



# Sara Sprenkle

GRFP Recipient: 2000

*Undergraduate Institution:*  
B.S. 1999, Gettysburg College

*Graduate Institution:*  
M.S. 2004, Duke University; Ph.D.  
2007, University of Delaware

*Graduate Field of Study:*  
Computer Science and  
Engineering

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*Current Position:*  
Assistant Professor of  
Computer Science, Washing-  
ton and Lee University

## RESEARCH INTERESTS //

Sara Sprenkle's research interests include automation in software testing for various domains, with a specific focus on Web applications, software maintenance, software engineering, empirical methodologies, distributed systems and digital humanities. She also teaches courses on the fundamentals of programming, software development, algorithm design and analysis, Web application development and distributed systems. Sprenkle works closely with select students on research and development projects, and participates in a variety of service activities, including broadening participation in computer science, women's leadership initiatives, and helping to improve the Web presence of a variety of local community organizations.

## BROADER IMPACT OF MY WORK ON SOCIETY //

"My research focuses on improving automated techniques to test (i.e., verify the correctness of) Web applications. While I enjoy my research and the advancements I have made in the field, the most important broader impact is how undergraduate students can be involved in my research. Research in testing is accessible to students because students are exposed to testing fundamentals in their very first computer science classes and the fundamentals of testing (e.g., using 'good' inputs to try to reveal errors and recognizing symptoms of errors) are the same, regardless of the domain. Even less experienced students--who tend to be women and minority students who only start learning about computer science in college--can understand the challenges of testing Web applications and can begin to brainstorm their own solutions to these challenges. Developing

their own ideas gives students ownership of the research project and motivates them to learn more to solve the problems. Students learn the research process and begin to identify new problems and generate more ideas. And that's when it really gets fun.”

#### A PERSONAL ANECDOTE OF THE BENEFIT FROM THE GRF PROGRAM //

“I heard from the GRF program late in my first year of graduate school. At that time, I was learning a lot in my courses, but I found the courses to be quite challenging as I transitioned from a small, liberal arts college to a graduate program where many other students had more experience in computer science. When I was awarded the GRE, I was elated. The fellowship gave me a boost of confidence because the reviewers believed in me and in my ability to do computer science research. I still remember one of the reviewer's comments: This one's a star! I needed to make sure the reviewer's confidence was merited, and I was even more motivated to succeed. To that end, with the GRE, I was able to focus on developing my computer science and research skills in my courses and research projects rather than working as a teaching assistant.”

#### AWARDS/ HONORS //

- Fourth on the list of best papers of International ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC) during 1992-2012 (paper published in 2003) (2012)
- Best research paper award, IEEE International Conference on Software Testing, Verification and Validation (2011)
- Lauri Pfeffer Shinn Memorial Award, Department of Computer and Information Sciences, University of Delaware (2006)
- Graduate teaching assistant award, Department of Computer and Information Sciences, University of Delaware (2005)
- Computer Science Department service award, Duke University (2000, 2002, 2003)
- Phi Beta Kappa, Gettysburg College (1999)
- Rev. George N. and M. Naomi Lauffer Scholarship Award (1997)
- Benjamin Fine Awards for Outstanding Education Reporting (1996)

#### POSITION PROFILE //

*Sprenkle is an assistant professor of computer science at Washington and Lee University (2008-present), and has also taught at the University of Delaware (2004-2006).*

