Titus H. Klinge

Iowa State University
Department of Computer Science
226 Atanasoff Hall
Ames, IA 50011

Phone: (515) 520-2309
Email: tklinge@iastate.edu
Homepage: www.titusklinge.com

Education

2011-present **Ph.D.** Computer Science
Iowa State University
Expected graduation: Spring 2016

2011 **B.S.** Computer Science
Iowa State University

Publications

2015 Titus H. Klinge, James I. Lathrop, and Jack H. Lutz. Robust biomolecular finite automata. Technical Report 1505.03931, arXiv.org e-Print archive, 2015

2014 Samuel J. Ellis, Eric R. Henderson, Titus H. Klinge, James I. Lathrop, Jack H. Lutz, Robyn R. Lutz, Divita Mathur, and Andrew S. Miner. Automated requirements analysis for a molecular watchdog timer. In *Proceedings of the 29th International Conference on Automated Software Engineering*, pages 767–778. ACM, 2014
Manfred Paul Award for Excellence in Software: Theory and Practice.

2012 Robyn R. Lutz, Jack H. Lutz, James I. Lathrop, Titus H. Klinge, Divita Mathur, Donald M. Stull, Taylor G. Bergquist, and Eric R. Henderson. Requirements analysis for a product family of DNA nanodevices. In *Proceedings of the 20th International Conference on Requirements Engineering*, pages 211–220. IEEE, 2012

Robyn Lutz, Jack Lutz, James Lathrop, Titus Klinge, Eric Henderson, Divita Mathur, and Dalia Abo Sheasha. Engineering and verifying requirements for programmable self-assembling nanomachines. In *Proceedings of the 34th International Conference on Software Engineering*, pages 1361–1364. IEEE, 2012

Honors and Awards

2015 Iowa State Research Excellence Award

Travel Award: DNA Computing and Molecular Programming Conference

2014 Iowa State Graduate College Teaching Excellence Award

Manfred Paul Award for Excellence in Software: Theory and Practice (ASE 2014)

Travel Award: Fourth Summer School on Formal Techniques

2012	Robert Stewart Early Research Recognition Award
	Oliver H. Mitchell Scholarship
2011	Winner of Iowa State Game Development Competition (1st Place)
2010	Phi Beta Kappa Honor Society (inducted spring 2010)
	Thomson Reuters Scholarship
2009	Highest 2% in Liberal Arts and Sciences Sophomore Class
2008	Robert D. Blue Scholarship
	Klea Shipman Scholarship
	Cedar Valley Chapter NAPM Scholarship

Professional Experience

Graduate Research Assistant, Iowa State University *Aug 2011 – Present*

Researched and developed molecular programs using software engineering techniques under the following grants

- **CPS: Synergy** (NSF: 1545028)
  Safety-Aware Cyber-Molecular Systems
- **INSPIRE** (NSF: 1247051)
  Robust Molecular Programming: Advances in the Design and Verification of Reliable Self-Assembling Nanosystems
- **EAGER: Collaborative Research** (NSF: 1143830)
  Modeling and Analysis of Molecular Programming and Nanoscale Self-Assembly

Prospective Student Coordinator, Iowa State University *Aug 2011 – Dec 2013*

Met with prospective undergraduate students regarding Iowa State's computer science program

Extreme Blue Technical Intern, IBM *May 2010 – Aug 2010*

Developed dynamic and static code analysis tools for PL/X (an IBM programming language) using Java; also wrote a language parser using JavaCC in support of the above tools

Undergraduate Research Assistant, Iowa State University *Jan 2010 – May 2010*

Researched how to utilize parallelism in object-oriented design patterns and compared their use with sequential patterns used in popular open source projects

Programmer, Institute for Transportation *May 2009 – May 2010*

Developed a data management application using Java, Oracle, and PL/SQL for the Iowa Department of Transportation

Teaching Experience

Graduate Teaching Assistant, Iowa State University *Spring 2014, Fall 2015*
- *Design and Analysis of Algorithms.*

Instructor of Record, Iowa State University *Fall 2013*
- *Discrete Mathematics.* (Two-week review course)

Undergraduate Teaching Assistant, Iowa State University *Spring 2009, Fall 2010*
- *Advanced Programming Tools.*
- *Introduction to Object-Oriented Programming in Java.*

Talks and Posters

2015	**Tutorial** (full day, with James Lathrop, Jack Lutz, and Robyn Lutz). Molecular Programming: How Software Engineers Will Lead in the Age of Nanotechnology. *30th International Conference on Automated Software Engineering.*
	Poster. Robust molecular finite automata. *21st International Conference on DNA Computing and Molecular Programming.*
	Workshop (with James Lathrop). Molecular Programming. *Simpson College.*
2014	Exact Analytical Solutions of a Chemical Oscillator. *Iowa Section of the Mathematics Association of America Meeting.*
2012	Requirements analysis for a product family of DNA nanodevices. *20th International Conference on Requirements Engineering.*