

Curriculum Vitae

Ruth H. Dameron

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Education:

1971-1973

Syracuse University, Syracuse, New York.

M.S. in Systems and Information Science (now called Computer Science); thesis topic: *A Generalization of Recursive Function Theory*.

1967-1971

Wheaton College, Wheaton, Illinois.

B.S. in Mathematics; graduated *With High Honors*.

University of California, Santa Cruz, Computer Science Institute:

1977 Compiler Theory

1978 Operating Systems

1979 Programming Methodology

Professional Activities:

Associate Chair of the Electrical & Computer Engineering Department, effective July 2003. Initiated several new efforts, some of which have become institutionalized at the college level. See Employment History below.

Created and teach three courses at the graduate level for the Certificate in Software Engineering for the Department of Electrical & Computer Engineering, University of Colorado, Boulder. Courses cover software engineering of object-oriented standalone programs, multiprogram concurrent systems, and distributed systems. Topics include requirements analysis and specification, architectural and detailed design patterns and specification, real-time scheduling, performance analysis, security and testing methodologies for each level of increasing complexity. Pioneered the creation of web versions of these courses starting in the Fall 2003 semester. For an overview, see <http://ece.colorado.edu/~swengctf>.

Organized the Colorado Software Process Improvement Network (ColoSPIN) which began in 1993 as a forum for software professionals and educators with a common interest in improving software development theory and processes and the resulting products' quality. Chaired ColoSPIN until 1998. Remained active on the steering committee until it disbanded in September, 2004.

In 2005, invited to review the 7th edition of Schach's Object-Oriented and Classical Software Engineering. In May, 2004, invited to review sample chapters of a textbook on software engineering of distributed systems for Pearson Education.

Program committee member for 1997 International Conference on Requirements Engineering. Reviewed all papers submitted in industrial application category to determine inclusion at the conference.

Invited Program Chair for Industry/Academia Interaction track at Society for Software Quality's *Achieving Quality Software* Conference, 1994. Was invited speaker at the same organization's conference in 1995.

Speaker on *Software Metrics* at March, 1994, meeting of Colorado SPIN and also Computer Science Colloquium at Colorado State University in May, 1994.

Co-author of *Designing Reliable Software* with John Munson, 1993 International Symposium on Software Reliability Engineering. Paper published in the Proceedings of that conference.

Invited speaker at Boulder ACM Chapter, November 1993, on *Software Engineering Project Management*.

Received grant from National Science Foundation jointly with Howard Wachtel and Frank Barnes to lead the redesign of the CU Electrical & Computer Engineering department's core curriculum from a component-upward to a system-downward orientation. Measured significant resulting improvement in retention of engineering-minority students.

Member of Joint ANSI X3J9 / IEEE Pascal Standard Committee from inception in 1978 until Pascal language standard approved in 1982; member of the committee's Technical Review Task Group and Extensions Task Group. Chaired the International Working Group on Pascal (ISO TC97/SC5/WG4) in Manchester, England, to resolve draft standard's negative comments from voting nations.

Presented papers on Pascal standard at various conferences while the standard was under development during the late 1970's and early 1980's.

Presented papers on methodologies for software development of embedded microprocessor systems in the early years, 1980 - 1985.

Employment History:

1984-present

Neuma Enterprises: self-employed software engineering methodology consultant especially software project management and development methodologies that enhance product quality and shorten development time. Also created and deliver industry courses and workshops on these topics. Developed course material and methods for teaching Unix operating system to managers, support personnel, and engineers with limited computer experience.

June, 1994-July, 2000

On leave of absence from the University of Colorado to consult full time. Continued to teach ECEN4583 Software Systems Development one semester per year and supervised master's projects.

1987-present

Electrical and Computer Engineering Dept., University of Colorado, Boulder, Colorado. As **Visiting Lecturer**, taught courses in Software Systems Development (an advanced software project class), Switching & Finite Automata Theory, Microprocessor Architecture & Assembly Language Programming.

Promoted to full time permanent position as **Senior Instructor** in 1988.

Approved for the **graduate faculty** since 1991.

Designed and taught Software Systems Engineering and Software Engineering Project Management courses in Master's of Engineering in Software Engineering program. Appointed in 1992 as Director of Industrial Relations for Software Engineering. While on leave, continued to supervise master's projects and teach Software Systems Development. Returned to full time status in August, 2000, with assignment to create a Software Engineering Certificate Program targeted to industry while remaining available to graduate students. Also teach undergraduate courses in microprocessor architecture and digital logic. All of my graduate courses are offered simultaneously to distance students through the Center for Advanced Engineering & Technology Education (CAETE). Distance students include graduate students enrolled in degree programs as well as non-degree students in the U.S. and Europe. Am considered to be the "pioneer" in using new technologies to improve the education experience of distance students as well as resident students.

Occasionally retained as consultant and expert witness in court cases involving software plagiarism, development methodology, software quality, and computer forensics.

Associate Chair of the Electrical & Computer Engineering Department, effective July, 2003. I initiated several new programs some of which have become college-wide:

- In response to undergraduates' vociferous complaints regarding incoming international TAs' English, starting in Fall 2004, TA's are tested for "American-English intelligibility" by the Talk Mastery Institute. If their scores are below what is appropriate for their assignments, the Engineering College pays for them to participate in a 10-week program in rapid accent reduction. Began this program in the ECE Department and it became a college-wide program the next year due to obvious success.
- Instrumental in having the Engineering College pursue the use of course fees to support maintenance and replacement of consumables in teaching labs. Given the ECE department's large number of labs, this has resulted in an additional \$95,000 of gross revenue per academic year to support these labs, starting in Fall 2005.

- Enrollments in Computer Science and Computer Engineering have been decreasing nationwide for several years, apparently tied to the “dot bomb” paranoia and ongoing ill-founded fears re a lack of jobs in the U.S. in these areas. Initiated and coordinated ECE faculty phone campaigns to contact all admitted students, High School Honors Institute attendees, Honors Program invitees, women and minority prospective students who expressed interest in EE or ECE as a major. Also launched other efforts to increase contact between our majors and prospective students who visit campus. The number of committed students (i.e., those who paid their \$200 commit fee by May 1) for Fall 2006 increased 50% over the previous year. Actual freshman class enrollment in Fall 2006 increased 12% over the previous year. Department faculty enthusiasm for these efforts is high.

In addition, am responsible for traditional duties associated with Associate Chair position such as faculty teaching assignments, teaching assistant assignments, and participation in the department Curriculum Committee and Executive Committee. The Associate Chair position is considered to be 50% of my assignment. I typically teach two courses per semester for the remaining 50% of my assignment.

1980-1984

Language Resources, Inc., Boulder, Colorado. As Vice President of Engineering, managed development of all products, including cross-compilers, related assemblers, linkers and support tools for 8086 and 68000 microprocessors. Took over sales department to organize national and international distribution network, customer support staff, and negotiate major account proposals.

1979-1980

BNR, Inc., Mountain View, California. Managed the digital telephony and computer technology exchange program between the Advanced Business Systems Group of BNR (Bell Northern Research) and Northern Telecom System Corp. Promoted to manager of Electronic Office Systems Prototypes & Support with responsibility for computer/telephone office product development, administration of experimental computer lab including equipment purchase, maintenance contract negotiation, and equipment reconfiguration for project support.

1979

Fairchild Semiconductor, Mountain View, California. Employed for four months until new parent company, Schlumberger, discontinued the Advanced Products Group. During that time, as technical liaison to marketing, developed technical content for software presentations, gave technical talks to field support, etc. Also, evaluated eight Pascal compilers for ease of portability to the new target microprocessor.

1976-1979

Burroughs Corporation, Pasadena, California. Enhanced the module-interface programming language compiler; became project leader for the in-house systems programming language, the module-interface language, and their prototype compilers. Promoted to **Section Manager** of the Implementation Systems section which included these projects. Designed machine instructions to support systems programming languages for the next computer generation under development.

Also organized and chaired the Corporate Pascal Standard Committee which identified and solved problem areas in the language that could result in implementations yielding different results on different machines. Burroughs wanted genuinely portable software across machine architectures.

1973-1976

Seaver Computer Center, Claremont Colleges, Claremont, California. Designed, implemented, and maintained administrative systems for the six Claremont Colleges including alumni, student registration, admissions, budget, and buildings and grounds task control. Spent one year as a consultant in User Services, assisting academic users in debugging, use of packaged programs, questionnaire design and analysis, writing user documentation and teaching computer programming courses.

1972-1973

Syracuse University, Syracuse, New York. As **research assistant**, summarized and critiqued research preprints in artificial intelligence. As **teaching assistant**, graded assignments and gave supplemental instruction to students in Logic and Computability, Data Processing for Social Scientists, and Fundamentals of Computer Science.

Professional Societies

IEEE, IEEE Computer Society, ACM

ColoSPIN (Colorado Software Process Improvement Network) founder, steering committee member, and former director.