

Curriculum Vitae  
ANDREW MENEELY  
SOFTWARE ENGINEERING  
B. Thomas Golisano College of  
Computing and Information Sciences

**Contact Information**

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**Education**

Ph.D. in Computer Science  
North Carolina State University, Raleigh, NC  
Dissertation: Investigating the Relationship between Developer Collaboration and Software Security  
Advisor: Laurie Williams

**Academic Employment**

- a. Fall 2011 to Present. Assistant Professor in the Department of Software Engineering. Rochester Institute of Technology.

**Non-Academic Employment**

- a. Summer 2010. Software Metrics Intern. Cisco, Inc. Developed social network analysis metrics for assessing software development teams. Empirically analyzed the development history of several large networking projects currently in production.
- b. Summer 2009. Cyber Security Intern. Applied Research Associates. Conceived, designed, and prototyped a counterintelligence risk management system. Lead the development team as manager and lead developer. Presented work to potential customers.
- c. Summers 2005 and 2006. Software Development for Informatics Intern. Pfizer Pharmaceuticals Global R&D. Developed web application software for pharmaceutical research, including robotic laboratory control systems and biological sample inventory systems. Worked with customers, managers, and colleagues within a software development process.

**Teaching**

*Curricular Development*

- a. 2011. Developed *Engineering Secure Software* (SWEN-331), a required undergraduate course for all SE majors.

*Ph.D. Dissertation*

- a. *Committee Member*  
Erika Mesh, Advisor: Scott Hawker

## *M.S. Capstones/Theses*

### *a. Advisor on SE Master's Experience Reports*

- Spring 2014: Ayemi Musa: Topic TBD.
- Fall 2013. Alberto Rodriguez: Mining Code Reviews in Chromium.
- Fall 2013. Kelley Duran. Are Build Failures Indicative of Vulnerabilities?.
- Summer 2013. Harshavardhan Srinivasan: Difficult and Disputed Defects.
- Spring 2013. Sridatta Muppala: Improving Threat Modeling Techniques
- Spring 2013. Paul Snell: Usage of Information Radiators.
- Spring 2012. Oluyinka Williams: Interactive Churn Metrics.

## *Other*

- a. NSF CCLI Grant: Multi-Disciplinary Applied Cryptography (\$149,598).  
3/1/2009-3/1/2012. Co-PI. Used to develop SWEN-331 *Engineering Secure Software*.
- b. Student Mentoring
  - a. Independent Studies
    - i. Spring 2015. Hector Valdecantos. Test-Driven Development.
    - ii. Spring 2015. Brian Spates. Analyzing Chromium History.
    - iii. Fall 2014. Brian Spates. Analyzing Chromium History.
    - iv. Spring 2014. Erika Mesh. Engineering Secure Software
    - v. Spring 2014. Marissa Wilson. Object-Oriented Design
    - vi. Fall 2013. Thomas Connors. Mining Vulnerabilities in Apache HTTPD
    - vii. Fall 2012. Christopher Wood. Independent Study on Repudiation and Audit Logging in Software Systems
  - b. Research Assistants (Employed)
    - i. AY 2014-2015. Richard Kalimba.
    - ii. Summer 2014-present. Kevin Campusano Gonzalez.
    - iii. Fall 2014-present. Kocsen Chung.
    - iv. AY 2014-2015. Rachel Catipovic
    - v. AY 2014-2015. Alvaro Pareja-Lecaros
    - vi. Spring 2014-Fall 2014: Felivel Camilo Vasquez
    - vii. Spring 2014-present. Kayla Davis
    - viii. AY 2012-2014. Ayemi Musa
    - ix. AY 2012-2014. Alberto Rodriguez
    - x. AY 2013-2014, Fall 2014: Danielle Neuberger
    - xi. AY 2013-2014: Christopher Ketant
    - xii. AY 2013-2014: Shannon Trudeau
    - xiii. AY 2013-2014: William Whitlock
    - xiv. AY 2011-2013. Harshavardhan Srinivasan
    - xv. Spring 2013, AY 2013-2014: Brian Spates
    - xvi. Spring 2013: Matthew Mokary
    - xvii. AY 2011-2012. Oluyinka Williams
  - c. PhD Students
    - i. Fall 2014-present. Nuthan Munaiah

- ii. Spring 2012 - Summer 2012. AbdulRhman Al Khanifer (Govt. Sponsored)
- d. Educational Assistants (Employed):
  - i. Fall 2014. Kocsen Chung.
  - ii. Spring 2014. Kocsen Chung.
  - iii. 2012-2013. Samuel Lucidi.
  - iv. Winter 2011-2012. Kevin Lakotko

## Scholarship

### *Publications - Peer Reviewed*

#### Journal & Conference Papers

- [1] **Andrew Meneely**, Harshavardhan Srinivasan, Ayemi Musa, Alberto Rodríguez Tejada, Matthew Mokary & Brian Spates. "When a patch goes bad: Exploring the properties of vulnerability-contributing commits" *Int'l Symposium on Empirical Software Engineering and Measurement (ESEM)*. (Acceptance: 28%)
- [2] **Andrew Meneely**, Ben Smith, Laurie Williams. "Validating Software Metrics: A Spectrum of Philosophies", *Transactions on Software Engineering Methodologies (TOSEM)*, vol 21. No 4. Pp24-48, Nov 2012.
- [3] Marcin Lukowiak, Stanislaw Radziszowski, Christopher Wood, Jim Vallino, **Andrew Meneely**. "Developing an Applied, Security-Oriented Computing Curriculum", *American Society for Engineering Education (ASEE)*, June 2012.
- [4] **Andrew Meneely**, Pete Rotella, Laurie Williams. "Does Adding Manpower Also Affect Quality? An Empirical, Longitudinal Analysis", *Foundations in Software Engineering (FSE)*, Szeged, Hungary, 2011. (Acceptance 17%)
- [5] **Andrew Meneely**, Laurie Williams. "On the Use of Issue Tracking Annotations for Improving Developer Activity Metrics", *Advances in Software Engineering (ASE)*, vol 2010, article 273080, doi:10.1155/2010/273080.
- [6] **Andrew Meneely**, Laurie Williams, "Socio-Technical Developer Networks: Should We Trust Our Measurements?" *Int'l Conference on Software Engineering (ICSE) 2011*, to appear. (Acceptance: 14%)
- [7] Yonghee Shin, **Andrew Meneely**, Laurie Williams, Jason Osborne. "Evaluating Complexity, Code Churn, and Developer Activity Metrics as Indicators of Software Vulnerabilities." *IEEE Transactions on Software Engineering (TSE)* 2010, to appear. (Acceptance: 11%)
- [8] **Andrew Meneely**, Laurie Williams. "Strengthening the Empirical Analysis of the Relationship between Linus' Law and Software Security." *Empirical Software Engineering & Measurement (ESEM)*, Bolzano-Bozen, Italy, pp. 1-10, 2010. (Acceptance: 29%)
- [9] Laurie Williams, **Andrew Meneely**, Grant Shipley. "Protection Poker: The New Software Security 'Game'" in *IEEE Privacy & Security* 2010, vol. 8, no. 3, pp. 14-20.

- [10] **Andrew Meneely**, Laurie Williams. "Secure Open Source Collaboration: An Empirical Study of Linus' Law". *Computer and Communication Security (CCS)*, Chicago, IL, pp453-462, 2009. (Acceptance: 18%)
- [11] **Andrew Meneely**, Laurie Williams. "On Preparing Students for Distributed Software Development with a Synchronous, Collaborative Development Platform." *Tech. Symp. on Computer Science Education (SIGCSE)* , Chattanooga, TN, pp. 529-533, 2009. (Acceptance: 34%)
- [12] Laurie Williams, Michael Gegick, **Andrew Meneely**. "Protection Poker: Structuring Software Security Risk Assessment and Knowledge Transfer." *Int'l Symposium on Engineering Secure Software and Systems (ESSoS)*, Leuven, Belgium, pp. 122-134, 2009.
- [13] **Andrew Meneely**, Laurie Williams, Edward Gehringer. ROSE: A Repository of Education-Friendly Open-Source Projects," in *Innovation and Technology in Computer Science Education (ITiCSE)*, Madrid, Spain, pp. 7-11, 2008.
- [14] **Andrew Meneely**, Laurie Williams, Osborne J., Snipes W. Predicting Failures with Developer Networks and Social Network Analysis " in *Foundations in Software Engineering (FSE)*, Atlanta, GA, pp. 13-23, 2008. (Acceptance: 20%)
- [15] Jeremy Frens, **Andrew Meneely**, Fifteen Compilers in Fifteen Days in *Tech. Symp. on Computer Science Education (SIGCSE)*, Austin, TX, pp. 92-96. 2006. (Acceptance: 30%)

*Short Papers, Workshop Papers, and Book Chapters*

- [16] **Andrew Meneely**. Analyzing Security Data. Peer-reviewed book chapter in *Analyzing Software Data*. Springer. Edited by Christian Bird, Tim Menzies, and Tom Zimmerman. To appear.
- [17] **Andrew Meneely**, Alberto C. Rodriguez Tejada, Brian Spates, Shannon Trudeau, Danielle Neuberger, Katherine Whitlock, Christopher Ketant, and Kayla Davis. 2014. An empirical investigation of socio-technical code review metrics and security vulnerabilities. In *Proceedings of the 6th International Workshop on Social Software Engineering (SSE 2014)*. ACM, New York, NY, USA, 37-44. DOI=10.1145/2661685.2661687 <http://doi.acm.org/10.1145/2661685.2661687>
- [18] Daniel Krutz, and **Andrew Meneely**. "WIP: Teaching web engineering using a project component", *Frontiers in Education, (FIE)*, 2013.
- [19] **Andrew Meneely** and Samuel Lucidi. "Vulnerability of the Day: Concrete Coding Demonstrations for Software Engineering Undergraduates", *Int'l Conference on Software Engineering, (ICSE-SEE)*, 2013, San Francisco, CA, USA.
- [20] **Andrew Meneely** and Oluyinka Williams. "Interactive Churn Metrics: Socio-technical Variants of Code Churn", *Int'l Workshop on Software Quality (WoSQ)*, 2012, Raleigh, NC, USA.
- [21] Ben Smith, Andrew Austin, Michael Brown, Jason King, Jerrod Lankford, **Andrew Meneely**, Laurie Williams. "Challenges for Protecting the Privacy of

Health Information: Required Certification Can Leave Common Vulnerabilities Undetected". *Security and Privacy in Medical and Home-care Systems (SPIMACS)* workshop at Computer and Communication Security 2010, Chicago, IL, 2010.

[22] **Andrew Meneely**, Mackenzie Corcoran, Laurie Williams. "Improving Developer Activity Metrics with Issue Tracking Annotations" in *Workshop on Emerging Trends in Software Metrics (WETSoM)* at Int'l Conference on Software Engineering (ICSE), Cape Town, South Africa, pp. 75-80,2010.

[23] John Vijay Sena Devide, **Andrew Meneely**, Chi-Weh Ho, Laurie Williams, Michael Devetsikiotis, Jazz Sangam: A Real-Time Tool for Distributed Pair Programming on a Team Development Platform," in Workshop on *Infrastructure for Research in Collaborative Software Engineering (IReCOSE)* at Foundations in Software Engineering (FSE), Atlanta, GA, 2008.

[24] **Andrew Meneely**, Laurie Williams, Will Snipes. "System Test Case Prioritization Using Static Metrics and System Failure Data." in *Int'l Symp. for Software Reliability Engineering (ISSRE '07)*, 2007. Short paper.

#### *Grants Funded*

- a. 12/2014-5/2019. NSF Scholarship for Service Cybercorpss. *Security as a Cross-cutting Discipline* (\$3.9 million). Co-PI.
- b. 6/2014-5/2017. NSA Science of Security Lablet: Growing the Science of Security Through Analytics (\$247,110). Metrics Team Captain.
- c. 5/2014-5/2015. NSF CISE EAGER: Exploring Methods of Evidence-based Engineering of Secure Software (\$93,000). PI.
- d. 3/1/2009-3/1/2012. NSF CCLI Grant: Multi-Disciplinary Applied Cryptography (\$149,598). Co-PI. Used to develop SWEN-331 *Engineering Secure Software*.

#### *Gifts Acquired*

- e. December 2013. Mykonos Web Application Framework. Juniper Networks. \$1,500,000.

#### *Non-Grant External Student Support*

- a. NSF CREU (\$9,000). AY 2014-2015. Do Many Eyes Make All Vulnerabilities Shallow? Mining Code Inspection Logs and Vulnerability Records. Research Activity for four undergraduate students. Sole Faculty Advisor.
- b. NSF CREU (\$10,500). AY 2013-2014. Do Many Eyes Make All Vulnerabilities Shallow? Mining Code Inspection Logs and Vulnerability Records. Research Activity for four undergraduate students. Sole Faculty Advisor.

#### *Internal Competitive Seed Funding*

- a. GCCIS Internal Seed funding (\$10,500). 2015.
- b. GCCIS Internal Seed funding (\$10,500). 2014.
- c. GCCIS Internal Seed funding (\$7,000). 2013.

- d. RIT SRS Seed funding (\$5,000). 2013.
- e. GCCIS Internal Seed funding (\$14,200). 2012.

*Grant Proposals Pending*

- f. NSF CISE CCF SHF *Empirical Investigations of Coding Guidelines for Security and Design*. (~\$500k). Co-PI. Submitted January 2015.

*Grant Proposals Submitted and Not Funded*

- a. NSF CISE CAREER: Engineering Secure Software with Empirical Methods. (\$459,959) Submitted July 2013.
- b. NSF SaTC: Evidence-Based Engineering of Secure Software. (\$268,000) Submitted January 2014. Sole PI.
- c. NSF CISE CCS SHF: Understanding High-Impact Software Defects: Empirical Analyses of Products and Projects. (\$499,000) Co-PI with Emad Shihab. Submitted January 2014.
- d. ONR MURI: Security Theory and Practice of Leakage Resilient Nano-Scale CMOS/Memristor (\$3,000,000). Dhireesha Kudiputhi, Stanislaw Radziszowski, Marcin Lukowiak.
- e. NSF CISE CCS SHF: Understanding High-Impact Software Defects: Empirical Analyses of Products and Projects. (\$499,000) Co-PI with Emad Shihab.
- f. NSF SaTC: Evidence-Based Engineering of Secure Software (\$278,000). Submitted December 2013. Sole PI.
- g. Google Faculty Award (\$54,000). Fall 2012.
- h. NSF SHB: Efficient and Secure Sharing of Cloud-Based Electronic Healthcare Records . Co-PI with Rajendra Raj, Stanislaw Radziszowski, and Xumin Liu.
- i. NSF SaTC: Evidence-Based Engineering of Secure Software. (\$268,000) Submitted December 2012. Sole PI.
- j. Microsoft SEIF award 2012 (\$25,000).
- k. Paychex, inc. Software Archeology at Paychex, inc. (\$74,000),
- l. Google Faculty Award Spring 2012. (\$25,000)
- m. RIT START Seed funding 2012. (\$5,000)

**Service**

*RIT Service*

- a. 5/2013-Present. Member. CSEC Dept. Chair Search Committee.
- b. 9/2012-Present. Member. SE Department Undergraduate Curriculum Committee
- c. 9/2012-Present. Member. SE Department Graduate Curriculum Committee
- d. 9/2011-Present. Member. GCCIS Outstanding Scholars Committee 2011-Present
- e. 9/2011-9/2012. Member. SE Department Hiring Committee

*Professional Service*

**Conference Program Committee**

(ISEC) India Software Engineering Conference

*Year (# reviews)*

2015 (9)

(MSR-D) Int'l Symp. On Mining Software Repositories, Data Paper track	2014 (5)
(ASEE) American Society for Engineering Education, SwECC	2012-2014 (4)
(ISSRE) Int'l Symposium on Software Reliability Engineering,	2012 (8)
(ESSoS) Engineering Secure Software and Systems	2011 (2)
(FIE) Frontiers in Education	2013, 2014 (7)
<b>Journal Reviewer</b>	
(EMSE) Journal of Empirical Software Engineering	2010-2014 (7)
(JSME) Journal of Software Evolution and Maintenance	2014 (1)
(TSE) IEEE Transactions on Software Engineering	2012-2014(4)
(TOSEM) ACM Transactions on Software Engineering Methodologies	2012- 2014(3)
(IST) Journal of Information and Software Technology	2012 (1)
(IJCIS) Int'l Journal of Computational Intelligence Systems	2012-2013(2)
(IETS) IET Software	2012 (1)
(TECH) ASA Technometrics	2012 (1)
(TISSEC) ACM Transactions on Information and System Security	2013 (1)
<b>Grant Proposal Reviewer</b>	
(NSF-SaTC) External Review for NSF Secure and Trustworthy Cyberspace	2014 (1)
<b>Workshop Program Committee</b>	
(IWESEP) Int'l Workshop on Empirical Software Engineering in Practice	2012-2013(4)
(MetriSec) Int'l Workshop on Security Measurements and Metrics	2011-2012(2)
<b>Conference Co-Reviewer</b>	
(ESEM) Int'l Conf. on Empirical Software Engineering & Measurement	2010 (1)
(ICSE) Int'l Conf. on Software Engineering	2011 (1)
(ICSE-E) Int'l Conf. on Software Engineering, Education track	2010 & 2008 (2)
(ICST) Int'l Conf. on Software Testing	2008-2010 (3)
(ICST-MT) Int'l Conf. on Software Testing, Mutation Testing	2009 (1)
(ICST-ST) Workshop on Security Testing at Int'l Conf. on Software Testing	2008 (1)
(Agile) Agile Conference	2008 (1)
(ISSRE) Int'l Symposium on Software Reliability Engineering	2008, 2010 (2)
(MSR) Int'l Symposium on Mining Software Repositories	2010 (1)
<b>Organizing Committee</b>	
Webmaster, CSEET: Int'l Conf. Software Engineering Education & Training	2008
<b>Conference Volunteer</b>	
SIGCSE Technical Symp. on Computer Science Education	2006-2009
CSEET '08: Int'l Conf. on Software Engineering Education & Training	2008

### **Current Professional Memberships**

- a. (ACM) Association for Computing Machinery
- b. (SIGSOFT) ACM Software Engineering

### **Honors and Awards**

- a. Winner. Graduate Student Research Competition. SIGCSE 2010.
- b. Outstanding Teaching Assistant. 2006-2007, 2007-2008. NCSU

### **Professional Development**

- a. 11/2013. National Science Foundation Day, Rochester, NY, USA.

- b. 5/2013. Int'l Conf. on Software Engineering, San Francisco, CA, USA.
- c. 4/2013. NSF CAREER Grant Writing Workshop, RIT
- d. 3/2013. NSF Regional Grants Conference, Arlington, VA, USA.
- e. 11/2012. RIT SRS Grant Writer's Boot Camp.
- f. 11/2012. Int'l Conf. on Foundations in Software Engineering. Raleigh, NC, USA.
- g. 11/2011. Int'l Conf. on Foundations in Software Engineering. Szeged, Hungary.
- h. 5/2011. Int'l Conf. on Software Engineering. Waikiki, Hawaii, USA.
- i. 9/2010. Int'l Symp. on Computer Science Education. Chattanooga, TN.
- j. 5/2010. Int'l Conf. on Software Engineering. Cape Town, South Africa.
- k. 3/2010. Int'l Conf. on Empirical Software Engineering & Measurement. Bolzano-Bozen, Italy.
- l. 5/2009. Int'l Conf. on Software Engineering. Vancouver, Canada.
- m. 11/2009. Int'l Conf. on Computing and Communication Security. Chicago, IL, USA.