

DEBRA J RICHARDSON

Professor of Informatics

Donald Bren School of Information and Computer Sciences

University of California, Irvine

Irvine, CA 92697-3425

office: 949-824-7353; cell: 714-928-1025

email: [dj@uci.edu](mailto:djr@uci.edu); url: <http://www/ics.uci.edu/~dj>

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CURRENT POSITION

Professor, Department of Informatics, Bren School of ICS

University of California, Irvine

Research and Teaching Interests:

Software Engineering for socially responsible causes – e.g., requirements engineering for sustainability and in the context of information and communication technology for development (ICTD)

Specification-based testing and analysis, automated test oracles, software testing processes

Recruitment and retention of women and minorities in/to computing and Information Technology

Supervised fifteen PhD dissertations

EDUCATION

Doctor of Philosophy

September 1981

Computer and Information Science, University of Massachusetts, Amherst

Ph.D. Dissertation: A Partition Analysis Method to Demonstrate Program Reliability.

The primary goal of this research was the development of the partition analysis method, which incorporates the analysis of a specification and an implementation in an integrated application of verification and testing techniques.

Master of Science

May 1978

Computer and Information Science, University of Massachusetts, Amherst

Master's Thesis: Theoretical Considerations in Program Testing.

Bachelor of Arts

March 1976

Mathematics, Revelle College, University of California, San Diego

Graduated With Highest Honors (summa cum laude).

ADMINISTRATIVE POSITIONS

Founding Dean

January 2003 – present

Donald Bren School of Information and Computer Sciences

Managed ICS' transition from department structure to school organization, composed of three departments:

Annual budget of approximately \$14M state funding, \$13M extramural funding,

\$23M endowment and \$2-5M annual private support;

Faculty growth from 43 to 73 senate (regular rank) faculty, also including nine lecturers, nine research faculty and four emeriti faculty; Staff growth from 45 to 55 career staff;

Strived to increase faculty diversity in ICS, currently 28% women and 33% ethnic minority (up from 17% and 15%, respectively).

Raised an eight-figure gift (\$20 million) consisting of ten endowed chairs (\$1.5-\$2 million each) and ICS Dean's Fund for Excellence (funds to support research initiation activities such as interdisciplinary and university/industry collaborations).

Raised ICS' first major alumni gift (\$1.3Million CRT).

Oversaw development of Donald Bren Hall, a 87,000 ASF research, administrative and educational building giving the Bren School of ICS a presence, fostering community and supporting high-tech collaborative and inter-disciplinary research through unique design elements and reconfigurability.

Department Chair

July 2000 – December 2002

Information and Computer Science, University of California, Irvine

Reported directly to Executive Vice Chancellor (Provost) – i.e., with dean's authority.
Managed free-standing department during period of rapid growth while increasing quality:
Approximately \$11M state funding, \$9M external funding, \$6M private support;
Prepared strategic plan for faculty hiring, curriculum development, emerging centers of excellence, school-based organizational structure, and major fund raising activities;
Faculty growth from 34 to 43 senate (regular rank) faculty and 5 to 11 full-time lecturers;
Staff growth from 35 to 45 full-time staff;
Student growth from 1250 to 2150 students (undergraduates: 1100 to 1900, graduates: 150 to 252) while increasing quality by all objective measures: national rankings, SAT scores, GRE scores;
Created and developed faculty mentoring program;
Initiated various student mentoring programs, entrepreneurship training and student product competition;
Established ICS Cabinet (advisory board), ICS Leadership Council, ICS Educational Outreach Board, and ICS Chapter of UCI Alumni Organization;
Raised first endowed chair for ICS (\$1.5Million administrative chair initially held by department chair, now held by dean).
Spearheaded the effort to elevate the Department of Information and Computer Science to a School (a long-standing ICS goal, which required approval/endorsement by ICS Faculty, UCI Administration, UCI Academic Senate, UC System-wide Academic Senate, California Legislature, UC President, and UC Board of Regents), leading to appointment as founding dean.

PRIOR ACADEMIC EXPERIENCE

Associate Professor

1994 – 2003

Assistant Professor

1987 – 1994

Information and Computer Science, University of California, Irvine

Research primarily in the area of specification-based testing, automated test oracles, software testing processes, software architecture and architecture-based testing and analysis; primarily supported by NSF, DARPA, and UC MICRO.

Supervised eight Ph.D. dissertations.

Courses taught generally covered software engineering, software testing, formal methods, formal specifications, requirements engineering, quality assurance, programming languages.

Visiting Assistant Professor

1981 – 1987

Computer and Information Science, University of Massachusetts, Amherst

Research primarily in the area of specification-based testing; primarily supported by NSF and RADC.

Taught courses on software engineering, operating systems, compiler design, data structures, programming languages.

Research Associate

1978 – 1981

Research Assistant

1977 – 1978

Computer and Information Science, University of Massachusetts, Amherst

Research on software testing, program verification, and formal specification languages.

Designed, implemented, and maintained a software validation system that automatically generates test data through symbolic evaluation.

Teaching Associate

1976 – 1977

Computer and Information Science, University of Massachusetts, Amherst

Assisted in teaching both graduate and undergraduate computer science courses.

Teaching Assistant

Spring 1975

Applied Physics and Information Science, University of California, San Diego

Taught recitation section of an undergraduate computer science course.

ACADEMICALLY-RELATED EXPERIENCE

ACM Education Board and ACM Education Council 2012 – present

ACM education activity is governed by two bodies: the Education Council is a task-force-based organization whose aim is to promote ACM's educational mission to as wide a range of constituencies as possible: universities, community colleges, high schools, corporations, and the US government; the Education Board wields the final executive and decision-making power to facilitate the work of the Education Council.

ACCESS Steering Committee Chair 2011 – present

ACCESS (the Alliance for California Computing Education for Students and Schools) is dedicated to advocating for high-quality K-12 computer science education in California and ensuring its accessibility to all students. ACCESS is a statewide network of computer scientists, K-12 teachers, professors from community colleges through universities, educational policy advocates, and related industry professionals.

CSTA Advisory Council Chair 2005 – present

ACM's CSTA (Computer Science Teachers Association) supports and promotes the teaching of computer science and computing. CSTA provides opportunities for K-12 teachers and students to better understand the computing disciplines and to more successfully prepare themselves to teach and learn.

NCWIT Leadership Team / Hub Director 2004 – present

NCWIT (the National Center for Women and Information Technology) is a national coalition of more than 300 prominent corporations, academic institutions, government agencies, and non-profits working to increase women's participation in computing and information technology.

Chair, Computer Science Education Week 2010 – 2012

Computer Science Education Week was endorsed by the US House of Representatives (December 5-11 2010) to promote the role computing plays in our nation and today's society and the importance of computer science education at all levels. The intent is to develop a national campaign, much along the lines of Engineering Week, with activities and events taking place across the country and beyond.

CRA Deans Committee Chair, Computing Research Association 2008 – 2012

The CRA-Deans Group was established in an effort to provide leadership and community to emerging and established colleges of computing and interdisciplinary "IT" schools. The group is organized around schools of computing, schools of information, and/or schools of information technology with heads that report directly to the Provost or Chief Academic Officer at a university. Served as Vice Chair 2006-2008.

Leadership Team / co-PI, ADVANCE 2002 – 2010

UCIrvine's ADVANCE Institutional Transformation program, originally funded by NSF but institutionalized by the campus, is targeted to assuring gender and ethnic equity in the faculty.

Co-Director, American Indian Summer Institute in Computer Science 2001 – 2010

UCIrvine's AISICS is a summer program for high school students that aims to introduce computer science, study Native American culture and issues relevant to the global economy, introduce students to a research university environment, and assist students in pursuing higher education, while retaining their cultural pride and identity. The program was funded by a NSF Broadening Participation in Computing award.

Co-PI, California Alliance for Minority Participation (CAMP) 2001 – 2011

CAMP is a statewide program for under-represented students supported by NSF Louis Stokes (LSAMP) Program. Through peer mentoring and tutoring and faculty mentored research opportunities, CAMP supports student development and completion of the B.S. degree in science, engineering, and mathematics.

Select Advisory Committees

Strategic advice and guidance to academic units through regular meetings as well as informal contact.

School of Interactive Computing Advisory Board, Georgia Institute of Technology 2011–present

ADVANCE-IT External Advisory Board, Rochester Institute of Technology 2013 – 2017

President's Advisory Board, Carnegie Mellon University–Silicon Valley 2012 – 2013

School of Interactive Computing Advisory Board, Georgia Institute of Technology 2010 – 2015

College of Computing and IT Academic Advisory Committee, SUNY Albany 2006 – 2011

Provost's Advisory Group, Case Western Reserve University 2003 – 2005

Provost's Advisory Group, College of Computing, University of Nevada–LV 2002 – 2006

Computer Science Strategic Advisory Council, Virginia Institute of Technology 2002 – 2006

OTHER COMMUNITY SERVICE

Board of Directors, Girls Incorporated of Orange County 2001 – 2011, 2013

VP Program and Volunteer Development 2004 – present

Girls Inc is a national nonprofit organization dedicated to inspiring girls to be “strong, smart, and bold”; Girls Inc Orange County offers vital educational programs, particularly in high-risk underserved areas, to help girls confront subtle societal messages about their value and potential, and prepare them to lead successful, independent, and fulfilling lives.

Advisory Board, Southern California Association for Women in Technology 2002 – 2011

Association for Women in Technology is a national non-profit organization of women devoted to the advancement of women working in computing and technology. AWT SoCal is dedicated to improving communication, furthering professional development, promoting education, and increasing opportunities through networking and programs for women and girls interested in the technology field.

Board of Directors, ARCS Foundation, Orange County chapter 2001 – 2008

The Orange County Chapter of the ARCS (Achievement Rewards for College Scientists) Foundation is one of twelve chapters that are dedicated to helping the best and brightest United States students by providing scholarships to scientists and engineers.

RELATED PROFESSIONAL EXPERIENCE

Senior Advisor, OurGroup, Inc. 2011 – present

OurGroup is an Internet-based platform that provides an integrated tool suite enabling philanthropic organizations to be more effective in increasing donations and inspiring volunteerism. OurGroup’s platform offers several distinct advantages over alternative channels

Board of Directors, Watchit Media, Inc. 2006 – 2008

Watchit Media became the premier narrowcasting firm in the gaming and hospitality market in the US. Watchit produced high-impact, dynamic digital media, signage and communication through private video networks matching the unique interests, lifestyles and buying behavior of captive audiences and one-to-one consumer digital device users to entertain, inform, educate and influence.

Board of Advisors, Eventide Capital Partners, LLC. 2002 – 2006

Eventide is a value creation firm based in Southern California. Eventide provides venture capital and strategic services to early & emerging stage companies with extraordinary growth potential, and creates value by actively providing resources that enhance companies’ probability of success in mission-critical functions.

Board of Directors, Cotelligent, Inc. 2001 – 2005

Cotelligent created scalable business solutions for the mobile workforce, largely focused on enterprise consulting and implementation services along with software development for e-business infrastructures with increasing focus on wireless and mobile computing.

Advisory Board, BridgeGate 20 2001 – 2004

BridgeGate 20 annually recognizes top 20 business professionals in Orange County’s high tech industry who are committed to the highest valuation of human capital as the key factor in achieving company success; BridgeGate 20 raises funds for a local charity that helps put at-risk youth into the employment mainstream

Study Director, QuEST: Quality Enabling Software Technology 1995 – 1996

Microelectronics and Computer Technology Corporation, Austin, Texas

Directed QuEST consortial study, while on sabbatical, which led to a long-term project in development and transition of technologies for improving various software qualities.

Engineering Consultant, Hughes Aircraft Company / Raytheon Corporation 1988 – 1998

Consulted on the use of formal software development techniques for very-large scale software systems.

Senior Programmer/Analyst, Linkabit Corporation 1975 – 1977

Supervised and assisted in the development and maintenance of large scale software systems.

HONORS AND AWARDS

SIGSoft Retrospective Impact Paper Award

December 2012

“Specification-based Test Oracles for Reactive Systems”, Proceedings of the 14th International Conference on Software Engineering (ICSE 1992), was recognized as being particularly influential in software engineering research as judged by its influence since the time of publication.

Fellow of Automated Software Engineering

November 2009

Bestowed in perpetuity on those who are deemed by the ASE Steering Committee to have rendered significant and sustained contributions to the ASE Community, through their scientific accomplishments and their service to the ASE Conferences, ASE Journal, and to the ASE research community in general.

Outstanding Achievement in Education, University of Massachusetts-Amherst

May 2009

Outstanding Achievement and Advocacy Awards

Recognized as the first alumni for outstanding achievements and advocacy in education, for:

“Her vision and leadership have created a strong foundation for a strong academic unit that will serve generations of students to come.”

2009 Orange County Engineering Council President’s Prestigious Award

February 2009

“The recipient of this award is nominated by the current OCEC President, based on his/her evaluation of a certain individual’s special abilities, service to the engineering profession, contribution to society and any other extraordinary qualities.” Specifically recognized for “her major efforts in advancing computer sciences and obtaining associated funding to strengthen associated educational opportunities.”

2007 Top Twenty Women to Watch, Orange County Metro

March 2007

A woman to watch with a passion to “change the face of computing – at UC Irvine and across the nation” and “revamping UC Irvine’s curriculum to focus on collaborative work, while conducting outreach to girls to show that computer science is fun.”

Woman of the Month, Women in Technology International (WITI)

February 2002

Orange County Chapter

Recognized for Accomplishments in Advancing Women in Technology,

2001 Ten Women Making a Difference, Orange County Metro

March 2001

Recognized as the number two woman making a difference in Orange County, in three ways: “1) as a researcher in software testing technology, 2) as chair of the largest and fastest growing Computer Science department in the UC system, and 3) as a highly successful woman in a field overwhelmingly dominated by men, serving as a beacon to other women showing that CS is a path they can follow.”

SIGSoft Most Influential Paper Award

March 1996

ICSE-18: 18th International Conference on Software Engineering (Berlin, Germany)

“A Comparison of Data Flow Path Selection Criteria”, which appeared in Proceedings of the 8th International Conference on Software Engineering (London, England), was judged to have had significant impact on the software engineering field ten years after its publication.

UNIVERSITY SERVICE (additional roles underlined)

System-wide service

University of California Microelectronics Innovation and Computer Research Opportunities (MICRO)
Program Executive Committee, 1992 – 2006; Chair, 1998 – 2006

University of California Industry-University Cooperative Research Program (IUCRP) Directors
Committee, 1998 – 2006

President's Engineering Advisory Council (PEAC) Task Force on Industry-University Research Contracts,
1999 – 2000

University of California Center for Computer Security Planning Group, 1999 – 2000

Campus-wide service

Eugene Coda Robles Diversity Fellowship Review Committee, 2013, 2014

Calit2 Division Council, 2013 – present

WASC Accreditation Planning Committee, 2007 – 2010

Cal-it2 Governing Board, 2001 – 2010

Cal-it2 Steering Committee, 2001 – 2010

Chancellor's Advisory Committee, July 2000 – June 2010

EVC&Provost's Academic/Deans Council, July 2000 – June 2010

Dean's Advancement Council, July 2000 – June 2010

Executive Committee, UC Institute for Software Research, 1999 – present; founding member, 1999

California Alliance for Minority Participation, Advisor/PI, 1997 – 2010

School of Social Sciences Dean Review Committee, 2007

Division of Undergraduate Education Dean Search Committee, Chair, 2005

Long-Range Campus Planning, Resources Committee, Chair, 2004

School of the Arts Dean Selection Committee, 2003

Cal-it2 Director Search Committee, 2003

Associate Vice Chancellor Advancement Search Committee, Chair, 2002

Director of Athletics Search Committee, 2002

Special Committee to Evaluate Senate Restructuring, 2002 – 2003

Committee on Committees, 1999/00 – 2001/02

WASC Accreditation Planning Committee, 1998/99 – 2000/01

Academic Senate Cabinet, 1998/99

Senate Representative Assembly (as CEP Chair), 1998/99

Senate Executive Committee, 1997/98

Council on Educational Policy, 1996/97 – 1998/99; Chair, 1997/98 – 1998/99

Calendar Committee, 1997/98 – 1998/99

Enrollment Council, 1997/98 – 1998/99

Budget Advisory Committee, 1997/98 – 1998/99

Undeclared/Unaffiliated Undergraduate Advisor, 1996/97 – 1998/99

Senate Representative Assembly, 1993/94 – 1994/95

Pregraduate Mentorship Selection Committee, 1991/92 – 1992/93

Student Affairs Committee, 1989/90

School-wide Service (school established December 2002)

Founding Dean, December 2002 – June 2010

NCWIT PaeSetters Team, 2009 – present, "Change Leader" 2011 – present, "Champion" 2009 – 2010

Director, Ada Byron Research Center for Diversity in Computing & IT (ABRC), November 2003 – present
ABRC was the founding NCWIT hub focusing on undergraduate education

Department Service: Informatics

Chair's Advisory Committee, 2011/12
Software Engineering Degree Steering Committee, Fall 2011 – present
Software Engineering Phase II Coordinator, Spring 2012

Department Service: ICS

Department Chair, July 2000 – December 2002
Graduate Admissions Committee, 1987/88, 1988/89 & 1999/2000
Personnel Committee, 1989/90, 1991/92, 1997/98 – 1998/99; Chair, 1997/98 – 1998/99
Affirmative Action and Sexual Harassment Officer, 1993/94–1994/95, 1997/98 – present
Undergraduate Policy Committee 1995/96 – 1996/97; Chair, 1996/97
Women in Computer Science Club, Faculty Advisor, April 1995 – present; Founder, 1996
Computing Resource Committee, 1992/93 – 1994/95; Chair, 1993/94 – 1994/95
Executive Committee, Irvine Research Unit in Software, 1991 – 1999;
Acting Director, 1995/96; Founding Member, 1991
Space Committee, 1990/91

PROFESSIONAL SERVICE (additional roles underlined)

Service Committees

ACM Computer Science Teachers Association Advisory Council, 2005–present, Chair, 2007 – present
CRA IT-Deans Group, 2000–present, elected Chair, 2008–2012, Vice Chair, 2004 – 2008
Information Schools Caucus, Deans Leadership Group, 2002–2010, Membership Chair, 2007 – 2010
Fund Raising Committee, Grace Hopper Celebration of Women in Computing, Academic Fund Raising
Chair, 2006
Fund Raising Committee, Richard Tapia Celebration of Diversity in Computing, 2005

Advisory / Review Panels

President's Advisory Board, CMU–Silicon Valley, Carnegie Mellon University, 2012 – 2013
Advisory Board, School of Interactive Computing, Georgia Institute of Technology, 2010 – 2015
Academic Advisory Committee, College of Computing and IT, SUNY at Albany, 2006 – 2011
Proposal Review, M.S. in Information and Communication Technology for Development,
University of Colorado–Boulder, March 2010
California Governor's Broadband Taskforce, 2007 – 2010
Research Center Review, Lero–the Irish Software Engineering Research Centre,
Science Foundation Ireland Review Committee, March–July 2008
Provost's Advisory Group, Future of Information Technology Research and Education, Case Western
Reserve University, 2003 – 2005
Provost's Advisory Group on College of Computing, University of Nevada, Las Vegas, 2002 – 2005
Strategic Advisory Council, Department/School of Computer Science, Virginia Technical Institute and
State University, 2002 – 2005
Academic Review Panel, Information School, University of California–Berkeley, 2006
Decennial Review Panel, School of Information Science and Technology, Claremont Graduate University,
2006
Academic Review Panel, Department of Computer Science, University of Colorado–Boulder, 2005
Tier II Review Committee, Department of Computer Science, Embry-Riddle University, 2005
Texas Technology Workforce Development Grants Program Evaluation, Austin, Texas, 2005
NSF CISE CCF Committee of Visitors, summary presentation to CISE Advisory Board, 2004.
NRC Review of NIST Information Technology Lab, 2001 – 2004.
NSF CISE Research Infrastructure Program, December 1996.

NSF CISE Educational Infrastructure Program, May 1994.

Steering Committees

ASE: International Conference on Automated Software Engineering, Steering Committee, 2001 – 2011.
IWSSD: International Workshop on Software Specification and Design, Steering Committee, 2000 – 2010.
ISSTA: International Symposium on Software Testing and Analysis, Steering Committee, 2000 – 2010,
Steering Committee Chair, 2000 – 2002.

Journal Boards

IEEE Transactions on Software Engineering, Editor-in-Chief Reappointment Evaluation Committee, 2002.

Program Committees

RE4SuSy 2013: Second International Workshop on Requirements Engineering for Sustainable Systems, at RE'13-21st International Conference on Requirements Engineering, July 2013
GHC 2013: Conference Leadership Committee, Academic Track Chair, Grace Hopper Celebration of Women in Computing, October 2013
ICSE'2013: Software Engineering Education Track, 35th International Conference on Software Engineering, May 2013
GHC 2012: Conference Leadership Committee, Invited Technical Speakers Co-Chair, Grace Hopper Celebration of Women in Computing, October 2012
RE4SuZy 2012: First International Workshop on Requirements Engineering for Sustainable Systems, Social Fire on Green Wire at RefsQ'12-18th International Working Conference on Requirements Engineering: Foundation for Software Quality, March 2012
ASE'2010: 25th International Conference on Automated Software Engineering, November 2010
i-Conference 2008: Third Annual i-Conference, Planning Committee, February 2008
WADS'2006: Workshop on Architecting Dependable Systems, Philadelphia, PA, June 2006
CSEE&T'2006: 19th Conference on Software Engineering and Training, April 2006
ASE'2005: 20th International Conference on Automated Software Engineering, November 2005
ASE'2004: 19th International Conference on Automated Software Engineering, to be held September 2004.
ASE'2003: 18th International Conference on Automated Software Engineering, November 2003.
ESEC/FSE'2003: 9th European Software Engineering Conference (ESEC), 10th International Symposium on Foundations of Software Engineering, to be held September 2003.
WADS'2003: ICSE 2003 Workshop on Software Architectures for Dependable Systems, with 25th International Conference on Software Engineering, May 2003.
ASE'2002: 17th International Conference on Automated Software Engineering, September 2002.
ASE'2001: 16th International Conference on Automated Software Engineering, General Chair, November 2001.
ESEC/FSE'2001: 8th European Software Engineering Conference (ESEC) and the 9th International Symposium on Foundations of Software Engineering, September 2001.
ICSE'2001: 23rd International Conference on Software Engineering, May 2001.
IWSSD-10: 10th International Workshop on Software Specification and Design, Program Co-Chair, November 2000.
ASE'2000: 15th International Conference on Automated Software Engineering, September 2000.
ISSTA'2000: 5th International Symposium on Software Testing and Analysis, General Chair, August 2000.
FMSP-4: 4th Workshop on Formal Methods in Software Practice, General Chair, August 2000.
International Workshop on Automated Program Analysis, Testing and Verification, June 2000.
ASE'99: 14th International Conference on Automated Software Engineering, October 1999.
CSS-4: 4th California Software Symposium, October 1998.
ASE'98: 13th International Conference on Automated Software Engineering, October 1998.

IWSSD-9: 9th International Workshop on Software Specification and Design, Traceability, Integrity, and Change Track Chair, April 1998.
ISSTA '98: 4th International Symposium on Software Testing and Analysis, March 1998.
CSS-3: 3rd California Software Symposium, Program Co-Chair, November 1997.
ICSE-19: 19th International Conference on Software Engineering, Poster Session Coordinator, May 1997.
ISAW-2: 2nd International Software Architecture Workshop, October 1996.
IWSSD-8: 8th International Workshop on Software Specification and Design, Design Engineering Track Chair, March 1996.
CSS-2: 2nd California Software Symposium, April 1996.
FMSP-1: 1st Workshop on Formal Methods in Software Practice, Session Chair, January 1996
ISSTA '96: 3rd International Symposium on Software Testing and Analysis, Session Chair, January 1996
FSE-3: 3rd International Symposium on Foundations of Software Engineering, October 1995
CSS-1: 1st California Software Symposium, Program Committee Co-Chair, March 1995
FSE-2: 2nd International Symposium on Foundations of Software Engineering, Tutorial Chair, December 1994
ISS-4: 4th Irvine Software Symposium, Session Chair, April 1994
Symposium on Reuse-based Software Engineering, Irvine Research Unit in Software, Program Chair, October 1993
ISS-3: 3rd Irvine Software Symposium, Program Committee Co-Chair, April 1993
ISS-2: 2nd Irvine Software Symposium, Session Chair, April 1992
TAV-4: 4th Symposium on Software Testing, Analysis, and Verification, October 1991
ISS-1: 1st Irvine Software Symposium, Session Chair, April 1991
2nd Workshop on Software Testing, Verification, and Analysis (TAV-2), Publicity and Finance Chair, Program Committee and Session Chair, July 1988
1st Workshop on Software Testing (TAV-1), Publicity Chair, July 1986

Technical Reviewer (other than in the context of program committees listed above)

National Science Foundation

IEEE Transactions on Software Engineering, IEEE Software, IEEE Computer

Communications of the ACM, ACM Computing Surveys

ACM Transactions on Programming Languages and Systems

ACM Transactions on Software Engineering and Methodology

Automated Software Engineering Journal

Journal of Software Testing and Reliability

Journal of Software: Practice and Experience

Journal of Systems and Software

International Journal of Software Engineering and Knowledge Engineering

Springer-Verlag Lecture Notes in Computer Science

John Wiley and Sons, Addison-Wesley, Prentice Hall

Additional Professional Activities

UC Institute for Software Research, Founding Member 1999, Executive Committee 1999 – present

Irvine Research Unit in Software, Founding Member 1991, Acting Director 1995, Executive Committee 1991 – 1999

Arcadia Consortium: Principal Investigator 1987-1997, Analysis Working Group Chair, 1987 – 1997

Advanced Research Projects Agency: Software Environment Workshop, Analysis and Testing Working Group Chair, 1994 – 1997

PROFESSIONAL MEMBERSHIPS

IEEE Computer Society, IEEE Software Engineering Technical Committee
Association for Computing Machinery, ACM Special Interest Group on Software Engineering,
ACM Special Interest Group on Computer Science Education

LEADERSHIP PRESENTATIONS

Selected presentations at professional meetings

(does not include research-related presentations nor administrative/leadership-related presentations at UCI)

Women & Leadership: Learning to “Lean In” to your Career, Moderator, Broadcom Women’s Network, Irvine California, May 2013.

Effective Leadership, Plenary Session, CRA-W Advanced Career Mentoring Workshop (CAPP - Cohort of Associate Professors/Advanced Professionals Project), San Francisco, CA, November 2012.

Strategies to Help with Promotion to Full Professor, CAPP-R Session, CRA-W Advanced Career Mentoring Workshop (CAPP - Cohort of Associate Professors/Advanced Professionals Project), San Francisco, CA, November 2012.

Computer Science Education Week 2011 Outcomes, Computing in the Core, Washington, DC, April 2012.

CSEdWeek 2011 Outcomes, Computing in the Core, Association for Computing Machinery, Washington DC, February 2012.

In Need of Repair: the State of K-12 Computer Science Education in California, CCEAN Meeting, November 2011.

Sit With Me, NCWIT PaceSetters Meeting, Boulder, CO, October 2011.

CSEdWeek Wants You! CSTA Advisory Council, San Francisco, CA, October 2011.

CSEdWeek Wants You! ACM Education Council, Denver, CO, September 2011.

CSEdWeek Needs Your Participation to encourage girls and women, NCWIT Summit, May 2011.

Assessing CSEdWeek 2010, CSTA Advisory Council, Cambridge, MA, April 2011.

Assessing CSEdWeek 2010, Computing in the Core, Washington, DC, February 2011.

Finding your Research Direction (Moderator and Panelist). Colorado Celebration of Women in Computing, Golden, CO, November 2010.

Computer Science Education Week: How can you get involved? NCWIT K-12 Alliance Meeting, November 2010.

Imposter Plenary Panel: Addressing Unique Challenges (Moderator). Grace Hopper Celebration of Women in Computing, Atlanta GA, October 2010.

Computer Science Education Week Plans, CSTA Advisory Council, Seattle, WA, October 2010.

Managing Up – Partnering with your Dean. CRA Conference, Snowbird UT, July 2010.

Guidelines for Coordinating Faculty Recruitment. CRA Conference, Snowbird UT, July 2010.

Turning good policies into good practice: The need for culture change, Plenary Panel. National Center for Women and Information Technology Summit on Women & IT, May 2010.

Interventions & Evaluations @ICS: Challenges and a few Solutions. National Center for Women and Information Technology Summit on Women & IT, May 2010.

Why Everyone Matters: Bridging the Great Divide between K-12 and University. Computer Science and Information Technology Symposium, Closing Keynote Presentation, Washington, DC, June 2009.

Programs, Degrees, and Jobs, What Do I Tell My Students? Computer Science and Information Technology Symposium, San Antonio TX, June 2008.

Current Diversity Challenges Facing Higher Education. Cornell University, May 2008.

Computing, Math, Science: Your Future. AAUW Tech Trek, October 2007.

Women in Science: Diversity in Discovery. AAUW, August 2007.

- Gender Equity from Multiple Perspectives: Increasing Girls' Participation in Computing. National Educational Computing Conference, Atlanta, GA, June 2007.
- Leading Change in Academia: Consensus and Conscientious Subversion, Senior Tech Leaders: "Building and Sustaining Change in Technology Cultures", San Diego, CA, October 2006.
- ADVANCING Women in Computer Science: Why such success at UCI? Grace Hopper Celebration of Women in Computing, San Diego, CA, October 2006.
- What's So Cool About Working on Hot Technology? Panel, Grace Hopper Celebration of Women in Computing, San Diego, CA, October 2006.
- Academic Leadership Panel, Dedicated to Denice Denton, Grace Hopper Celebration of Women in Computing, San Diego, CA, October 2006.
- Automated Software Engineering: What's missing in education?, 20th IEEE/ACM International Conference on Automated Software Engineering, November 2005.
- The Engineering Dean's Role in Faculty Diversity, Panel Session, WEPAN / NAMEPA 2005 Joint National Conference, Las Vegas, Nevada, April 2005.
- Advancing Women in Computer Science and Engineering at UC Irvine: What works, What doesn't?, NSF ADVANCE Engineering Workshop, Washington DC, December 2004.
- Recruitment and Retention of Women & Minorities in Computer Science and Information Technology, CRA Snowbird Conference, July 2003.
- Administrative Options, CRA-W Workshop on Reserch Careers for Women in Computer Science & Engineering, Post-tenure Track, Federated Computing Research Conference, June 2003.
- The Tenure Challenge, CRA-W Workshop on Reserch Careers for Women in Computer Science & Engineering, Pre-tenure Track, Federated Computing Research Conference, June 2003.
- Testament to Success, *UC Systemwide CAMP Symposium*, January 2003.
- The MICRO Program, *UCLA Electrical Engineering Research Symposium*, University of California, Los Angeles, October 2002.
- Assessing Teamwork, *New Pressures on Computer Science & Engineering Academic Units Session*, Computing Research Association Conference, Snowbird, Utah, July 2002.
- Overcoming Barriers to Multi-Disciplinary Research, *New Pressures on Computer Science & Engineering Academic Units Session*, CRA Conference, Snowbird, Utah, July 2002.
- Encouraging Multi-Disciplinary Research within and beyond IT Schools, *Information Technology Deans Meeting*, Computing Research Association, Snowbird, Utah, July 2002.
- Diversity is the Science of Life and the Spice of Science, *UCI Chief Executive Roundtable Retreat*, Maui, Hawaii, May 2002.
- Women in Computing: Bridging the Digital Divide, *Amelia Earhardt Awards*, Irvine, CA, May 2001.
- The Tenure Challenge, *New Software Engineering Faculty Symposium*, ICSE'2001: 23rd International Conference on Software Engineering, Orlando, Florida, May 2001.
- Women in Computing Research, *Discovering a Career in Research: Ask the Experts*, Committee on the Status of Women in Computing, Computing Research Association, February 2001.

PUBLICATIONS

Book Chapters (peer reviewed)

- B.9 Mamadou H. Diallo, Leila Naslavsky, Thomas A. Alspaugh, Hadar Ziv and Debra J. Richardson. Toward Architecture Evaluation Through Ontology-based Requirements-level Scenarios, in *Architecting Dependable Systems V*, Editors: R. de Lemos, F. Di Giandomenico, C. Gacek, H. Muccini, and Marlon Vieira, *Springer Lecture Notes in Computer Science*, vol. 5315, 2008. 225-247.
- B.8 Marcio Dias and Debra J. Richardson. Adaptable Analysis of Dependable System Architectures Through Monitoring, in *Architecting Dependable Systems III*, Editors: R. de Lemos, C. Gacek, and Alexander Romanovsky, *Springer Lecture Notes in Computer Science*, vol. 3549, 2005.122-147.
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- C-15 Debra J. Richardson, T. Owen O'Malley and Cynthia Tittle. Approaches to Specification-Based Testing, *Proceedings of the 3rd Symposium on Testing, Analysis and Verification (SIGSoft'89 /TAV)*, Key West, Florida, December 1989, 86-96.
- C-14 Debra J. Richardson, Stephanie Leif Aha and Leon J. Osterweil. Integrating Testing Techniques through Process Programming, *Proceedings of the 3rd Symposium on Testing, Analysis and Verification (SIGSoft'89/TAV)*, Key West, Florida, December 1989, 219-228.
- C-13 Lori A. Clarke, Debra J. Richardson and Steven J. Zeil. Team: A Support Environment for Testing, Evaluation, and Analysis, *Proceedings of the 3rd Symposium on Testing, Analysis and Verification (SIGSoft'89/TAV)*, Boston, Massachusetts, November 1988, 153-162.
- C-12 Debra J. Richardson and Margaret C. Thompson. The Relay Model of Error Detection and its Application, *Proceedings of the 2nd Workshop on Testing, Analysis and Verification (TAV)*, Banff, Canada, July 1988, 223-230.
- C-11 Lori A. Clarke and Debra J. Richardson. Evaluation and Integration of Software Testing Techniques, *Proceedings of the Canadian Information Processing Society Intelligence Integration Conference*, Edmonton, Alberta, Canada, November 1987, 350-354.
- C-10 Debra J. Richardson and Margaret C. Thompson. Test Data Selection Using the Relay Model of Error Detection, *Proceedings of the 5th Pacific Northwest Software Quality Conference (PNSQ)*, Portland, Oregon, October 1987, 327-343.

- C-9 Lori A. Clarke, Andy Podgurski, Debra J. Richardson and Steven J. Zeil. An Investigation of Data Flow Path Selection Criteria, *Proceedings of the 1st Workshop on Software Testing*, Banff, Canada, July 1986, 23-32.
- C-8 Lori A. Clarke, Andy Podgurski, Debra J. Richardson and Steven J. Zeil. A Comparison of Data Flow Path Selection Criteria, *Proceedings of the 8th International Conference on Software Engineering (ICSE)*, London, England, August 1985, 244-251. **“Most Influential Paper” award for ICSE-8.**
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- C-7 Lori A. Clarke and Debra J. Richardson. The Application of Error-Sensitive Testing Strategies to Debugging, *Proceedings of the ACM Software Engineering Symposium on High-Level Debugging*, March 1983, August 1983, 45-52.
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- C-5 Debra J. Richardson and Lori A. Clarke. On the Effectiveness of the Partition Analysis Method, *Proceedings of the 6th International Computer Software and Applications Conference (COMPSAC)*, November 1982, 529-538.
- C-4 Lori A. Clarke and Debra J. Richardson. Reliable Test Data Selection Strategies - An Integrated Approach, *Proceedings of the 4th Israel Conference on Quality Assurance*, Israel, October 1982.
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- C-2 Debra J. Richardson and Lori A. Clarke. A Partition Analysis Method to Increase Program Reliability, *Proceedings of the 5th International Conference on Software Engineering (ICSE)*, San Diego, CA, March 1981, 244-253.
- C-1 Debra J. Richardson. Theoretical Considerations in Testing Programs by Demonstrating Consistency with Specifications, *Digest for the Workshop on Software Testing and Test Documentation*, Ft. Lauderdale, Florida, December 1978, 19-56.

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- O-9 Debra Richardson. CSEdWeek Shines in 2011. *ACM SIGCSE Bulletin*, Vol.44, No. 3, September 2012.
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Other Publications: Dissertation/Thesis

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- O-1 Debra J. Richardson. Theoretical Considerations in Program Testing Masters Thesis, Computer and Information Science, University of Massachusetts, Amherst, May 1978.

Other Publications: Selected Technical Reports

- R-31 Marlon Vieira, Debra J. Richardson, Dynamic and Compositional Approach for Analyzing Dependencies Embedded in Component-Based Systems, *Technical Report UCI/ICS TR:03-10*, Information & Computer Science, University of California, Irvine, February 2003.
- R-30 Marcio Dias, Debra J. Richardson, Issues on Software Monitoring, *Technical Report UCI/ICS TR:02*, Information & Computer Science, University of California, Irvine, July 2002.
- R-29 Chang Liu and Debra J. Richardson, Redundant Arrays of Independent Components, *Technical Report UCI/ICS TR:02-09*, Information & Computer Science, University of California, Irvine, March 2002.
- R-28 Marlon Vieira, Debra J. Richardson, Issues in Describing and Analyzing Component Dependencies, *Technical Report UCI/ICS TR:01-39*, Information & Computer Science, University of California, Irvine, July 2001.
- R-27 Clark S. Turner and Debra J. Richardson, Software Defect Classes and No-fault Liability, *Technical Report UCI/ICS TR:99-17*, Information & Computer Science, University of California, Irvine, April 1999.
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- R-22 Judy Stafford, Debra J. Richardson, Alex L. Wolf, and B.G. Zorn, Adapting Program Dependence Analysis Techniques for use on Software Architectures, *Technical Report CU/CS TR:97*, Computer Science, University of Colorado, Boulder, November 1997.
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- R-19 N. Eickelmann and Debra J. Richardson, A Software Testability Measure for Architecture-Based Test Processes, *UCI-ICS Technical Report TR-97*, Information & Computer Science, University of California, Irvine, January 1997.
- R-18 Hadar Ziv and Debra J. Richardson, Bayesian-network Confirmation of Software Testing Uncertainties, *UCI-ICS Technical Report TR-97*, Information & Computer Science, University of California, Irvine, January 1997.
- R-17 N. Eickelmann and Debra J. Richardson, An Evaluation of Measurement Theoretic Models of Software Testability, *UCI-ICS Technical Report TR-96*, Information & Computer Science, University of California, Irvine, September 1996.

- R-16 Hadar Ziv and Debra J. Richardson, The Uncertainty Principle in Software Engineering, *UCI-ICS Technical Report TR-96*, Information & Computer Science, University of California, Irvine, September 1996.
- R-15 N. Eickelmann and Debra J. Richardson, A Strategic Advantage Analysis of Formal Methods in Software Engineering, *Technical Report UCI/ICS TR:95-33*, Informaiton and Computer Science, University of California, Irvine, April 1994.
- R-14 Debra J. Richardson and Catherine Patterson, TAOS Tutorial, *Arcadia Technical Report UCI/ICS TR:95*, Informaiton and Computer Science, University of California, Irvine, May 1995.
- R-13 Debra J. Richardson and C. Patterson, Testing Tools Comparison Matrices, *Arcadia Technical Report UCI/ICS TR:95*, Informaiton and Computer Science, University of California, Irvine, April 1995.
- R-12 Debra J. Richardson and C. Patterson, Static Analysis Tools Comparison Matrices, *Arcadia Technical Report UCI/ICS TR:95*, Informaiton and Computer Science, University of California, Irvine, April 1995.
- R-11 Juei Chang and Debra J. Richardson, Static and Dynamic Specification Slicing for Testing and Analysis, *Technical Report UCI/ICS TR:94*, Informaiton and Computer Science, University of California, Irvine, December 1994.
- R-10 Debra J. Richardson and B. Bui, ProDAG Graphical User Interface Manual, *Arcadia Technical Report UCI/ICS TR:93-12*, Informaiton and Computer Science, University of California, Irvine, September 1993.
- R-9 Debra J. Richardson and B. Bui, TAOS Graphical User Interface Manual, *Arcadia Technical Report UCI/ICS TR:93-11*, Informaiton and Computer Science, University of California, Irvine, September 1993.
- R-8 Debra J. Richardson, C. Tittle Moore, T.O. O'Malley, S.L. Aha and D.A. Brodbeck, ProDAG: An Application Programmatic Interface for Program Dependence Analysis Graphs, *Arcadia Technical Report UCI/ICS TR:93-10*, Informaiton and Computer Science, University of California, Irvine, August 1993 (replaces UCI/ICS TR:90-25, December 1990).
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- R-6 Debra J. Richardson, Fault-Based Regression Testing in a Proactive Environment, *Technical Report UCI/ICS TR:90-35*, Information & Computer Science, University of California, Irvine, July 1990.
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- R_4 Debra J. Richardson and M.C. Thompson, The Relay of Fault-based Testing, *Technical Report UCI/ICS TR:88-35*, Information & Computer Science, University of California, Irvine, December 1988.
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- R-2 Debra J. Richardson and M.C. Thompson, Relay: A New Model for Error Detection, *Technical Report UM/COINS TR:86-64*, Computer & Information Science, University of Massachusetts, Amherst, December 1986.
- R-1 Debra J. Richardson and M.C. Thompson, A Formal Framework for Test Data Selection Criteria, *Technical Report UM/COINS TR:86-56*, Computer & Information Science, University of Massachusetts, Amherst, November 1986.

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- S-10 RAIC: Redundant Arrays of Independent Components, available at <http://www.ics.uci.edu/~rosatea/raic> [C-55].
- S-9 DAS-BOOT: Design- And Specification-Based Object-Oriented Testing, available at <http://www.ics.uci.edu/~rosatea/das-boot> [C-52].
- S-8 TestTalk: Software Test Description Language, no longer available, described at <http://www.ics.uci.edu/~rosatea/testtalk> [C-50].
- S-7 Argus-I: “All-Seeing” Architecture Analysis, available at <http://www.ics.uci.edu/~rosatea/Argus-I>, [C-47].
- S-6 SoBeIt: Structural or Behavioral Execution Instrumentation Tool, no longer available, described at <http://www.ics.uci.edu/~rosatea/sobeit> [C-46].
- S-5 Siddhartha: Automated Test Driver Oracle Synthesis, no longer available, described at <http://www.ics.uci.edu/~rosatea/siddhartha> [C-44].
- S-4 ADLScope: Structural Specification-Based Testing, no longer available, described at <http://www.ics.uci.edu/~rosatea/adlscope> [C-38].
- S-3 Component Retrospectors, no longer available, described at <http://www.ics.uci.edu/~rosatea/retrospectors> [C-37].
- S-2 TAOS: Testing and Analysis with Oracle Support, no longer available, described at <http://www.ics.uci.edu/~rosatea/taos> [C-21].
- S-1 ProDAG: Program Dependence Analysis Graph, no longer available, described at <http://www.ics.uci.edu/~rosatea/prodag> [C-18].

RESEARCH PRESENTATIONS

Selected presentations at academic research meetings

- Software Requirements Engineering for Sustainability, NSF-sponsored Workshop on US-China Collaborations in Computer Science and Sustainability, Rutgers University, Piscataway, NJ, September 2011.
- MbSRT²: Model-based Selective Regression Testing with Traceability. *Third International Conference on Software Testing, Verification and Validation*. Paris, France, April 2010.
- Towards a Practical Approach to Test Aspect-Oriented Software, *Workshop on Testing Component-Based Systems, Net.Object Days 2004*, Erfurt, Germany, September 2004.
- Regression Testing via Model Checking, *IASTED International Conference on Software Engineering*, 22nd IASTED Multiconference on Applied informatics, Innsbruck, Austria, February 2004.
- Multiply-Deployed Residual Testing at the Object Level, *IASTED International Conference on Software Engineering*, 22nd IASTED Multiconference on Applied informatics, Austria, February 2004.
- Using RAIC for Dependable On-line Upgrading of Distributed Systems, *Workshop on Dependable On-line Upgrading of Distributed Systems*, International Computer Software and Applications Conference, Oxford, England, August 2002.
- Using Application States in Software Testing, *15th IEEE International Conference on Automated Software Engineering*, Grenoble, France, September 2000.
- Automated Software Testing Panel, Moderator and Participant, *15th International Conference on Automated Software Engineering*, Grenoble, France, September 2000.
- A Model of Specification-Based Testing, *Java Testing Workshop*, Software Engineering Tools and Technology, November 1996.
- Software Testing at the Architectural Level, *Second International Software Architecture Workshop*, October 1996.
- Hybrid Analysis and Testing: test smart right from the start, *Software Technology Conference*, Salt Lake City, UT, February 1996.
- Analysis and Testing: test smart right from the start, *Software Technology Workshop*, ARPA/SISTO Symposium, Chantilly, VA, August 1995.
- TAOS: Testing with Analysis and Oracle Support, *Testing Technical Interchange Meeting*, Hughes Aircraft Company, August 1994.
- TAOS: Testing with Analysis and Oracle Support, *International Symposium on Software Testing and Analysis*, Seattle, WA, January 1994.
- Ensuring Software Quality via Formalized Software Processes, *Pacific Northwest Software Quality Conference*, Portland, OR, October 1990.
- Approaches to Specification-Based Testing, *Quality Week*, San Francisco, CA, May 1990.
- Ada Symbolic Evaluation and Testing, *AdaJUG 1987*, San Diego, California, November 1987.
- Data Flow Path Selection Techniques, *Eighth Minnowbrook Workshop on Software Performance Evaluation*, Blue Mountain Lake, New York, August 1985.
- Testing Techniques Based on Symbolic Evaluation, *Center for Software Reliability Workshop*, University of East Anglia, Norwich, England, April 1984.
- Symbolic Evaluation and Applications to Testing, *Summer Study on Methods for Improving Software Quality and Life Cycle Costs*, National Academy of Sciences, Woods Hole MA, July 1983.
- On the Effectiveness of the Partition Analysis Method, *Workshop on Effectiveness of Testing and Proving Methods*, Avalon, CA, May 1982.

Evaluating Specifications to Enhance Program Testing, *Session on Tools for Verification and Validation - A State of the Art Report*, 1980 National Computer Conference, Anaheim, CA, May 1980.

Theoretical Considerations in Testing Programs by Demonstrating Consistency with Specifications, *Workshop on Software Testing and Test Documentation*, Ft. Lauderdale, Florida, December 1978.

Other invited research presentations

Argus-I: All-Seeing Architectural Analysis, *Motorola Testing Symposium*, Schaumburg, IL, November 1999.

ROSATEA: an Overview of the Research Organization on Specification- and Architecture-based Testing e(&) Analysis, UC Davis, November 1999.

Integrated Support for Specifying and Testing Complex Software-Intensive Systems, Hughes Aircraft Company, February 1996.

Formal Techniques for Property Specification, *QuEST Technical Interchange Meeting*, Microelectronics and Computer Technology Corporation, April 1997.

Execution-Time Specification-Based Analysis for Oracle Failures, *QuEST Technical Interchange Meeting*, Microelectronics and Computer Technology Corporation, October 1996.

A Model of Specification-Based Testing, Technical University of Vienna, Austria, October 1996.

Analysis and Testing Working Group Report, *Software Environments Workshop III*, Advanced Research Projects Agency, April 1996.

Integrated Support for Specifying and Testing Complex Software-Intensive Systems, Hughes Aircraft Company, February 1996.

The TAOS Testing Environment, AT&T Corporation, December 1995.

QuEST: The Quality Enabling Software Technology Project, AT&T Corporation, December 1995.

The TAOS Testing Environment, IBM Corporation, November 1995.

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The TAOS Testing Environment, Motorola Corporation, October 1995.

QuEST: The Quality Enabling Software Technology Project, Motorola Corporation, October 1995.

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QuEST: The Quality Enabling Software Technology Project, *QuEST Members Meeting*, Microelectronics and Computer Technology Corporation, October 1995.

The TAOS Testing Environment, Bell-Northern Research, September 1995.

QuEST: The Quality Enabling Software Technology Project, Bell-Northern Research, September 1995.

QuEST: The Quality Enabling Software Technology Study, *Bay Area Round Table Meeting*, Irvine Research Unit in Software, Palo Alto, California, August 1995.

Strategic Testing and Analysis, The ARPA Environments Program, Software Technology Microelectronics and Computer Technology Corporation, *Bay Area Round Table Meeting*, Irvine Research Unit in Software, Palo Alto, California, August 1995.

Testing, Analysis and Validation Research at UC Irvine, Sun Microsystems Laboratories, June 1995.

QuEST: The Quality Enabling Software Technology Study, *Executive Board Meeting*, Microelectronics and Computer Technology Corporation, June 1995.

Arcadia: A Consortium, A Project, A Vision, A Prototype Environment, *Bay Area Round Table Meeting*, Irvine Research Unit in Software, Palo Alto, California, June 1995.

The TAOS/ProDAG Toolkit, Boeing Computer Systems, March 1995.

- Testing and Analysis Working Group Report, *Software Environments Workshop II*, Advanced Research Projects Agency, Orange Beach, AL, February 1995.
- The TAOS/ProDAG Toolkit, Northrop-Grumman Corporation, February 1995.
- Automated Techniques and Tool Support for Specification-Based Testing, Sun Microsystems Laboratories, February 1995.
- An Integrated Toolset for Specifying and Testing Complex Software-Intensive Systems, Hughes Aircraft Company, February 1995.
- Advanced Testing Technology for Critical Software-Intensive Systems, Northrop-Grumman Corporation, February 1995.
- The TAOS/ProDAG Toolkit, Hughes Research Laboratories, January 1995.
- Testing and Analysis Working Group Report, *Software Environments Workshop I*, Advanced Research Projects Agency, September 1994.
- Testing, Analysis and Validation in the Arcadia Project, Institute for Defense Analysis, September 1994.
- The TAOS/ProDAG Toolkit, *Domain-Specific Software Architecture Meeting*, Advanced Research Projects Agency, July 1994.
- The TAOS/ProDAG Toolkit, Sun Microsystems Laboratories, April 1994.
- Specification-based Validation and Testing, Sun Microsystems Laboratories, April 1994.
- TAOS: Testing with Analysis and Oracle Support, *Bay Area Round Table Meeting*, Irvine Research Unit in Software, Palo Alto, California, March 1994.
- Advanced Testing Technology for Evolving Software-Intensive Systems, Hughes Aircraft Company, February 1994.
- Testing and Analysis within Arcadia, *Software Environments Workshop*, Advanced Research Projects Agency, February 1994.
- Specification-Based Validation and Testing, *Fall Research Symposium*, Irvine Research Unit in Software, October 1993.
- Automated Testing, Hughes Aircraft Company, *Annual Software Technology Conference*, Company-Wide Software Initiatives, October 1993.
- Testing and Analysis within the Arcadia Environment, Defense Advanced Research Projects Agency, September 1993.
- Support for Dependence Analysis and Testing, Politecno di Milano, Milano, Italy, July 1993.
- Support for Dependence Analysis and Testing, Universita di Pisa, Pisa, Italy, July 1993.
- Software Testing Tools and Processes within Arcadia, *Software Process Improvement Network*, Irvine Research Unit in Software Irvine, CA, February 1993.
- Analysis and Testing of Critical Systems based on Multi- Specifications, *Systems Sector Workshop*, Hughes Aircraft Company, Fullerton, CA, January 1993.
- Support Tools and Advanced Technologies for Testing, *Software Testing Technology Interchange Meeting*, Hughes Aircraft Company, El Segundo, CA, November 1992.
- Integrating Testing Activities via Process, Osaka University, Osaka, JAPAN, February 1992.
- Multi-paradigm Specification, Analysis and Testing, Ground Systems Group, Hughes Aircraft Company, Fullerton, CA, January 1992.
- Testing ... Testing ... Testing, University of California, Santa Barbara, March 1991.
- RITS: A Reuse Integration Testing Strategy, Ground Systems Group, Hughes Aircraft Company, Fullerton, CA, January 1991.
- An Integration Testing Strategy for Reusable Ada Components, Ground Systems Group, Hughes Aircraft Company, Fullerton, CA, November 1989.

Advanced Software Testing Techniques, Locus Computing Corporation, Inglewood, CA, October 1988.
Testing Based on the Relay Model of Error Detection, *Software Test and Validation Workshop*, National Institute for Software Quality and Productivity, Washington, DC, April 1988.
Testing based on Relay - A Formal Model of Error Detection, Ground Systems Group, Hughes Aircraft Company, Fullerton, CA, January 1988.
Relay: A Formal Model of Error Detection, Georgia Institute of Technology, May 1987.
Relay: A Formal Model of Error Detection, Universities of California at Santa Barbara, March 1987.
Relay: A Formal Model of Error Detection, Universities of California at Irvine, March 1987.
Relay: A Formal Model of Error Detection, Universities of California at Davis, March 1987.
Relay: A Formal Model of Error Detection, Universities of California at Los Angeles, February 1987.
New Directions in Testing based on Symbolic Evaluation, Wang Graduate Institute, Tyngsboro, NH, July 1983.
Applications of Symbolic Evaluation and the Partition Analysis Method, Digital Equipment Corporation, Spitbrook, NH, July 1982.

GRANTS AND AWARDS

Current Support

- F-44 ECEP: Expanding Computing Education Pathways Alliance, Co-Principal Investigator, submitted to National Science Foundation, Broadening Participation in Computing (CNS), partnering with University of Massachusetts–Amherst and Georgia Institute of Technology, September 2012 – August 2017, \$429,610 sub-award to UMass for UCI/California effort (Total Award \$6,374,999: \$3,681,080 to UMass plus \$2,693,918 to Georgia Tech).

Pending Support

- F-43 SE4S – Software Engineering for Sustainability, Principal Investigator, submitted to National Science Foundation, EARly-concept Grants for Exploratory Research (EAGER), October 2012 – December 2013, \$91,000.
- F-42 UBMS: Upward Bound Math and Science, Co-Principal Investigator, with UCI’s Center for Educational Partnerships (at Anaheim Unified High School District), submitted to U.S. Department of Education, September 2012 – August 2017, \$1,250,000.

Past Support

- F-41 C-Spirit: Coastline – Seamless Articulation Program for Informatics Intersegmental Transfer, Co-Principal Investigator, National Science Foundation, Articulation Partnerships, July 2005 – June 2008, \$150,000 co-award with Coastline Community College total \$300,000.
- F-40 National Center for Women and Information Technology, Co-Principal Investigator, National Science Foundation Special Projects (CNS), July 2004 – June 2007, \$267,527 sub-award for UC Irvine Hub of \$3.25Million Center grant.
- F-39 A Bachelor of Science in Informatics: Establishing an Engaging, Problem-Based, Creativity-Oriented Computer Science Undergraduate Degree Program, Co-Principal Investigator, Fund for the Improvement of Post-Secondary Education, July 2003 – June 2006, \$448,303.
- F-38 An Integrated Social and Technical Approach to the Development of Distributed Inter-Organizational Applications, Co-Principal Investigator, National Science Foundation, Information Technology Research Program, July 2002 – June 2006, \$1,800,000.
- F-37 Faculty Outreach Collaborations Uniting Scientists, Students, and Scholars (FOCUS), Participating Investigator, National Science Foundation, July 2002 – June 2006, \$14,200,000.
- F-36 California Alliance for Minority Participation (CAMP), Co-Principal Investigator, National Science Foundation, November 2001 – October 2006, \$2,500,000.
- F-35 ADVANCE Institutional Transformation Award, Co-Principal Investigator (Oversight of two Equity Advisors in their role of Faculty Assistant to the Dean), National Science Foundation, October 2001 – September 2006, \$3,453,391.
- F-34 Assistance in Areas of National Need (GAANN), Principal Investigator, Department of Education, August 2001 – August 2004, \$982,800.
- F-33 Quality Software by Design, Principal Investigator, National Science Foundation, Information Technology Research Program (ITR), September 2000 – August 2003 (no-cost extension to July 2004), \$499,472.
- F-32 Architecture and Component Analysis Based on Software Dependence, Principal Investigator, University of California MICRO Program, Conexant Systems, Inc., July 2001 – June 2003, \$45,000.
- F-31 Perpetual Testing, Principal Investigator, Defense Advanced Research Projects Agency, Evolutionary Development of Complex Software Systems Program, December 1996 – March 2000, \$750,000.

- F-30 Specification-Based Testing and Debugging for Critical Software Systems, Principal Investigator, University of California MICRO Program, Raytheon Systems Company, July 1998 – December 1999, \$31,807.
- F-29 Quality Enabling Software Technologies for Evolving Software Systems, Principal Investigator, Subcontract to Microelectronics and Computer Technology Corporation, May 1997 – September 1999, \$229,000.
- F-28 International Workshop on the Role of Software Architecture in Testing and Analysis (July 1998), Principal Investigator, National Science Foundation, International Program, Conference Coordinator with Paola Inverardi of University of L'Aquila, Italy, \$30,000.
- F-27 A Formal Architecture-Based Approach to Software Integration Testing, Principal Investigator, National Science Foundation, Software Engineering and Languages Program, July 1997 – July 1999, \$100,000.
- F-26 Quality Enabling Software Technology, Principal Investigator, awarded to Microelectronics and Computer Technology Corporation, Defense Advanced Research Projects Agency, Evolutionary Development of Complex Software Systems Program, October 1996 – September 1999, \$2,043,000.
- F-25 An Integrated Toolset for Specifying and Testing Complex Software-Intensive Systems, Co-Principal Investigator (with L.K. Dillon), University of California MICRO Program, Hughes Electronics Corporation, July 1997 – December 1998, \$47,755.
- F-24 Arcadia: Research in Advanced Environments, Co-Principal Investigator (with R.N. Taylor, R.W. Selby and M. Young), Defense Advanced Research Projects Agency, Environments Program, July 1994 – January 1998, \$3,304,000.
- F-23 Analysis, Testing, and Validation in the Context of Megaprogramming, Principal Investigator, Defense Advanced Research Projects Agency, Option on Environments Program, July 1996 – January 1998, \$52,500.
- F-22 An Integrated Toolset for Specifying and Testing Complex Software-intensive Systems, Co-Principal Investigator (with L.K. Dillon), University of California MICRO Program, Hughes Aircraft Company, July 1996 – December 1997, \$39,797.
- F-21 Automated Techniques and Tool Support for Formal Specification-based Test Selection, Principal Investigator, University of California MICRO Program, Sun Microsystems Inc., July 1996 – December 1997, \$71,273.
- F-20 Specification-based Testing, Principal Investigator, Sun Microsystems Laboratories, Gift, December 1995, \$10,000.
- F-19 An Integrated Toolset for Specifying and Testing Complex Software-Intensive Systems, Co-Principal Investigator (with L.K. Dillon), University of California MICRO Program, Hughes Aircraft Company, July 1995 – December 1996, \$50,230.
- F-18 Automated Techniques and Tool Support for Specification-based Testing, Principal Investigator, University of California MICRO Program, Sun Microsystems Laboratories, July 1995 – December 1996, \$41,365.
- F-17 Developing Critical Systems with Multi-Specifications, Faculty Advisor, NASA Graduate Student Researchers Program, September 1993 – August 1996, \$66,000.
- F-16 Advanced Testing Technology for Evolving Software-Intensive Systems, Principal Investigator, University of California MICRO Program, Hughes Aircraft Company, July 1994 – December 1995, \$36,000.
- F-15 Advanced Testing Technology for Evolving Software-Intensive Systems in Reuse, Reengineering, and Maintenance Processes, Principal Investigator, University of California MICRO Program, Hughes Aircraft Company, July 1993 – December 1994, \$35,000.

- F-14 Arcadia Project - UCI/CU participation, Co-Principal Investigator (with Leon J. Osterweil), Defense Advanced Research Projects Agency, April 1991 to June 1995, \$2,627,000.
- F-13 Specifying, Analyzing and Testing Critical Systems based on Multi-Specifications, Principal Investigator, University of California MICRO Program, Hughes Aircraft Company, July 1992 – December 1993, \$24,775.
- F-12 Multi-paradigm Specification, Analysis and Testing, Principal Investigator, University of California MICRO Program, Hughes Aircraft Company, July 1991 – June 1992, \$26,415.
- F-11 Fault-based Regression Testing in a Reactive Environment, Awardee, University of California, Irvine, Faculty Career Development Award, Fall quarter, 1990, \$8,563.
- F-10 RITS: A Reuse Integration Testing Strategy, Principal Investigator, University of California MICRO Program, Hughes Aircraft Company, July 1990 – June 1991, \$26,642.
- F-9 An Integration Testing Methodology for Reusable Ada Components, Principal Investigator, University of California MICRO Program, Hughes Aircraft Company, July 1989 – June 1990, \$37,400.
- F-8 A Laboratory for Software Research, Co-Principal Investigator (with P. Freeman, P. Langley, N. Leveson, R. Razouk, R.W. Selby, T. Standish, R.N. Taylor, Leon J. Osterweil), National Science Foundation, Coordinated Experimental Research program, July 1987 – June 1991, infrastructure/equipment grant, \$3,130,100.
- F-7 The Investigation and Development of an Advanced Testing System for Ada, Co-Principal Investigator (with Lori A. Clarke and S.J. Zeil), Rome Air Development Center, November 1985 – October 1988, \$700,783.
- F-6 The Development of a Scientific Testing Method, Co-Principal Investigator (with Lori A. Clarke), National Science Foundation, June 1984 – January 1988, \$374,845.
- F-5 The Development of a Prototype Testing System, Co-Principal Investigator (with Lori A. Clarke and S.J. Zeil), Control Data Corporation, June 1984 – May 1987, \$100,165.
- F-4 An Ada Symbolic Testing System, Co-Principal Investigator (with Lori A. Clarke and S.J. Zeil), Rome Air Development Center, January 1985 – January 1986, \$96,176.
- F-3 Toward the Development of Scientific Testing, Co-Principal Investigator (with Lori A. Clarke), National Science Foundation, June 1983 – May 1984, \$69,011.
- F-2 A Partition Analysis Method to Demonstrate Program Reliability, Co-Principal Investigator (with Lori A. Clarke), National Science Foundation, July 1981 – June 1983, \$81,723.
- F-1 Graduate Fellowship in Computer Science, Awardee, International Business Machines Corporation, Thomas J. Watson Research Center, September 1979 – August 1981.

GRADUATE MENTORING

Dissertation Committee Chair

- Kristina Winbladh, Assistant Professor, University of Delaware
M.S. Fall 2006, Ph.D. Spring 2010
- Jose Romero-Mariona, Security Engineer, SPAWAR Systems Center Pacific
M.S. Spring 2006, Ph.D. Spring 2010
- Leila Naslavsky, Member of Research Staff, IBM Thomas J. Watson Research Center
M.S. Winter 2005, Ph.D. Fall 2009
- Lihua Xu, Assistant Professor, Rochester Institute of Technology
M.S. Spring 2006, Ph.D. Summer 2009
- Michele Rousseau, Professor and Department Chair, Saddleback College
M.S. Spring 1999, Ph.D. Winter 2007
- Marcio Dias, Lecturer (Assistant Professor), University of Durham, United Kingdom
M.S. Spring 2000, Ph.D. Winter 2005
- Marlon Vieira, Director of Product Engineering, Seimens Research Labs
M.S. Spring 2000. Ph.D. Spring 2003
- Chang Liu, Associate Professor, Ohio University
Ph.D. Summer 2002, M.S. Spring 1999
- Clark Turner, Associate Professor, California Polytechnic State University, San Luis Obispo
Ph.D. Summer 1999
- Arthur Reyes, Assistant Professor, University of Texas, Arlington
Ph.D. Summer 1999, M.S. Fall 1995
- Juei Chang, Software Architect, Pixar Animation (formerly at Apple Computer, Yodlee, Inc.)
Ph.D. Winter 1999, M.S. Spring 1993
- Nancy Eikermann, Distinguished Member of Technical Staff, Motorola Labs
Ph.D. Spring 1997, M.S. Spring 1993
- Hadar Ziv, Lecturer and Project Scientist, UC Irvine (formerly Senior Software Engineer, eBuilt Inc.)
Ph.D. Spring 1997, M.S. Spring 1990
- Owen O'Malley, Software Architect, Yahoo (formerly at NASA Ames Research Center, Sun Microsystems)
Ph.D. Fall 1996, M.S. Fall 1989
- Margaret Thompson, M.D., Pediatric Hematology-Oncology Fellow, St. Jude Children's Research Hospital
Ph.D. Spring 1991 (awarded at UMass Amherst)

Graduate Advisor (dissertation committee chair, in progress)

Master's Advisor (other than those who continued on to complete their Ph.D.)

- Rebecca Maessen *M.S. Spring 2012*
- HyeJung Choi *M.S. Spring 2009*
- Mamadou Diallo *M.S. Spring 2007*
- Yuewei Zhou *M.S. Spring 2005*
- Rita Baker *M.S. Spring 1990*
- Cynthia Tittle-Moore *M.S. Fall 1989*
- Stephanie Leif Aha *M.S. Spring 1989*

PostDoctoral Supervision

- Hadar Ziv *January 2004 – June 2012*
- Suzanne Schaefer *October 2004 – December 2009*
- Henry Muccini *January – December 2002*

Dissertation Committee Member (other than as chair)

Justin Erankrantz	<i>Ph.D. Summer 2009</i>
Emily Navarro	<i>Ph.D. Spring 2006</i>
Jie Ren	<i>Ph.D. Spring 2006</i>
Rohit Khare	<i>Ph.D. Summer 2003</i>
Henry Muccini	<i>Ph.D. December 2001 (Università dell'Aquila, Italy)</i>
Roy Fielding	<i>Ph.D. Summer 2000</i>
Jason Robbins	<i>Ph.D. Summer 1999</i>
Darren Atkinson	<i>Ph.D. March 1999 (UCSD)</i>
David Morgenthaler	<i>Ph.D. August 1997 (UCSD)</i>
Holly Hildreth	<i>Ph.D. Spring 1996</i>
John Self	<i>Ph.D. Spring 1996</i>
Jon Reese	<i>Ph.D. Spring 1996</i>
Mats Heimdahl	<i>Ph.D. Fall 1994</i>
Patrick Young	<i>Ph.D. Spring 1994</i>
Dennis Troup	<i>Ph.D. Fall 1993</i>
David Levine	<i>Ph.D. Spring 1993</i>
Xipiing Song	<i>Ph.D. Spring 1991</i>
Steven Cha	<i>Ph.D. Summer 1990</i>
Bonnie Melhart	<i>Ph.D. Summer 1990</i>
Tim Shimeall	<i>Ph.D. Summer 1989</i>
Michal Young	<i>Ph.D. Summer 1988</i>
Debra Lane Jusak	<i>Ph.D. Summer 1988</i>

Candidacy Exam Committee Member (in addition to those listed above)

Justin Erankrantz	2006
Emily Navarro	2005
Keri Carpenter	2005
Michele Rousseau	2005
Jie Ren	2004
Rohit Khare	2003
Marcio Dias	2002
Marlon Vieira	2001
Charles Liu	1999
Roy Fielding	1999
Jason Robbins	1998
Greg Bolcer	1998
Juei Chang	1997
Art Reyes	1996
Clark Turner	1996
Darren Atkinson	1995 (UCSD)
David Morgenthaler	1994 (UCSD)

more

UNDERGRADUATE ADVISING

Marianne Silver Conner	<i>Independent Study (with PhD candidate Kristina Winbladh), 2010</i>
Edward Lee Gim	<i>Independent Study (with PhD candidate Kristina Winbladh), 2010</i>
Danielle Song	<i>Independent Study (with PhD candidate Kristina Winbladh), 2010</i>
Dennis Bystritsky	<i>Campuswide Honors Program, Independent Study (with PhD candidate José Romero-Mariona), 2009</i>
Joshua Trejo	<i>Independent Study (with PhD candidate Kristina Winbladh), 2009</i>
Nhu Vuong	<i>Honors Independent Study, SAGE Scholar, 2005</i>
David Lamb	<i>Independent Study, CAMP Scholar</i>
Mustafa Rahimi	<i>Independent Study, CAMP Scholar</i>
Martin Mathis	<i>Independent Study, CAMP Scholar</i>
Jose Romero-Mariona	<i>Independent Study, CAMP Scholar</i>
Terica Kindred	<i>Independent Study, CAMP/Trio McNair Scholar</i>
Andres Nava	<i>Independent Study, CAMP Scholar</i>
Aaron Soto	<i>Independent Study, CAMP Scholar</i>
Brian McCurtis	<i>Independent Study, CAMP/Trio McNair Scholar</i>
Rushana Mukhamedianova	<i>Independent Study</i>
George Tacheji	<i>Independent Study</i>
Catherine Patterson	<i>Honors Independent Study</i>
Moonima Kibria	<i>Honors Independent Study</i>
The Nguyen	<i>Independent Study</i>
Bach Bui	<i>Independent Study</i>
Linette Ruddy	<i>Honors Independent Study, Outstanding Research in ICS</i>
Michele Rousseau	<i>Honors Independent Study</i>
Shilpa Shukla	<i>Independent Study</i>
William Taylor	<i>Independent Study</i>

UNIVERSITY COURSES

Session	Course	Title (independent study and thesis supervision not listed)	Enroll
Winter 2013	In4matx 113	Requirements Analysis and Engineering	92
Fall 2012	In4matx 213	Requirements Specification and Engineering	17
Spring 2012	In4matx 295	Software Engineering for Development and Sustainability	5
Winter 2012	In4matx 213	Requirements Specification and Engineering	7

Period during release from teaching responsibilities while serving as dean

Fall 2000 through Spring 2003 included reduced teaching load while serving as chair

Spring 2003	Univ Studies 3	Freshman Seminar: Risks in Pervasive Computing: Why worry about Quality?	13
	ICS 127	Advanced Project in Software Engineering	6
	ICS 290	Testing Research Seminar	7
Winter 2003	Univ Studies 3	Freshman Seminar: Applications in Computer Science	15
	ICS 290	Testing Research Seminar	5
Fall 2002	ICS 290	Testing Research Seminar	6
Spring 2002	ICS 122	Software Specification and Quality Engineering	22
	ICS 290	ICS 290	4
Winter 2002	ICS 229	Seminar in Software	7
	ICS 290	Testing Research Seminar	5
Fall 2001	ICS 290	Testing Research Seminar	6
Spring 2001	ICS 290	Testing Research Seminar	3
Winter 2001	ICS 290	Testing Research Seminar	2
Fall 2000	ICS 290	Testing Research Seminar	2

Session	Course	Title (independent study and thesis supervision not listed)	Enroll
Spring 2000	ICS 121	Software Methods and Tools	114
	ICS 224	Software Analysis and Testing	12
	ICS 280	Software Security Analysis and Testing	9
	ICS 290	Testing Research Seminar	4
Winter 2000	ICS 290	Testing Research Seminar	4
Fall 1999	ICS 290	Testing Research Seminar	3
Spring 1999	ICS 125	Project in Software System Design	44
	ICS 222	Formal Methods in Software Engineering	13
	ICS 224	Software Analysis and Testing	7
	ICS 290	Testing Research Seminar	5
Winter 1999	ICS 290	Testing Research Seminar	5
Fall 1998	ICS 122	Software Specification and Quality Engineering	13
	ICS 229	Seminar in Software	23
	ICS 290	Testing Research Seminar	6
Spring 1998	ICS 121	Software Methods and Tools	78
	ICS 280	Architecture-based Testing	7
	ICS 290	Testing Research Seminar	5
Winter 1998	ICS 125	Project in Software System Design	55
	ICS 290	Testing Research Seminar	5
Fall 1997	ICS 221	Software Engineering	19
	ICS 290	Testing Research Seminar	5
Spring 1997	ICS 125	Project in Software System Design	54
	ICS 224	Software Analysis and Testing	7
	ICS 290	Testing Research Seminar	5
Winter 1997	ICS 121	Introduction to Software Engineering	68
	ICS 222	Formal Methods in Software Engineering	8
	ICS 229	Research Topics in Software	9
	ICS 290	Testing Research Seminar	7
Fall 1996	ICS 290	Testing Research Seminar	5

Sabbatical-in-Residence: Academic Year 1996-97

Spring 1996	ICS 290	Testing Research Seminar	6
Winter 1996	ICS 290	Testing Research Seminar	5
Fall 1995	ICS 290	Testing Research Seminar	5
Spring 1995	ICS 125	Project in System Design	17
	ICS 229	Research Topics in Software	14
	ICS 280B	Applications of Formal Methods	6
	ICS 290C	Testing Research Seminar	2
Winter 1995	ICS 290	Testing Research Seminar	3
Fall 1994	ICS 121	Introduction to Software Engineering	43
	ICS 222	Formal Methods in Software Engineering	9

Session	Course	Title (independent study and thesis supervision not listed)	Enroll
Spring 1994	ICS 125	Project in System Design	22
	ICS 280D	Specification-based Testing	3
	ICS 290J	Testing Research Seminar	2
Winter 1994	ICS 290C	Testing Research Seminar	5
Fall 1993	ICS 121	Introduction to Software Engineering	53
	ICS 221	Software Engineering	15
	ICS 290S	Research Topics in Software	12
Spring 1993	ICS 125	Project in System Design	20
	ICS 280E	Formal Models in Software Engineering	10
	ICS 290J	Testing Research Seminar	1
Winter 1993	ICS 121	Introduction to Software Engineering	79
	ICS 280F	Specification-based Testing and Analysis	4
	ICS 290J	Testing Research Seminar	3
Fall 1992	ICS 290J	Testing Research Seminar	3
Spring 1992	ICS 280E	Testing and Analysis	9
	ICS 290J	Testing Research Seminar	4
	ICS 290S	Research Topics in Software	15
Winter 1992	ICS 290J	Testing Research Seminar	2
Fall 1991	ICS 121	Introduction to Software Engineering	66
	ICS 125	Project in System Design	20
	ICS 290J	Testing Research Seminar	2
Spring 1991	ICS 121	Introduction to Software Engineering	80
	ICS 280G	Software Engineering	9
	ICS 290J	Testing Research Seminar	4
Winter 1991	ICS 290J	Testing Research Seminar	4
Fall 1990	ICS 290J	Testing Research Seminar	4
Spring 1990	ICS 290J	Testing Research Seminar	4
	ICS 290S	Research Topics in Software	14
Winter 1990	ICS 121	Introduction to Software Engineering	39
	ICS 290C	Formal Specification Methods	6
	ICS 290J	Testing Research Seminar	3
Fall 1989	ICS 125	Project in System Design	25
	ICS 245A	Software Engineering	22
	ICS 290F	Testing Research Seminar	3
Spring 1989	ICS 290J	Testing Research Seminar	3
Winter 1989	ICS 125	Project in System Design	52
	ICS 280C	Specification-based Testing	7
	ICS 290J	Testing Research Seminar	3
Fall 1988	ICS 290F	Testing Research Seminar	3
Spring 1988	ICS 141	Programming Languages	80
	ICS 290S	Research Topics in Software	10
Winter 1988	ICS 141	Programming Languages	56
Fall 1987	ICS 245	Software Engineering	16

PROFESSIONAL DEVELOPMENT COURSES

Software Testing, Symposium on Foundations of Software Engineering, ACM SIGSoft 1993, Los Angeles, CA, December 1993.

A Tutorial on Software Testing, Two Courses in High Assurance Software, Irvine, CA, October 1993.

Current Testing Technology and New Approaches, Software Testing Seminar, UCI Extension, Irvine, CA, November 1992.

Software Testing and Reliability, Information Technologies Program, UCI Extension, Irvine, CA, Spring 1992.

Tutorial on Formal Methods, Hughes Aircraft Company, Ground Systems Group, Fullerton, CA, November 1991.

Software Test Concepts and Techniques, Software Testing Seminar, UCI Extension, Irvine, CA, October 1991.

Software Testing and Reliability, Information Technologies Program, UCI Extension, Irvine, CA, Winter 1991.

Software Testing Techniques, Software Testing Seminar, UCI Extension, Irvine, CA, November 1990.

Software Testing and Reliability, Information Technologies Program, UCI Extension, Irvine, CA, Fall 1989.

The Partition Analysis Method and Specification-Based Testing, Carnegie Mellon Masters Program, Pittsburgh, PA, November 1989.

Software Engineering, System Design in Ada, Information Technologies Program, UCI Extension, Irvine, CA, Spring 1989.

Software Testing and Reliability, Information Technologies Program, UCI Extension, Irvine, CA, Fall 1988.