

Brian F. Hanks

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Current Position

Assistant Professor, Fort Lewis College.

My research interests are in empirical software engineering, agile software development processes, computer-supported collaborative work, and software engineering education. I also have extensive industrial software engineering experience.

Education

- Ph.D. Computer Science, University of California, Santa Cruz, 2005. My dissertation title is “Empirical Studies of Distributed Pair Programming”. My advisor was Professor Charlie McDowell.
- M.S. Computer and Information Science, UC Santa Cruz, 1987.
- B.A. Double major, Computer and Information Science and Mathematics, with honors, UC Santa Cruz, 1980.

Publications

B. Hanks, *Problems Encountered by Novice Pair Programmers*, to appear in Proceedings of the 3rd International Computer Education Research (ICER) Workshop, 2007.

B. Simon and B. Hanks, *First Year Students’ Impressions of Pair Programming in CS1*, to appear in Proceedings of the 3rd International Computer Education Research (ICER) Workshop, 2007.

R. Lister, A. Berglund, T. Clear, J. Bergin, K. Garvin-Doxas, B. Hanks, L. Hitchner, A. Luxton-Reilly, K. Sanders, C. Schulte and J. L. Whalley, *Research Perspectives on the Objects-early Debate*, ITiCSE-WGR ’06: Working group reports on ITiCSE on Innovation and technology in computer science education, pages 146–165, 2006.

B. Hanks, *Student Attitudes toward Pair Programming*, Proceedings of the 11th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2006), pages 113 – 117, June 26 – 28, 2006, Bologna, Italy.

L. Werner, B. Hanks, and C. McDowell, *Gender and Pair Programming*, in Encyclopedia of Gender and Information Technology, Eileen M. Trauth ed., 2006.

B. Hanks, *Using Eclipse in the Classroom*, Journal of Computing Sciences in Colleges, volume 21:3, pages 118 – 127, February 2006.

B. Hanks, *Student Performance in CS1 with Distributed Pair Programming*, Proceedings of the 10th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2005), pages 316 – 320, June 27 – 29, 2005, Monte de Caparica, Portugal.

L. Werner, B. Hanks, and C. McDowell, *Pair Programming Helps Female Computer Science Students*, ACM Journal of Educational Resources in Computing, volume 4:1, March 2004 (published April 2005).

L. Werner, B. Hanks, C. McDowell, H. Bullock, and J. Fernald, *Want to Increase Retention of Your Female Students?*, Computing Research News, volume 17:2, March 2005.

B. Hanks, *Tool Support for Distributed Pair Programming: An Empirical Study*, Proceedings of XP/Agile Universe 2004: 4th Conference on Extreme Programming and Agile Methods, August 15 - 18, 2004, Calgary, Canada.

B. Hanks and C. McDowell, *Program Quality with Pair Programming in CS1*, Proceedings of the 9th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2004), June 28 - 30, 2004, Leeds, UK.

C. McDowell, B. Hanks, and L. Werner, *Experimenting with Pair Programming in the Classroom*, Proceedings of the 8th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2003), June 30 - July 2, 2003, Thessaloniki, Greece.

D. Bailey, T. Conn, B. Hanks, and L. Werner, *Can We Influence Attitudes about Inspections? Can We Measure a Change in Attitude?*, Proceedings of the 16th Conference on Software Engineering Education and Training (CSEET 2003), March 20 - 22, 2003, Madrid, Spain, pages 260-267.

Workshops, Symposia, and Presentations

B. Hanks, *Preliminary Results from a Study of Errors Made by Novice Pair Programmers*, poster presentation, Technical Symposium on Computer Science Education, Covington, KY, March 2007.

B. Hanks, *Student Attitudes toward Pair Programming*, poster presentation, Technical Symposium on Computer Science Education (SIGCSE 2006), Houston, TX, March 2006.

Empirical Studies of Pair Programming, 2nd International Workshop on Empirical Evaluation of Agile Methods, August 10, 2003, New Orleans, LA.

Tool Support for Distributed Pair Programming, Doctoral Symposium, International Conference on Software Engineering (ICSE 2003), May 3 - 10, 2003, Portland, OR.

C. McDowell, B. Hanks, and L. Werner, *What Constitutes a “Better” Student Program?*, poster presentation, Technical Symposium on Computer Science Education (SIGCSE 2003), February 19 - 23, 2003, Reno, NV.

Retaining Women in Computer Science: The Impact of Pair Programming. Represented principal investigator Linda Werner at the National Science Foundation ITWF/ITR principal investigators workforce meeting, October 21 - 22, 2002, College Park, MD.

Tool Support for Distributed Pair Programming, Workshop on Distributed Pair Programming, August, 2002, held at XP/Agile Universe 2002, Chicago, IL.

Teaching Experience

2004 – present Fort Lewis College

I teach or have taught a wide variety of courses including Introduction to Computer Science, Introduction to Programming in Java, Data Structures, Software Engineering, Databases, Java for the Internet, and Parallel Programming. I have also taught a general education course for non-majors, Great Ideas in Computing.

2002 – 2004 UC Santa Cruz

I taught Introductory Programming and Data Structures courses, and was a teaching assistant for Software Methodology.

1998 – 2000 Seagate Technology

I developed two software engineering courses for training Seagate's technical staff:

- The first course was a two-day course on Seagate's software development lifecycle, with a focus on eliciting and documenting software requirements.
- The second course was a one-day course on software peer reviews.

I developed all materials for these courses, including syllabi, presentations, handouts, exercises, and web sites. I taught these courses at Seagate locations internationally to more than 200 students from a wide variety of cultural and national backgrounds.

1986 – 1987 UC Santa Cruz

I was a teaching assistant for courses in Operating Systems, Comparative Programming Languages, and Computer Architecture.

Industrial Experience

I have twenty years of industrial software development and management experience. This includes extensive experience in all aspects of software development, from business requirements analysis to installation and maintenance. I have developed a wide variety of software, including embedded systems, operating system utilities, factory automation systems, and Internet applications.

Highlights of my experience include 13 years at Seagate Technology, where I held a variety of increasingly responsible positions, most recently as Director of Software Engineering. As director, I founded the software engineering process improvement initiative at Seagate, and defined Seagate's software development process. I was responsible for all management activities, including staffing, planning, budgeting, employee appraisal, mentoring, and technical leadership. I managed the software process improvement, software test, and technical documentation organizations.

I have also been employed by PumaTech, MCT/Synerception, Victor Technologies, and Plantronics as a software engineer or engineering manager.

I have significant experience presenting technical material to a wide range of audiences, including senior executives, engineering staff, and factory floor workers throughout the United States and Southeast Asia.

Grants and Awards

Faculty Teaching Development Grant, Fort Lewis College, November 2006, \$800.

Faculty Development Grant, Fort Lewis College, November 2006, \$1000.

Faculty Development Grant, Fort Lewis College, November 2005, \$1000.

Faculty Development Grant, Fort Lewis College, December 2004, \$500.

ACM Educators Grant to attend SIGSOFT conference, October 2004, \$1449.47.

Virtual Pair Programming in Undergraduate Education (with principal investigator Charlie McDowell), National Science Foundation award number DUE-0341276, January 2004, \$59,962.

In-kind donation of computer headsets, Plantronics, Inc., \$1,000

Summer 2002 Graduate Student Research Award, UC Santa Cruz School of Engineering, \$4,700

2001 Dean's Fellowship, UC Santa Cruz, \$14,400

2001 Fee Fellowship/Grant, UC Santa Cruz, \$5,355

Professional Activities

Assistant Chair, Educators Symposium, Agile 2007 conference.

Program Committee member, Educators' Symposium, Agile 2006 conference.

Program committee member, XP/Agile Universe conference, 2004

Reviewer since 2005 for the Conference on Innovation and Technology in Computer Science Education.

Reviewer since 2003 for the SIGCSE Technical Symposium on Computer Science Education.

Reviewer for the following journals: Computer Science Education, IEEE Transactions on Software Engineering, IEEE Software, IEE Proceedings Software, Annals of Software Engineering.

Student volunteer for XP/Agile Universe conference, 2002 and 2003

Computing Technology Skills

Professional experience with a wide variety of programming languages, operating systems, development tools, management tools, and Internet technologies, including:

- Java, C++, C, perl, PHP, javascript, SQL, and assembler
- Solaris, Windows 9x, Windows NT, Ultrix, and embedded systems
- Oracle, MS SQL Server, and Progress
- HTTP, HTML, CGI, ASP, JSP, servlets, apache, tomcat
- Tools for project management, configuration management, defect tracking, and formal review support

Professional Affiliations

Member IEEE Computer Society, Association for Computing Machinery, ACM SIGSOFT, ACM SIGCSE