

Kimberly A. Gero
Assistant Professor
Department of Computer Science
The College of Saint Rose
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Education

Ph.D. Computer Science minor Mathematics, University at Albany - SUNY, 2010,
Dissertation Title: Deciding Static Inclusion for Δ -Strong and $\omega\nabla$ -Strong Intruder Theories:
Applications to Cryptographic Protocol Analysis
Advisor: Dr. Paliath Narendran
Received August 15, 2015

M.S. Computer Science, University at Albany, 2013,
Thesis Title: Elementary Unification Modulo List Length
Advisor: Dr. Paliath Narendran
Received December 21, 2013

B.S. Computer Science minor Mathematics, University at Plattsburgh, 2006,
magna cum laude, Received May 15, 2010

Professional Career

Assistant Professor, 2015-present
Assistant Professor of Computer Science
The College of Saint Rose
Courses:

CSC 111 Introduction to Computer Science (Fall 2015, Spring 2016).

CSC 112 Art and Science of Computer Graphics (Fall 2016).

CSC 252 Problem Solving with Java (Fall 2016, Spring 2017).

CSC 434 Software Engineering (Spring 2017).

CSC 462/562 Cybersecurity and Cryptography (Spring 2016, Spring 2017).

CSC 433/564 Programming Languages (Fall 2016).

CSC 507 Software Engineering (Fall 2015, Spring 2016).

Internship, 2014

Office of Naval Research (ONR)

Naval Research Enterprise Internship Program (NREIP)

Student Intern (Summer 2014).

Topic: Symmetric and asymmetric unification for cryptographic protocol analysis.

Supervisor: Dr. Catherine Meadows

Head Formal Methods Section

Center for High Assurance Computer Systems

Naval Research Laboratory

Instructor of Record, 2013

University at Albany - SUNY

Courses:

CSI 210 Discrete Structures (Summer 2013).

Graduate Teaching Assistant, 2010 - 2013

University at Albany - SUNY

Courses:

CSI 538 Computational Logic (Spring 2015).

CSI 519 Advanced Programming Concepts (Fall 2013 and Fall 2014).

Course instructor for three weeks in Fall 2014.

CSI 409 Automata and Formal Languages Fall 2013 and Fall 2014).

Course instructor for three weeks in Fall 2014.

CSI 426/526 Cryptography (Spring 2014).

CSI 418/518 Software Engineering (Spring 2012 and Spring 2013).

Lab Instructor

CSI 210 Discrete Structures (Fall 2012).

Discussion Leader

CSI 310 Data Structures (Summer 2012).

CSI 201 Introduction to Computer Science (Summer 2011 and Fall 2011).

Lab Instructor

Tutoring

Tutoring Computer Science and Information Science courses (Fall 2010 - Spring 2011)

20 hours per week

Graduate Research Assistant, 2012 - 2013

University at Albany - SUNY

National Science Foundation Grant CNS 09-05286:

Adviser Dr. Narendran (Summer 2012, Summer 2013).

Undergraduate Tutor, 2009 - 2010

University at Plattsburgh - SUNY

Courses (most frequent):

CSC 221 Introduction to Computer Science

CSC 217 Discrete Mathematics

MAT 224 Calculus 1

MAT 225 Calculus 2

Research Experience for Undergraduates, 2009

University of Wisconsin Oshkosh

National Science Foundation Research Experience for Undergraduates Site Award 0851569

Student Researcher (Summer 2009)

Topic: Creating algorithm visualization software on recursion.

Advisers Dr. Thomas L. Naps and Dr. David Furcy

Undergraduate Teaching Assistant, 2008 - 2009

University at Plattsburgh - SUNY

Courses:

CSC 121 Introduction to Computing and the Web (Spring 2008).

CSC 221 Introduction to Computer Science (Fall 2009).

Fields of Research Interest

Broad Interests: Cybersecurity, Cryptography, Computational Logic, Programming Languages, and Automated Reasoning.

Theoretical: Unification Theory, Term-Rewriting, and Narrowing.

Applied: Formal Verification of Software and Cryptographic Protocols, Automated Deduction and Automated Reasoning in Security.

Publications

Refereed Publications

- Distinguishability in Protocol Analysis: Formally Analyzing Guessing Attacks (2017)
Siva Anantharaman, Kimberly A. Gero, Paliath Narendran and Michael Rusinowitch
(Accepted for publication in The 12th Annual Symposium on Information Assurance (ASIA '17)).
- Daniel S. Hono II, Namrata Galatage, Kimberly A. Gero, Paliath Narendran, and Ananya Subburathinam. Notes on Lynch-Morawska Systems. In Silvio Ghilardi and Manfred Schmidt-Schauß, editors, *Proceedings of the 30th International Workshop on Unification (UNIF 2016)*, 2016. <http://users.mat.unimi.it/users/ghilardi/UNIF2016/UNIF16-abstracts.pdf>
- Kimberly A. Gero. *Deciding Static Inclusion for DELTA-strong and OMEGA DEL-strong Intruder Theories: Applications to Cryptographic Protocol Analysis*. PhD thesis, STATE UNIVERSITY OF NEW YORK AT ALBANY, 2015. <http://pqdtopen.proquest.com/doc/1699224308.html?FMT=ABS>
- Serdar Erbatur, Kimberly A. Gero, Andrew M. Marshall, Catherine Meadows, and Paliath Narendran. Unification modulo a Theory of Pairing and Encryption. In Santiago Escobar and Mateu Villaret, editors, *UNIF 2015, 29th International Workshop on Unification*, 2016. <http://users.dsic.upv.es/~sescoar/unif15-proceedings.pdf>
- Chris Bouchard, Kimberly A. Gero, and Paliath Narendran. Some Notes on Basic Syntactic Mutation. In Santiago Escobar, Konstantin Korovin, and Vladimir Rybakov, editors, *UNIF 2012 Post-Workshop Proceedings. The 26th International Workshop on Unification*, volume 24 of *EPiC Series in Computing*, pages 17–27. EasyChair, 2014. <http://www.easychair.org/publications/?page=1544994675>
- Christopher Bouchard, Kimberly A. Gero, Christopher Lynch, and Paliath Narendran. On Forward Closure and the Finite Variant Property. In Pascal Fontaine, Christophe Ringeissen, and Renate A. Schmidt, editors, *Frontiers of Combining Systems - 9th International Symposium, FroCoS 2013, Nancy, France, September 18-20, 2013. Proceedings*, volume 8152 of *Lecture Notes in Computer Science*, pages 327–342. Springer, 2013. http://dx.doi.org/10.1007/978-3-642-40885-4_23
- Shreyaben Brahmakshatriya, Sushma Danturi, Kimberly A. Gero, and Paliath Narendran. Unication Problems Modulo a Theory of Until. In Konstantin Korovin and Barbara Morawska, editors, *27th International Workshop on Unification, UNIF 2013, Eindhoven, Netherlands, June 26, 2013*, volume 19 of *EPiC Series in Computing*, pages 22–29. EasyChair, 2013. <http://www.easychair.org/publications/?page=387500802>
- Michael Ferguson, Kimberly A. Gero, Joao Salles, and James Weis. Playing chess with a human-scale mobile manipulator. In Wolfram Burgard and Dan Roth, editors, *Proceedings of the Twenty-Fifth AAAI Conference on Artificial Intelligence, AAAI 2011, San Francisco, California, USA, August 7-11, 2011*. AAAI Press, 2011

Other Publications

- Random Recursion (2009)
Kimberly A. Gero and Chao Shen (Consortium for Computing Sciences in Colleges Midwest Region)
(Submitted as an extended abstract and presented as a poster).

Technical Reports

Daniel S. Hono, Namrata Galatage, Kimberly A. Gero, Paliath Narendran, and Ananya Subburathinam. Notes on Lynch-Morawska Systems. *CoRR*, abs/1604.06139, 2016

Reports below are available at: <http://www.cs.albany.edu/~ncstr1/treports/Data/README.html>

Notes on Lynch-Morawska Systems

Daniel S. Hono II, Namrata Galatage, Kimberly A. Gero, Paliath Narendran, Ananya Subburathinam April 2016, SUNYA-CS-16-01.

On Forward Closure and the Finite Variant Property

Christopher Bouchard, Kimberly A. Gero, Christopher Lynch, Paliath Narendran July 2013, SUNYA-CS-13-03.

Unification Problems Modulo a Theory of “Until”

Shreyaben Brahmakshatriya, Sushma Danturi, Kimberly A. Gero, Paliath Narendran April 2013, SUNYA-CS-13-02.

Notes on Basic Syntactic Mutation

Christopher Bouchard, Kimberly A. Gero, and Paliath Narendran, April 2012, SUNYA-CS-12-03.

Skills and Qualifications

Programming and markup languages: Java, Python, LaTeX, Maude, SQL, Perl, Javascript, HTML,C, Scheme, Prolog, Haskell and ML.

Windows and Unix based Operating Systems.

College Reading & Language Association International Tutor Training Program Level 3 Master Tutor.

Service

New York Celebration of Women in Computing (NYCWIC) Communications Chair Spring 2016 to present.

Consortium for Computing Sciences in Colleges Northeastern Region (CCSCNE) Career Fair Coordinator Spring 2016.

The College of Saint Rose - Academic Technology Committee Fall 2016 to present.

New York Celebration of Women in Computing (NYCWIC) Webmaster Spring 2016 to present.

Subreviewer for International Workshop on Unification (UNIF) 2014 and 2016

The College of Saint Rose - Liberal Education Coordinating Committee Fall 2015 to Summer 2016.

University at Albany - New Trends in Computer Science Program Committee 2014 and 2015.

University at Albany - Faculty Search Committee 2013-2014.

Subreviewer for Language and Automata Theory and Applications (LATA) 2013 and 2014

Subreviewer for Automated Reasoning in Security and Software Verification (ARSEC) 2013

University at Albany - ACM Student Chapter Founding Co-Chair 2011.

Professional Organizations

New York Celebration of Women in Computing (NYCWIC) Board member Spring 2016-present.

Consortium for Computing Sciences in Colleges Northeastern Region (CCSCNE) Career Fair Coordinator Spring 2016 to Spring 2017.

Honors and Awards

University at Albany - Excellence in Service to the College Award May 17th 2015.

Woody Bledsoe Student Travel Award Summer 2013.

Woody Bledsoe Student Travel Award Summer 2012.

University at Albany - Graduate Student Organization Travel Award Summer 2012.

Graduate Student Employee Union Profession Development Travel Award Summer 2012.

University at Plattsburgh - SUNY Honors Program Fall 2007 through Spring 2010.

University at Plattsburgh - SUNY Advanced Honors Medal recipient May 14, 2010.

Academic Excellence Scholarship Fall 2006 through Spring 2010.

Phi Kappa Phi Honor Society Plattsburgh Chapter inducted on April 26, 2009.

Delta Mu Iota The Peer Tutor Honor Society, inducted on October 30, 2009.

Wyeth Pharmaceutical Scholarship in Computer Science May 16, 2008.

Phi Eta Sigma National Freshman Honor Society inducted on April 29, 2007.

References

Available upon request.