

Leigh Ann Sudol-DeLyser

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RESEARCH INTERESTS

Current interests include Computer Science Education, K-12 education and CS integration at that level from a policy standpoint, Computational Thinking as integrated into K-12 core curriculum subjects, educational data mining, mathematics modeling education.

EDUCATION

Carnegie Mellon University, PA, MS Computer Science Education, August 2010
PhD Computer Science Education, exp. August 2011
Self Defined Interdisciplinary degree between Computer Science and Cognitive Psychology
Recipient of PIER (Program for Interdisciplinary Education Research) Grant

Columbia University Teachers College, NY, MA Computing & Education, 2001
Concentration: Staff Development and Online Learning

Pace University, NY, BS Mathematics, 1997
Minors: Education, Computer Science

FACULTY POSITIONS

Carnegie Mellon University, Pittsburgh, PA January 2007-May 2008

Visiting Lecturer, Computer Science Department

While a faculty member at CMU I taught several sections of introductory computer science. In addition I helped train teaching assistants as well as conducted workshops for high school teachers.

New York University, New York, NY Fall 2000-Fall 2003

Adjunct Professor, Virtual College

I developed curriculum for and taught online sections of Java programming.

Westchester Community College, Valhalla, NY January 2000-May 2002

Adjunct Professor, Computer Information Systems Department

City University of New York, New York, NY Summer 2000-Spring 2001

Adjunct Professor

PUBLICATIONS

Wilson, C., Sudol, L., Stehlik, M., Stephenson, C.(2010) *Running on Empty: The Failure to Teach K-12 Computer Science in the Digital Age*. Association for Computing Machinery.

Sudol, L. & Jaspan, C.(2010) "Analyzing the Strength of Undergraduate Misconceptions About Software Engineering". In Proceedings of the Sixth International Workshop on Computing Education Research, pages 31-40

Sudol, L. & Studer, C.(2010) "Analyzing Test Items: Using Item Response Theory to Validate Assessments". In Proceedings of the 41st SIGCSE Technical Symposium on Computer Science Education, pages 436-440

Sudol, L., Stehlik, M., Carver, S.(2009) "Mental Models of Data:A pilot study". Ninth Baltic Sea Conference on Computing Education Research (Koli Calling 2009), Koli National Park, Finland, 2009.

Sudol, L. (2008) "Forging Connections Between Life and Class Using Reading Assignments". In Proceedings of the 40th SIGCSE Technical Symposium on Computer Science Education, pages 357-361.

Sudol, L. & Bambino, K. (2006) "Is there such a thing as too much support?" In Proceedings of the 11th annual conference on Innovation and Technology in Computer Science Education, page 309.

Horowitz, S. & Sudol, L. (2006) *Addison-Wesley's Review for the AP Computer Science in Java*. Addison Wesley.

Sudol, L. (2006) "Digital Portfolios". CSTA Voice

Lewis, J., Chase, J., Sudol, L. (2005) *Java Software Structures for AP Computer Science AB*. Addison Wesley

GRANTS

2011 IES Educational Technology Grant (Application Under Review)

\$1.4 million over three years to create and test a cognitive tutor for computational thinking. Includes funding for 1 graduate student for each of the three years (Fall 2011-Summer 2014).

2011 Alpha Lab Innovation Works Grant (Final Round Applicant)

\$25,000 over 3 months to develop technology that will tie intelligent feedback to student code production.

2011 Computing Education for the 21st Century, NSF (Application Pending)

Proposing work that will evaluate cognitive factors in the learning of computational thinking principles, specifically in regards to creating simulations as aligned with the Common Core math standards.

2008 Program for Interdisciplinary Education Research (PIER) Funding, CMU

Provide tuition(\$10,500 annually), stipend(\$30,000) and research and travel funding for up to 5 years of PhD studies.

2004 Bedford Staff Development Center Minigrant

\$500 grant to evaluate new robotics platforms for use with the robotics club

2002 Community Education Foundation Grant

\$600 grant to purchase start up supplies for robotics club

PRESENTATIONS/INVITED TALKS

Setting Our IIP in Motion: Testing the Effect of Animated Graphics on Student Learning, Edbag Presentation, Carnegie Mellon Psychology Department (September 2010)

Item Response Theory, Workshop Presentation, International Computing Education Research Conference (August 2010)

Rediscovering the Passion, Beauty, Joy, and Awe of Computing, SIGCSE Panel Pre-

sentation (March 2010)

Surfacing Computer Science in STEM Education, SIGCSE Panel Presentation (March 2010)

Undergraduate Misconceptions in Software Engineering, Edbag Presentation, Carnegie Mellon Psychology Department (February 2010)

State of the Standards: An analysis of US Standards on CS Education, Pedagogy Colloquium, Carnegie Mellon Computer Science Department (December 2009)

Student Mental Models of Data, Edbag Presentation, Carnegie Mellon Psychology Department (April 2009)

Future of Robots in Education: The Next Generation, Institute for Personal Robots in Education, Future of Robots in Education Symposium (March 2009)

Parallax Robots and Programming, Workshop Presentation, St. Bonaventure University February 2009

Broad Issues in Computing: What can CSTA do for you?, CSTA Local Chapter Meeting September 2008

Surviving Your First Years of Teaching CS, CS & IT Symposium, Computer Science Teachers Association June 2008

Teaching Technology with Technology, CS & IT Symposium, Computer Science Teachers Association June 2008

Science Unplugged: Making CS Interesting and Fun, SIGCSE Birds of a Feather Session (2007)

Explorations in Polymorphism, CSTA Symposium (July 2006)

Internet-Its not just for our students Florida Council Teachers of Mathematics Annual Conference (March 1999)

SECONDARY TEACHING EXPERIENCE

Fox Lane High School, Bedford, NY, August 1999-January 2007

Teacher/Computer Helping Teacher

During the time I was a teacher at Fox Lane I taught a variety of math and computer science courses, developed new curriculum and started/advised a robotics team and a programming team. In addition I was actively involved in the staff development of faculty and staff throughout the school district.

Stranahan High School, Ft. Lauderdale, Florida, September 1997-June 1999

Teacher, Math and Computer Science

In addition to teaching several math and computer science and computer applications courses, I provided staff development in technology and assisted in school computer maintenance.

EDUCATIONAL CONSULTING

Pittsburgh Science and Technology High School, Pittsburgh, PA, April 2008-Present
Advisory Panel, Curriculum Consultant

Worked with other members of curriculum panel and administrators to help guide school curriculum.

Microsoft, Redmond, WA, Summer 2007

Curriculum Consultant

Assisted in educational design of curricular unit to use in middle schools to promote computing and communication through the use of Microsoft Expression Web.

Collegeboard, New York, NY, January 2002 - Present

Consultant, APCentral

As a consultant for the APCentral website I reviewed materials pertaining to the AP Computer Science curriculum and developed syllabi for use by other computer science teachers.

Consultant

As a Consultant for the CollegeBoard I was responsible for creating curriculum for and conducting workshops for teachers varying from 1/2 day to full week.

AP Reader/AP Question Leader

As a reader I worked annually to grade AP Computer Science exams. As a question leader I helped create the grading rubrics and managed a room of teachers and professors as they graded.

Cisco Networking Solutions, Phoenix, AZ, February 2004-July 2004

Consultant

As a consultant I worked to align the Java Programming course of the Cisco Networking Academy to AP Computer Science standards and created a teacher resource manual to assist AP Teachers using the course.

PROFESSIONAL EXPERIENCE

School Board of Broward County, Broward County FL, 1998

Consultant, Educational Technology Services

I created a secure environment for student computers in schools and designed and developed a data management system to track county bids.

Westchester Education Coalition, White Plains, NY, 1997

Consultant

As a consultant I analyzed and repaired data management system and advised office on all technology needs.

Pace University, Pleasantville, NY, 1995-1996

Systems Analyst, Cooperative Education Department

As a systems analyst I was responsible for management and maintenance of all technology used within the offices. I also programmed new aspects for a customized multiserver data management system.

Amen & Associates, Greenwich, CT, 1996

Consultant

Responsibilities for this position included management and maintenance of a customized data management system.

ACTIVITIES

Speakers Club Member, Computer Science Department, CMU
Masters Committee, Erik Pasternak, Robotics Department, CMU
Mentor, Pittsburgh Science of Learning Center Summer School, Educational Data Mining Track
Student Volunteer, Educational Data Mining Conference 2010
Student Volunteer, Intelligent Tutoring Systems Conference 2010
Nifty Assignments and Lightning Talks Chair, Computing Consortium for Small Colleges 2009
Robotics Club Advisor, Fox Lane High School 1999-2007
Assistant Trainer, Fox Lane High School 1999-2006
Assistant Chair, Bedford Staff Development Center Policy Board 2002-2007
Assistant Trainer, Stranahan High School 1997-1999
LAN Administrator, Stranahan High School 1997-1999

PROFESSIONAL ORGANIZATIONS

Computer Science Teachers' Association, At Large Representative, Board of Directors 2006-2008
ACM Special Interest Group on Computer Science Education, K-12 Liaison for 2007 & 2009
Institute for Personal Robotics in Education, Advisory Board Member
National Council Teachers of Mathematics, Member
Bedford Staff Development Center, Policy Board Member 2001-2007

COMMUNITY SERVICE

Mamaroneck Emergency Medical Services (EMS) Member December 2000-2008 Treasurer 2001-2005 Board of Directors 2003-2007