronicles of Narnia: The Lion, the Witch and the Wardrobe*.

Alumni by the Numbers

5,370	Bachelors of Science
951	Masters of Science
345	Doctors of Philosophy



By the Numbers

2005-06 Quick Facts

Total allocation (all fund sources):	\$27,105,540
Total expenses:	\$17,838,594
Number of Contracts and Grants processed:	59
Total of Contracts and Grants processed:	\$27,000,000
Contract and Grant expenditures:	\$4,500,000
Contract and Grant funds received:	\$13,222,220
Number of processed/audited reimbursements or payment requests:	1,801
Total of processed reimbursements or payment requests:	\$747,040

Bren School Facility Overview

ICS 1	24,416
ICS/Engineering Research Facility	9,954
Computer Science 2	9,731
Computer Science/Engineering	6,681
Donald Bren Hall	89,000
Temporary Buildings	
University Research Park (off-campus)	

(in assignable square feet)

Computing at a Glance

- 500+ workstations available for instructional use
- 24-hour remote computing access for students
- 12 special-purpose labs
- Wireless access available throughout the Bren School complex

Faculty & Staff

60	Professors
3	Emeriti Professors
12	Technical Staff
26	Professional Staff
10	Administrative Staff
32	Postdoctoral Scholars and Researchers
9	Lecturers
10	Visiting Scholars
120	Teaching Assistants
306	Graduate Student Researchers
76	Readers

Current Recruitments

The Bren School of ICS has a number of faculty, staff and research positions open throughout the year.

We also provide information for students and alumni that are in the market looking for part time, full time and internship opportunities within the computing industry.

Distinguished Faculty

A recent endowment gift will allow the accelerated recruitment of leading scholars to fill distinguished professor position(s). For more information visit the distinguished faculty positions page.

Faculty

The faculty of the school are of national and international renown, giving us a unique blend of distinguished scholars and talented young researchers to lead our growing program. For more information on how you can join our growing community of scholars visit the faculty positions page.

»Assistant or Associate Professor, Interaction Design, Department of Informatics - Tenure Track

»Assistant or Associate Professor, Department of Computer Science - Tenure Track

»Assistant or Associate Professor, Department of Statistics - Tenure Track

»Assistant or Associate Professor, Bio-Medical Informatics, Computational and Systems Biology, Chemical Informatics - Tenure Track

»Associate or Full Professor Biostatistics Faculty Position - Tenure Track

Find out more about our current faculty recruitment at:

www.ics.uci.edu/employment

Lecturer

Lecturers support the teaching mission of the school and serve in an invaluable role of educating tomorrow's technology leaders.

Research

Our faculty occasionally recruit top researchers to assist them with their innovative research projects.

Staff

Consider a career at the Bren School of ICS, we are continually searching for qualified individuals to join our diverse and dynamic staff. To review current open staff positions and apply online, please visit UCI's Job Website at www.hr.uci.edu.





Bren School Development

Friends of the Bren School

As public funding for our state's universities declines and the costs and risks of corporate research and development escalate, there is increasing motivation for forging bonds between academia and industry. The Bren School is research oriented - even at the undergraduate level - with formal projects addressing hardware, software, algorithm design, artificial intelligence and the societal impacts of computing.

Research orientated education means Bren School students arrive at companies already comfortable on the leading edge and poised to make an immediate impact. In addition to students, our world renowned faculty work with outside companies and frequently collaborate with professionals in other academic areas to create even greater synergy. This results in a combination of corporate insight, faculty guidance and student energy that has proven time and again to be the spark that ignites tomorrow's products and services.

In 2005-06, the Bren School development office raised over \$1 million in individual and corporate donations (in addition to the \$13 million in contract and grant funds collected by faculty, students and project scientists).

The Bren School programs listed below offers individual and corporate donors an opportunity to interface with our students and faculty.

PROJECT ICS

Through this in-class internship program, your company can augment its IT staff for a 10-week period partnering with a dynamic, senior-level team of Bren School students to start, develop or complete an existing technology project.

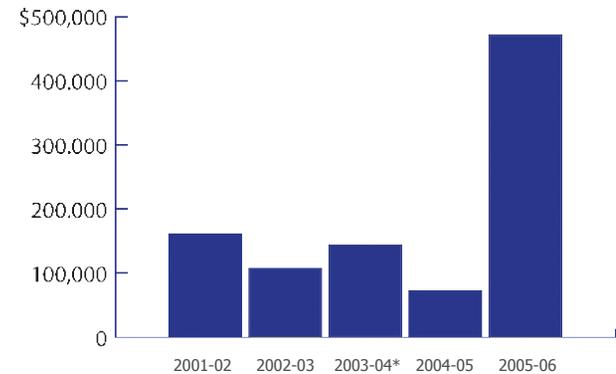
hITEC

The ICS Technology Entrepreneurship Competition (hITEC) is a student competition designed to encourage the development of new products by UCI undergraduate and graduate students. hITEC, formerly *Extreme Computing*, offers you a chance to mentor a team of students as they develop a new product and attempt to enter it into the marketplace.

Scholarships and Fellowships

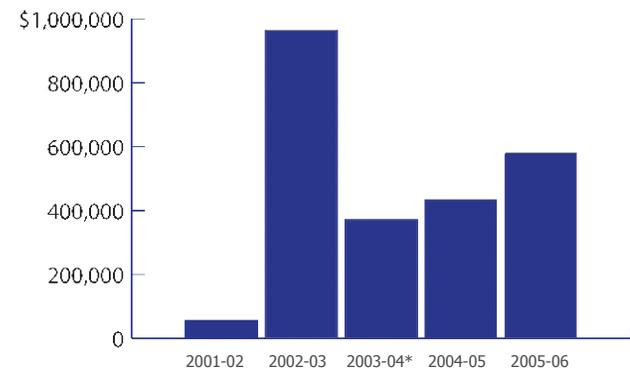
Support a student by sponsoring a scholarship or fellowship. In forging relationships with the students they support, current donors have discovered that Bren School students are more than scholars, they also are community volunteers, dedicated youth leaders, responsible young adults and promising future professionals.

Individual Donations



* Does not include \$20 million gift from Irvine Company Chairman Donald Bren.

Corporate Donations





Honor Roll of Donors



The Bren School received a \$1.3 million gift from alumnus Paul Butterworth '74, MS '81 and his wife Jo. The gift will be applied to student scholarships, fellowships and other undergraduate and graduate student endeavors at the Dean's discretion.

For his continued and generous support to the Bren School, as well as his professional achievements at pioneering new technologies and founding companies that have brought recognition to the School and the University, Paul was recognized at UCI Alumni Association's 2006 Lauds and Laurels event with the Distinguished Alumnus Award.

ENDOWMENTS

\$20 Million

Brigitte and Donald Bren

\$1.5 Million

Janice F. and Ted Smith

INDIVIDUALS

\$1,000,000+

Paul E. and Katherine Jo Butterworth

\$50,000 to \$99,999

Susan T. and Kevin C. Daly

Farshad Farhand '94

Barbara L. and Robert A. Kleist

\$25,000 to \$49,999

Jenny S. and Steven F. Mizusawa '72

\$10,000 to \$24,999

Monica F. and James P. Hobbs '73

\$5,000 to \$9,999

Dara L. and Neal J. Linson

\$1,000 to \$4,999

Philip L. Garrett '74

Min S. Kim '05

Elizabeth and Paul V. Mockapetris '81



Honor Roll of Donors

Less than \$1,000

Craig J. Abbott '91
Lynn E. '84 and Marc E. Acosta
Steven J. Acterman '99
Sandra G. '77 and John R. Alburger '77
Chris A. and Stephen M. Alessi '91
Mary Anne Anthony-Smith and John L. Smith '86
Daniel S. Appleman '80
Samuel O. Aronoff '03
Lisa N. and David A. Aronowitz '97
Kathie R. Barber '80 and Gen Miake '80
Vince G. Batchelor '04
Ryan W. Beeler '04
Yan B. Boey '04
Vickie L. and David L. Burch '97
Ambrose J. Chan '04
Bonnie A. and Kenneth E. Charlton '70
Jeff Y. Chen '03
Jesse P. Chen '03
Christina C. Cheng '04
Jennifer and Michael L. Chiulli '99
Kelvin C. Cho '04
Anna E. '87 and Chong U. Lee
Steve L. Cirivello '80
Romeo C. Concepcion, Jr. '04
Margaret S. '98 and Michael J. Danner
Kevin D. Dodd '04
Albert R. Esquibel, Jr. '89
Jason L. Fair '00
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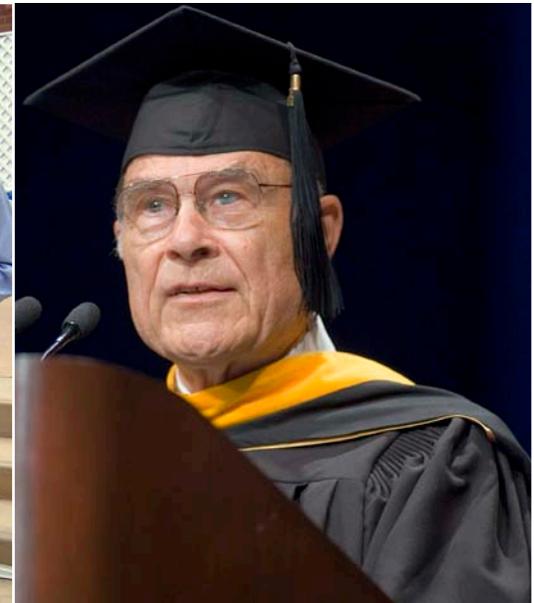
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The Year in Pictures

This page (left to right): Associate Dean Michael Goodrich, Ted and Janice Smith at ICS' annual New Year's reception; Robert Olsen and Abishek Amit earned first place honors as freshmen in the Extreme Computing competition (renamed HITEC for 2007); Robert Kliest, founder and CEO of Printronix addresses the Class of 2006.

Opposite page (clockwise): The Bren School awarded over 250 Bachelors, Masters and Doctoral degrees in June 2006; Associate Professor of Informatics André van der Hoek hoods XXXX; Tam Dang Phan, Lu Qian Zheng, Ray Ray Shen and Elizabeth Kim placed second at University of Illinois' Games 4 Girls competition; Donald Bren Hall under construction; Students demonstrate their project at the first annual Project ICS Showcase; AmberPoint CTO Paul Butterworth '74, MS '81 receives the UCI Alumni Association's Distinguished Alumnus Lauds and Laurels Award from UCIAA President Steve Capps and Executive Director Jorge Ancona.





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Bren School Facilities: Donald Bren Hall (background), ICS2 (foreground), Computer Science Building (cropped on right)





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