

A low-angle photograph of a modern brick building with large glass windows and a glass-enclosed upper level, set against a blue sky with light clouds. The image is partially obscured by large, overlapping geometric shapes in shades of blue and yellow.

UCI Donald Bren
School of Information & Computer Sciences

ANNUAL REPORT

FALL 2015

UCI Donald Bren

School of Information & Computer Sciences

- 2 ICS: BY THE NUMBERS
- 4 AT THE FOREFRONT OF DATA SCIENCE
- 8 DEPARTMENT OF COMPUTER SCIENCE
- 10 DEPARTMENT OF INFORMATICS
- 12 DEPARTMENT OF STATISTICS
- 14 INVESTING IN DIVERSITY
- 18 ALUMNI AND FRIENDS

DONALD BREN HALL

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FROM THE DEAN

The 2014-15 academic year was a momentous time for the Donald Bren School of Information and Computer Sciences (ICS) as we celebrated UC Irvine's 50th anniversary. As a school known for innovation and collaboration, ICS continued to grow, launching the first undergraduate data science program in the UC system.

This new interdisciplinary B.S. in Data Science allows

ICS to educate the next generation of data scientists at the interface of statistics and computer science. During this same period, ICS also opened the Office of Access and Inclusion, a shared office with the Samueli School of Engineering, which supports the recruitment, retention and graduation of students from populations that are underrepresented in engineering and information and computer sciences. These achievements are detailed in this year's Annual Report, along with some of the most noteworthy accomplishments of our faculty, students and alumni.

ICS started the academic year strong in September 2014 by welcoming its largest freshmen class of more than 480 students. This brought our total undergraduate enrollment above 2,100 students, an impressive 150 percent increase over five years. But it's not just about the numbers, ICS is admitting a much more diverse and competitive group of students than ever before. For instance, of the freshmen, 23 percent were female, 41 percent were first-generation college students and 15 percent were underrepresented minorities. Our graduate student population also continues to grow, full of talented students who are doing cutting-edge research in areas such as machine learning, cybersecurity, human-computer interaction and health informatics.

Thanks to the continued generosity of our industry partners and community members, ICS had another impressive year of student project and technology showcases. This year's Ingenuity event gave students the opportunity to present their inventions in front of keynote speaker Vint Cerf, Google's VP and Chief Internet Evangelist. We also had an unforgettable 50th Anniversary and Hall of Fame Celebration that brought out more than 400 ICS and engineering alumni. At the event, we inducted 20 ICS alumni into our inaugural Hall of Fame. These are individuals who have made a significant impact in their profession, or in other ways have brought distinction to their alma mater.

The pages that follow will highlight some of the notable achievements of our faculty, students and alumni—from Michael Franz's \$3.9 million in NSF and DARPA funding for research on making software secure, to Dan Gillen's essential contributions to the recently renewed \$11 million UCI Alzheimer's Disease Research Center, to Crista Lopes' *Exercises in Programming Style* being recognized as the best programming book of the decade, to former grad student Jed Brubaker working on Facebook's Legacy Contact feature. The progress we make is not only a credit to the hard work of our faculty, staff and students, but it is also due in part to the contributions of alumni, corporate partners and the ICS community. We invite you to work with us as we continue to lead the way in the computational and information sciences.

Sincerely,

A handwritten signature in black ink that reads "Hal Stern".

Hal Stern
Ted and Janice Smith Family Foundation Dean
icsdean@ics.uci.edu

ICS: BY THE NUMBERS

FALL 2014 INCOMING FRESHMEN

483 TOTAL FRESHMEN

11% International Students

15% Underrepresented Minorities

23% Females

32% From Low-Income Families

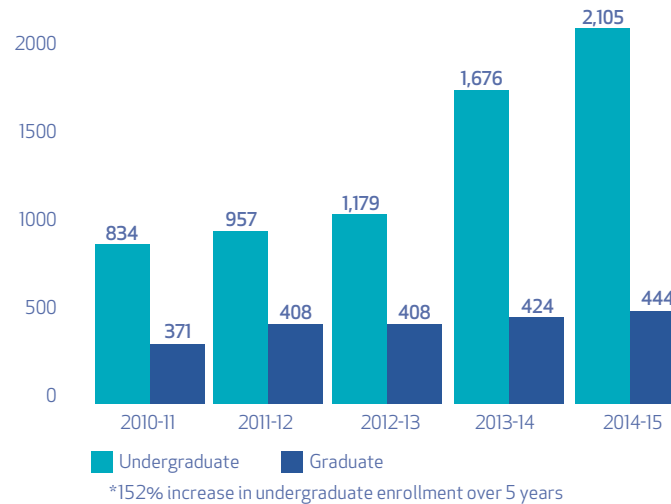
41% First-Generation College Students

1,846 AVERAGE SAT

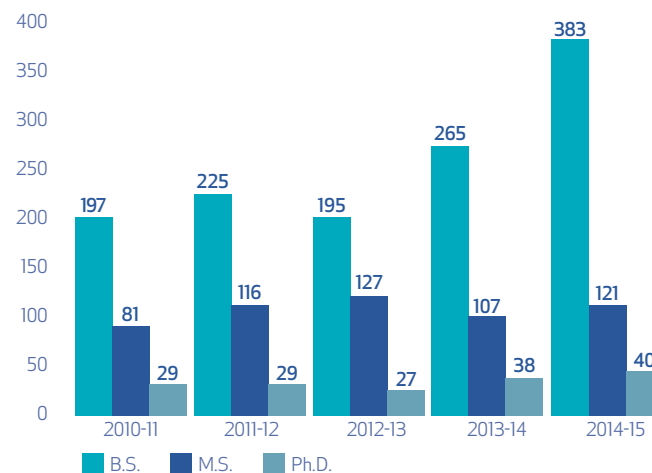
3.98 AVERAGE GPA



STUDENT ENROLLMENT



DEGREES GRANTED



One of the **TOP 30** Best Computer Science Programs in the World

2015 Academic Ranking of World Universities by the Center for World-Class Universities at Shanghai Jiao Tong University

Among **TOP 20** universities in the nation that are most likely to land you a job in the Silicon Valley

Business Insider, 2015

2014-15 RESEARCH

93 TOTAL NEW PROPOSALS

18 NEW ACTIVE AWARDS

\$5.1M NEW ACTIVE AWARD TOTAL BUDGET

\$8.0M TOTAL EXTRAMURAL EXPENDITURES

UNDERGRADUATE DIVERSITY

	UNDERREPRESENTED UNDERGRADUATE STUDENTS	FEMALE UNDERGRADUATE STUDENTS
2010-11	84	157
2011-12	110	190
2012-13	150	258
2013-14	227	389
2014-15	319	480

280% increase in underrepresented undergrad students over 5 years
206% increase in female undergrad students over 5 years

1st among the Top 10 Best Schools for Gamers
 College Magazine/Animation Career Review, 2015

FACULTY BY DEPARTMENT

46 COMPUTER SCIENCE

22 INFORMATICS

10 STATISTICS

GRADUATE DIVERSITY

	UNDERREPRESENTED GRADUATE STUDENTS	FEMALE GRADUATE STUDENTS
2010-11	9	78
2011-12	10	79
2012-13	13	83
2013-14	10	93
2014-15	15	109

67% increase in underrepresented graduate students over 5 years
40% increase in female graduate students over 5 years



AT THE FOREFRONT OF DATA SCIENCE

ICS CREATES AN INNOVATIVE UNDERGRADUATE DATA SCIENCE MAJOR,
THE FIRST OF ITS KIND IN THE UC SYSTEM.

From data collected through smartphone and computer usage, to data from wearable technology and e-commerce, the demand for trained scientists who can productively interpret and analyze data continues to grow. With this boom in mind, the Donald Bren School of Information and Computer Sciences (ICS) has created a new undergraduate major in data science that serves as an integral educational component of the broader UC Irvine Data Science Initiative. The program, which enrolled its first class in Fall 2015, is hosted by the ICS Department of Statistics, making it the first bachelor's degree offered through the department.

Data science is an umbrella term that describes a broad range of theories, algorithms, methodologies and tools that allow us to use data to better understand and make predictions about the world around us. The new bachelor's degree in data science combines critical skills and concepts from existing courses in statistics, mathematics and computer science, with three new courses developed

specifically for the program. Faculty leaders who helped develop the proposal included Padhraic Smyth, director of the Data Science Initiative and computer science professor; Jessica Utts, chair of the Department of Statistics; Michael Carey, Donald Bren Professor of Computer Science; and Stacey Hancock, assistant teaching professor of statistics.

What makes this program special is that UC Irvine is the first and only campus in the UC system to offer an undergraduate major or minor like this in data science. "It's relatively unique at the undergraduate level. There are master's level programs in data science, but UC Irvine is one of the first to have an undergraduate program," Utts says. "The combination of skills students gain from statistics and computer science will place them quite well in the job market."

Students pursuing the major will not only gain critical analysis skills for data, such as an understanding of how to store, mine and analyze data, but they will also explore the contemporary social ramifications of data—from ethical



“The excitement among faculty is that things are changing and this major allows us to teach new things in different ways. It brings together statisticians and computer scientists to create not a brand-new field, but a new interdisciplinary area here at UC Irvine.”

PADHRAIC SMYTH, DIRECTOR OF THE UCI DATA SCIENCE INITIATIVE & COMPUTER SCIENCE PROFESSOR

quandaries to privacy concerns. The major is expected to appeal to students who are interested in computer science, as well as to those students who are mathematically oriented. ICS is uniquely positioned to offer data science as a major, as it’s “one of the very few universities in the United States where statistics and computer science are both organizationally and physically together, allowing faculty to continue their close collaboration,” says Utts.

In addition, the new major offers exciting and innovative teaching opportunities. “Part of the excitement among the faculty is that things are changing and this major allows

us to teach new things in different ways. It brings together statisticians and computer scientists to create not a brand-new field, but a new interdisciplinary area here at UC Irvine,” Smyth says. “UC Irvine is very much at the forefront of this.”

Officially approved by the UC Irvine Academic Senate in April 2015, the new data science major is one component of a broader campuswide Data Science Initiative. This initiative seeks to “develop and promote new interdisciplinary research and education activities in data science across the UCI campus and in the local community,” according to its mission statement. It coordinates numerous student and research



activities, including daylong workshops that impart hands-on data science training, research seminars and symposia, summer fellowships, a graduate certification in data science, hackathons, and online resources.

The initiative is also fostering a unique relationship between UC Irvine and the California State University at Los Angeles with input and support from NASA. Underrepresented and underserved Cal State Los Angeles students will visit UCI for short courses on topics such as Introduction to R Programming, Introduction to High Performance Computing, and Introduction to Predictive Modeling as part of a collaboration between the UCI Data Science Initiative and NASA's Jet Propulsion Laboratory. The program is part of a \$5 million grant under NASA's Minority University Research and Education Project.

According to Hancock, studying data really has a far-reaching impact on our connected world. "Data is everywhere. If you just think of what we use in our lives—our cellphones



or the Fitbits people wear on their wrists—we're collecting data on companies, on different subjects of interest, on ourselves," she says. "We really need to know how to be informed to analyze that data and be able to interpret it for ourselves."

This has led to a plethora of opportunities in data science, with companies looking to hire qualified candidates with the necessary expertise. According to a 2011 McKinsey Global Institute study, the demand for graduates with data analysis skills will hit 500,000 by 2018. "There's been a ton of news about data scientists being the sexiest job of the year," Hancock says. "There's great demand for data scientists, but not a lot of people are trained in the field." With the new data science major, ICS students will be at the forefront of bucking that trend.

Page 6 (left): Faculty leaders (from left) Padhraic Smyth, Jessica Utts, Stacey Hancock and Michael Carey spearheaded UCI's new undergraduate data science program.

Pages 4 and 6 (right): Students participated in a November 2014 workshop hosted by the UCI Data Science Initiative on "Working with Big Data in Linux."

Above: The UCI Data Science Initiative hosted a hackathon in January 2015 in which students analyzed data from Reddit.

DEPARTMENT OF COMPUTER SCIENCE

FROM THE CHAIR



With 46 faculty members, almost 300 graduate students and more than 1,800 undergraduates, the Department of Computer Science continues to provide a world-class research environment that goes well beyond the core areas of computer science. Our curricula and research focus on an array of topics, including computer architecture, system software, networking and distributed computing, data and information systems, the theory of computation, artificial intelligence, and computer graphics. But we also explore highly interdisciplinary topics

such as biomedical informatics, data mining, security and privacy, and ubiquitous computing. The diverse research interests of our faculty, which are demonstrated in this Annual Report, are reflected directly in our educational programs.

A handwritten signature in black ink, appearing to read 'Alex Nicolau'.

Alex Nicolau
Professor and Chair

FACULTY HIGHLIGHTS

In 2015, Professor **Michael Franz** accumulated over \$3.9 million in research funding from prestigious organizations such as the Defense Advanced Research Projects Agency (DARPA), National Science Foundation (NSF), Qualcomm, Oracle and Mozilla. Franz currently runs two projects funded by DARPA's Cyber Fault-Tolerant Attack Recovery (CFAR) Program. The CFAR Program aims to produce revolutionary breakthroughs in defensive cyber techniques that can be deployed to protect existing and planned software systems in both military and civilian contexts without requiring changes to the concept of operations of these systems.

Professor **Eric Mjolsness** was named a Fellow of the American Association for the Advancement of Science (AAAS) for his distinguished contributions to the fields of computer science and

biology, particularly for new computational models of gene regulation (networks of genes that turn each other on, off or partly on) and resulting technologies.

Associate Professor **Wayne Hayes'** most recent project examines biological network alignment, which explores the proteome, a massive network of protein interactions within the cell. Hayes is part of a team that develops algorithms that make sense of the amorphous network of connections in the proteome. They've built a program that is roughly 20-50 percent better than its contemporary counterparts.

Chancellor's Professor **Pierre Baldi** received a \$500,000 grant from DARPA to build the next generation of chemical reaction predictors using machine learning. The novel work uses a database of known



From left to right:
Michael Franz,
Aditi Majumder,
Michael Goodrich
and Katie Khuu.

reactions and statistical algorithms to develop an automatic approach to predicting which outcomes will work. Baldi is also engaged with colleagues in the biological and physical sciences using deep learning, a powerful predictive technology, to enhance scientific discovery.

The Interactive Graphics and Visualization Lab (iGravi), run by professors **Aditi Majumder** and **Gopi Meenakshisundaram**, had its presentation on flexible multi-projector displays selected as one of the 25 demos chosen from around the world for the SIGGRAPH 2015 Conference's Emerging Technologies (E-tech) program, whose theme was "Work and Play: Technology that improves our daily lives."

Alex Nicolau, professor and chair of computer science, was named a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) for his contributions to both compilers and electronic design automation—two central areas of computer science that are key factors in the

pervasiveness of computers today in every walk of life. He leads one of the world's top university research groups in these areas at UCI.

The U.S. Department of Defense has awarded Chancellor's Professor **Michael Goodrich**—along with a team of fellow computer scientists at the University of Utah and UC Irvine—a \$3 million grant to research defenses against algorithmic attacks, the new front of cyber threats. Goodrich and his team are developing vigilant technology through an analyzer that can thwart such attacks. The software will audit computer programs to detect algorithmic vulnerabilities in code.

Chancellor's Professors **Nikil Dutt** and **Gene Tsudik** were named Association for Computing Machinery (ACM) Fellows. Dutt was honored for his contributions to embedded architecture exploration and service to electronic design automation and embedded systems, while Tsudik earned the ACM Fellow rank for his contributions to Internet security and privacy.

STUDENT SPOTLIGHT

Katie Khuu, a computer science senior, participated in the Undergraduate Research Opportunities Program in 2014. Her project—completed at the University of Edinburgh—bridged computer science, linguistics and psychology concepts to examine how children first learn grammatical categories at the early stages of linguistic development. Using her

computer science background, she designed both a learning strategy and sophisticated evaluation techniques to determine how children learn a language. The work garnered her an undergraduate research award from the University of California Education Abroad Program.

DEPARTMENT OF INFORMATICS

FROM THE CHAIR



It has been a terrific year for the Department of Informatics. We are extremely pleased to welcome Sam Malek and Kai Zheng to our faculty. Sam joins us from George Mason University; his research addresses critical questions in software architecture and cybersecurity. Kai joins us from the University of Michigan where he headed up the Health Informatics program. In addition, we welcome Darren Denenberg as a full-time lecturer specializing in human-computer interaction.

Much more happened this year: Our faculty produced a number of award-winning books (one of which was recognized as the most important programming book of the past decade); Bill Tomlinson was

named to the EPA's Sustainable and Healthy Communities Board of Scientific Counselors Subcommittee; and Don Patterson, Bill Tomlinson and Bonnie Nardi were recognized for their new, innovative online course "Environmental Issues in Information Technology". I encourage you to visit our new website at www.informatics.uci.edu to learn more about who we are, what we do and how you can support our efforts.



André van der Hoek
Professor and Chair

FACULTY HIGHLIGHTS

Professor **Crista Videira Lopes'** *Exercises in Programming Style* was named best programming book of the decade in a July *Software Development (SD) Times* review. The book is a compilation of 33 different styles for writing programs and designing systems, and can be used in conjunction with a GitHub-hosted repository of code. Lopes wrote the book as a response to the recurring problems of teaching students how to program.

The Social and Economic Sciences Division of the National Science Foundation (NSF) has awarded Professor **Alfred Kobsa** \$666,000 to research user privacy decision support. Kobsa's proposal, "A User-Tailored Approach to Privacy Decision Support," seeks to realistically

empower users for privacy choices through personalized default settings and through rationales for disclosure that best suit users' predicted decision-making. Throughout the research, he will work with industry to deploy solutions for privacy decision support.

The NSF has awarded Professor **Bill Tomlinson** \$400,000 for his project "Fostering Non-Expert Creation of Sustainable Polycultures through Crowdsourced Data Synthesis." Associate Professor **Donald Patterson** and Sarah Taylor Lovell, assistant professor of crop sciences at the University of Illinois, serve as co-principal investigators for the project, which integrates research in computing and sustainability science. The award is part of the Cyber-Innovation for Sustainability



From left to right:
Crista Videira Lopes,
Judith Olson,
Katie Pine
and Jed Brubaker.

Science and Engineering (CyberSEES) program at NSF, and is funded through the Division of Computing and Communication Foundations (CCF), which supports research and education projects that explore the foundations of computing and communication devices and their usage.

Professor **Judith Olson** has won many accolades and been widely published over the years, but it's not often that you are recognized by the likes of Google co-founder and CEO Larry Page. In a book recently released titled *The Innovators: How a Group of Hackers, Geniuses and Geeks Created the Digital Revolution*, Page acknowledges the impact Olson had on him as a student. "The college course that made the

greatest impression on me was one on human-computer interaction taught by Judith Olson. The goal was to understand how to design interfaces that were easy and intuitive."

Assistant Project Scientist **Katie Pine** was named an academic coordinator for UCI's Salton Sea Initiative, a multidisciplinary group building connections among disciplines and communities concerned about the sustainability challenges facing the Salton Sea region. Pine is conducting an ethnographic design research project to examine the causes of gridlock in managing the sea, and will create design tools for risk assessment and decision-making to help stakeholders move forward.


STUDENT SPOTLIGHT

Former informatics Ph.D. student **Jed Brubaker** spent six years grappling with issues surrounding people's Internet footprints when they pass on. One of his projects, "Stewarding Online Identities for the Deceased," explored issues around inheritance and post-mortem data management of Facebook accounts. The social media giant eventually took notice,

retaining Brubaker as an academic consultant in the recent creation, testing and release of its Legacy Contact feature. After graduation, Brubaker was hired as an assistant professor and founding member for the new Department of Information Science at the University of Colorado Boulder.

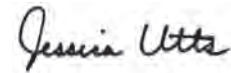
DEPARTMENT OF STATISTICS

FROM THE CHAIR



This was an exciting year for the Department of Statistics. Since our first faculty member was hired in 2002, we have grown to include 10 full-time faculty members, seven joint faculty from across campus, and more than 60 master's and Ph.D. students. We also house the Center for Statistical Consulting, providing statistical expertise through collaborative relationships with researchers across the campus and community. In the spring of 2015, we became the first of the UC campuses, and one of the first universities in the world, to create an undergraduate major in data science. This exciting new major will be housed in the statistics department, with the majority of the course

work offered by the statistics and computer science departments. Our faculty members are also involved with research collaborations across the globe, including Chile, Saudi Arabia, New Zealand and other countries. We are proud of our past accomplishments, and look forward to continued growth and visibility in the years to come. We invite you to contact us to learn more.



Jessica Utts
Professor and Chair

FACULTY HIGHLIGHTS

Hal Stern, dean of the Donald Bren School of Information and Computer Sciences (ICS) and professor of statistics, will help lead a new national Forensic Science Center of Excellence. The Center for Statistics and Applications in Forensic Evidence (CSAFE) is aimed at improving criminal evidence analysis and reducing wrongful convictions. The center, headquartered at Iowa State University, will also include researchers at Carnegie Mellon University and the University of Virginia. It will be funded by a five-year, \$20 million grant from the National Institute of Standards and Technology. UCI will receive \$3.7 million that will be used by ICS and social ecology faculty and students.

Professor **Hernando Ombao** has received a \$160,000 grant from the National Science Foundation's Division of Social and Economic Sciences for his collaborative research project "Bayesian State-Space Models for Behavioral Time Series Data." With a focus on neuroscience and its analysis and integration of behavioral and neural-derived data, the project will develop novel statistical models and inferential methods for the analysis of multi-domain behavioral data and time series with complex temporal and dependence structures. Such research has the potential to advance knowledge on the neural underpinnings of human and animal behavior.



From left to right:
Hal Stern,
Hernando Ombao,
Dan Gillen and
Homer Strong.

UCI's Alzheimer's Disease Research Center (ADRC), where Professor **Dan Gillen** serves as director of statistics, received an \$11 million grant from the National Institute on Aging in May. Part of UC Irvine's Institute for Memory Impairments and Neurological Disorders, the ADRC is the only research center of its kind in Orange County and one of only 27 such centers nationwide. Gillen leads the center's Data Management and Statistics Core, which collaborates with ADRC investigators on the design, implementation, analysis and interpretation of empirical studies investigating risk factors and interventions for Alzheimer's Disease,

as well as develops novel statistical methodology for analyzing data encountered in related disease studies.

Jessica Utts, professor and chair of statistics, serves as chief reader for the Advanced Placement (AP) Statistics program, overseeing an assembly of 800 graders who tackle hundreds of thousands of tests in a weeklong period. This year alone, 800 high school and college educators graded 200,000 exams—a total of nearly 1.2 million questions. Beyond grading, Utts also has a hand in developing the exam, which is a multi-year process carried out by a leadership committee.

STUDENT SPOTLIGHT

Homer Strong was honored with the Robert L. Newcomb Memorial Endowed Graduate Student Award. The award, established in honor of long-time UCI faculty member Bob Newcomb, is given to the best-performing first-year graduate statistics student. Strong's current

research project is focused on developing statistical models for Earth and climate systems based on heterogeneous sensor data. Such models are key to understanding climate systems and monitoring them over time.



“The Office of Access and Inclusion brings together the Bren School of ICS and the Samueli School of Engineering when it comes to creating an environment that is inclusive and embraces diversity and individual differences to empower everyone to learn and achieve to their highest potential.”

SHARNNIA ARTIS, ASSISTANT DEAN OF ACCESS AND INCLUSION

INVESTING IN DIVERSITY

ICS HAS MADE A COMMITMENT TO SERVING UNDERREPRESENTED STUDENTS WITH SUPPORT FROM ITS NEW OFFICE OF ACCESS AND INCLUSION.

When it comes to the academic and professional world of information and computer sciences, people of color, women and those with disabilities continue to be underrepresented. Continually striving for inclusivity and accessibility in the information and computational sciences, the Donald Bren School of Information and Computer Sciences (ICS) recently opened its new Office of Access and Inclusion (OAI, <http://tech.uci.edu/access>). The office, a joint initiative between The Henry Samueli School of Engineering and ICS, supports recruitment, retention, and graduation of undergraduate and graduate students from populations underrepresented in engineering and computer science.

Recent data reveal the magnitude of the existing diversity divide. According to the National Center for Women and Information Technology (NCWIT), women made up only 26 percent of the total computing workforce in 2014. At the college level, the percentage of women pursuing computer science degrees continues to shrink, with only 18 percent of computing and information science bachelor's degrees awarded to women in 2013, despite 1.2 million computing-related jobs expected to be available by 2022.

A large employment gap also exists for people of color. The U.S. Bureau of Labor Statistics reports that in 2014, African Americans made up only 8.3 percent of computer and mathematical occupations, while Latinos made up only 6.6 percent. For women of color, it is an intersectional underrepresentation, with Latina women accounting for only 1 percent of the computing workforce in 2014, while African American and Asian women represented 3 percent and 5 percent of the same workforce, respectively. According to the Center for Minorities and People with Disabilities in Information Technology, "Cultural diversity in our workforce is not only important for nurturing a more inclusive society; it is crucial to the creative innovation process that drives our economy."

Making a concerted effort to bridge this diversity gap, OAI's mission is to remove barriers in order to better support and increase these underrepresented populations in information and computer science. "OAI brings together the Bren School of ICS and the Samueli School of Engineering when it comes to creating an environment that is inclusive and embraces diversity and individual differences to empower everyone to learn and achieve to their highest potential," says Sharnnia Artis, assistant dean of access

and inclusion. "OAI serves as an advocate for students, provides academic support and programs, and increases access to resources, scholarships and internships." Through OAI and several other student- and campus-driven programs, ICS works to foster an inclusive educational environment for everyone.

Here are a few of the recent ICS programs and activities that enhance the school's ability to recruit and retain a broad range of students:

COLLABORATIVE BOARD RETREAT

OAI hosted its first Collaborative Board Retreat, a two-day activity-filled event, to bring together student leaders from across ICS and engineering student organizations who are committed to advancing the participation of underrepresented students in technology. "To increase the number of women and people of color pursuing computer science and engineering degrees, OAI utilizes an all-hands-on-deck approach," Artis says. "Our student organizations play a critical role in connecting with the community and serving as mentors and role models." Participating organizations included Women in Information and Computer Sciences (WICS, <http://wics.ics.uci.edu>); the Society of Hispanic Professional Engineers; the Society of Women Engineers; MAES: Latinos in Engineering and Science; and the National Society of Black Engineers.

UNDERGRADUATE MENTORING PROGRAM

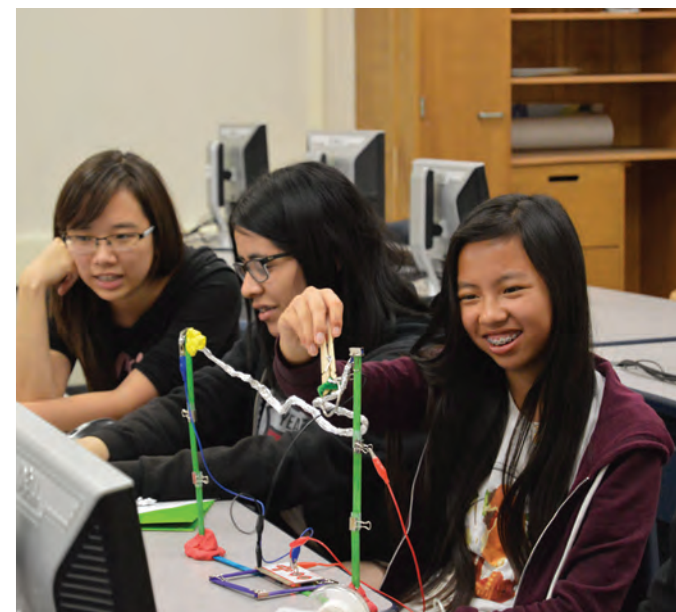
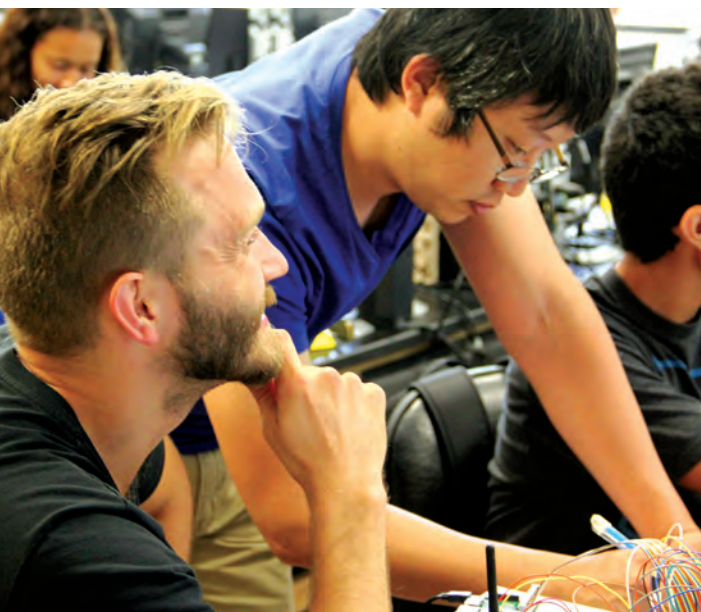
Now in its second year, the ICS-Engineering Undergraduate Mentoring Program focuses primarily, though not exclusively, on pairing up women and students of color in ICS and engineering with mentors in a variety of high-tech businesses. "This year, we expanded the program from 55 to over 80 students and from 45 to over 75 mentors," Artis says. "We also had five job-shadowing events hosted by Boeing, Salesforce.com, Beckman Coulter, Animation Vertigo, and Allergan. Several internships and permanent positions were offered to students in the program."

ASPIRE/INSPIRE SUMMER PROGRAM

The ASPIRE/INSPIRE summer program, an OAI initiative, brought 30 high-achieving high school and community college students from low-resource communities and groups underrepresented in engineering and computer science to UC Irvine in July 2015. The Broadcom Foundation funded the free two-week, project-based computing and engineering program. The participants were diverse, with more than 75 percent from underrepresented groups and over 50 percent being first-generation college students. The group of students worked with faculty and students in ICS and engineering on Internet of Things (IoT)-related projects.

NASA'S PROJECT AT UC IRVINE

With support from a \$1.25 million NASA grant, UC Irvine's Data Science Initiative along with the Jet Propulsion Laboratory will



host California State University, Los Angeles students for short courses on a variety of computing topics. The program, which was slated to begin in September 2015, is geared especially for underrepresented and underserved students as part of NASA's Minority University Research and Education Project (MUREP). "The legacy of this program will be a cohort of students from the program who go on to pursue advanced degrees and become leaders in particular STEM research areas, many of whom would not have chosen a STEM research path were it not for this program," says Padhraic Smyth, the project's principal investigator and director of the UCI Data Science Initiative.

WICS-RUN TECHNOLOGY WORKSHOPS

The student group WICS is a social and professional nonprofit student organization established to help encourage women to pursue college degrees and successful careers in computing fields.

During the spring of 2015, WICS facilitated an intensive three-week women and computer science workshop series for 30 young women at La Quinta High School in Westminster, Calif. With support from a roughly \$7,500 Google IgniteCS Initiative grant and a \$1,000 grant from NCWIT, seven undergraduate WICS members and graduate adviser Katherine Lo, an informatics Ph.D. student, mentored the high school students in both the social and practical facets of computer science. Both La Quinta High School and WICS hope to continue their partnership in the future.

Page 14 and above left: High-achieving students from across California spent two weeks learning about computer science and engineering while building IoT-related projects thanks to the hands-on ASPIRE/INSPIRE summer program.

Above center: A small group of the more than 80 students who are now benefiting from the ICS-Engineering Undergraduate Mentoring Program.

Above right: Members of WICS mentored young women from La Quinta High School during a three-week computer science workshop.

CELEBRATING UCI'S 50TH WITH THE KICKOFF OF A HALL OF FAME

ICS HONORS 20 ALUMNI WHO HAVE MADE A SIGNIFICANT IMPACT IN THEIR PROFESSION.

More than 400 alumni, faculty, donors and industry partners turned out for a 50th Anniversary and Hall of Fame Celebration



It was a night of celebration as 20 ICS alumni were inducted into the 2015 Hall of Fame by Dean Hal Stern.

on Oct. 3, 2015 at the Radisson Hotel in Newport Beach as 20 ICS and 34 engineering alumni were inducted into the schools' new Halls of Fame. Several former deans and department chairs, including Fred Tonge Jr., Julian Feldman, Tom Standish, John King and Debra Richardson, also attended the event

and were recognized for their years of dedication to the Donald Bren School.

"We had several purposes in mind when we created this event," said ICS Dean Hal Stern. "To celebrate the university's 50th anniversary and the many research and innovation achievements at our schools, as well as to kick off the Hall of Fame, honoring our alumni and their accomplishments."

One of the inductees, ICS alumnus Jack Ringquist '82, who is the global sector leader in consumer products at Deloitte, told the audience how the university made a tremendous difference in his life. He was lucky to get a scholarship, he said, and when he first came to campus in 1978, he felt right at home. Ringquist recalled taking ICS 1 with Professor Feldman. "He challenged me, gave me courage to stick it out, and from there forward I had the opportunity to work with people like George Lueker, Lubomir Bic and a tremendous professor, Peter Freeman, who talked about the impact of information and technology on society. The lessons I learned are all things I apply every day in the work that I do helping companies, large organizations and NGOs deal with some of the biggest issues and problems that society faces."



After all of the Hall of Fame inductees were acknowledged, Dean Stern joined Dean Gregory Washington from the Samueli School of Engineering on stage to lead the whole room in the traditional Anteater cheer: Zot! Zot! Zot! Dean Washington and Dean Stern closed the program with a toast, "To our schools' 50 years of excellence, 50 years of accomplishment from all of you, and to continued excellence"



For more information on the Hall of Fame inductees, including photos and a video of the event, visit <http://tech.uci.edu/halloffame2015>.

Above left: Gary Seagraves celebrates with his family after being inducted into the ICS Hall of Fame.

Above center: ICS supporters Ted and Janice Smith with Professor Emeritus Debra Richardson.

Above right: Alumnus Paul Butterworth and his wife, Jo, join the crowd for the traditional Anteater cheer.



Congratulations to the 2015 ICS Hall of Fame Inductees:

Paul Butterworth, B.S. 1974, M.S. 1981
 Marsha Drapkin Hopwood, Ph.D. 1974
 Karen Evensen, B.S. 1982
 David Feign, Ph.D. 1980 (Deceased)
 Roy Fielding, B.S. 1988, M.S. 1993, Ph.D. 2000
 Patrick Hanratty, Ph.D. 1977
 Pat Helland, 1973-1976

Gregory Hopwood, Ph.D. 1978
 Tim Kashani, B.S. 1986
 Barbara Kew, B.S. 1975
 Richard Levine, B.S. 1981
 Paul Mockapetris, Ph.D. 1981
 Owen O'Malley, M.S. 1989, Ph.D. 1996
 Dinesh Ramanathan, M.S. 1995, Ph.D. 2000

Jack Ringquist, B.S. 1982
 Lawrence Rowe, Ph.D. 1976
 Daniel Russell, B.S. 1977
 Gary Seagraves, B.S. 1977
 Jon Teichrow, B.S. 1986
 Steve Trimberger, M.S. 1979

DEAN'S LEADERSHIP COUNCIL

The Dean's Leadership Council is an advisory board composed of 23 executive-level leaders who help advance the Donald Bren School of ICS' research, teaching and public service goals by strengthening the school's

ties to industry and the community. Council members provide invaluable input to the dean of the school from their industry and community perspective on things such as industry trends and ICS curricula.

Dave Goff, Chair

Senior VP and CIO, ECMC Group

Roger Andelin, B.S. '87

Senior VP and CTO Online Technology, FULLBEAUTY Brands

Steve M. Anderson, B.S. '86

Partner, Quinn Emanuel Urquhart & Sullivan LLP

Paul Butterworth, B.S. '74, M.S. '81

CTO, IQvantage

David Cheng, B.S. '91

CTO and Co-Founder, Zaka Inc.

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CEO, Iteris Inc.

Binh Dang, B.S. '97

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Jon Hahn, B.S. '81

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CIO, Motion Picture Industry Pensions and Health Plans

Kevin Mun

Vice President of Operations, Vanguard Voice Systems Inc.

Carlos Oliveira, Ph.D. '03

COO, Nextfort Ventures

Himanshu Palsule

CTO and Head of Strategy, Sage

Daryl G. Pelc

VP Engineering and Technology, Phantom Works, Boeing

Dinesh Ramanathan, M.S. '95, Ph.D. '00

President and CEO, Avogy Inc.

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Retired. Founder, Zenographics Inc.

Lawrence Rowe, Ph.D. '76

Retired. Chairman and CEO, FXPAL

Sandra Smart-Ashburn, B.S. '87

VP, Information Technology Development, DIRECTV

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The Corporate Partners Program provides concierge-level service to assist companies in growing their relationships with ICS students, faculty and staff to reach their strategic goals. Members gain a single point of contact for identifying and recruiting interns/full-time hires, increasing brand visibility, and accessing resources and individuals within the schools

and the university. Moreover, partners are highly visible collaborators in moving the missions of UCI's schools of ICS and engineering forward. For more information about the Corporate Partners Program, visit www.ics.uci.edu/involved/corporate_partner or contact Shana Chance, director of corporate relations, at (949) 824-3977 or schance@uci.edu.



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expenses. For more information on giving to ICS, please visit www.uadv.uci.edu/DonaldBrenSchoolofICSAnnualGiving.

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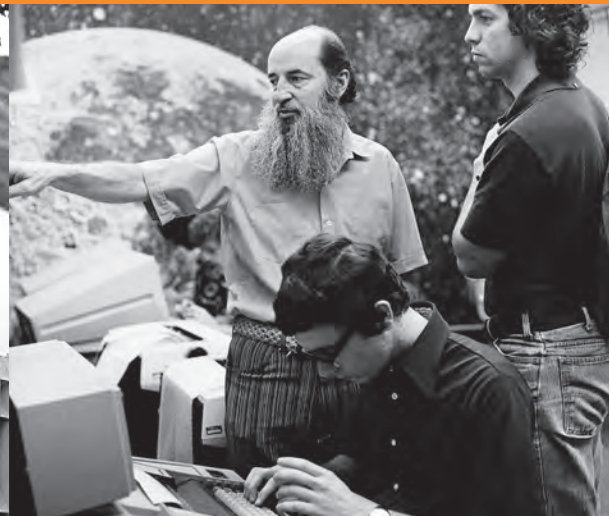
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