

Christopher A. Wood

Permanent Address

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EDUCATION

Doctor of Philosophy, Computer Science
University of California Irvine, Irvine, CA
Advisor: Dr. Gene Tsudik
GPA: 4.0/4.0

2013 - 2018 (expected)

Master of Science, Computer Science
Rochester Institute of Technology, Rochester, NY
Thesis: Large Substitution Boxes with Efficient Combinational Implementations
Advisor: Dr. Stanisław Radziszowski
GPA: 4.0/4.0

2012 - 2013

Bachelor of Science, Computer Science and Software Engineering
Rochester Institute of Technology, Rochester, NY
Concentrations: Computational Mathematics and Computer Engineering
Minor: Mathematics
GPA: 3.98/4.0 (Professional Field of Study GPA: 4.0/4.0)

2008 - 2012

SELECTED PUBLICATIONS

Journal Articles

- J-1. P. Bajorski, A. Kaminsky, M. Kurdziel, M. Lukowiak, S. Radziszowski, and C. Wood, "Stochastic Analysis and Modeling of a Tree-Based Group Key Distribution Method in Tactical Wireless Networks," to appear in *Journal of Telecommunications System & Management, Engineering Journals, OMICS Publishing Group*.
- J-2. C. A. Wood and J. Jacob, "Characterization of Small Trees Based on their L(2,1)-Span," *AKCE International Journal of Graphs and Combinatorics*, Volume 12, Issue 1, July 2015, Pages 2631.
- J-3. M. Lukowiak, S. Radziszowski, J. Vallino, C. Wood, "Cybersecurity Education: Bridging the Gap between Hardware and Software Domains," *ACM Transactions on Computing Education*, 14(1) (2014).

Conference Proceedings

- C-1. C. Ghali, G. Tsudik, C. A. Wood, E. Yeh, "Practical Accounting in Content-Centric Networking," *NOMS 2016, IEEE/IFIP Network Operations and Management Symposium*, April 25 - 29, 2016, Istanbul, Turkey.
- C-2. G. Tusik, E. Uzun, and C. A. Wood, "AC3N: An API and Service for Anonymous Communication in Content-Centric Networking," in *Proceedings of CCNC 2016*, Las Vegas, NV, USA. January 2016.
- C-3. M. Mosko and C. A. Wood, "Secure Fragmentation for Content-Centric Networking," *IEEE MASS 2015 Workshop on Content-Centric Networking (CCN 2015)*, Dallas, TX, USA. October 2015. (Best paper award winner)
- C-4. C. Ghali, M. A. Schlosberg, G. Tsudik, and C. A. Wood, "Interest-Based Access Control for Information Centric Networks," in *Proceedings of ICN 2015, the 2nd ACM Conference on Information Centric Networking*, San Francisco, CA, USA. September 2015.
- C-5. C. Ghali, A. Narayanan, D. Oran, G. Tsudik, and C. A. Wood, "Secure Fragmentation for Content-Centric Networks," *NCA 2015, the 14th IEEE International Symposium on Network Computing and Applications*, Cambridge, MA, USA. September 2015.

- C-6. J. Kurihara, C. A. Wood, and E. Uzun, “An Encryption-Based Access Control Framework for Content-Centric Networking,” *IFIP Networking 2015*, Toulouse, France. May 2015.
- C-7. C. A. Wood and E. Uzun, “Flexible End-to-End Content Security in CCN,” *IEEE Consumer Communications and Networking Conference (CCNC 2014) Special Session: Information Centric Networking*, Las Vegas, Nevada. January 2014.

SELECTED TALKS AND PRESENTATIONS

- P-1. “Efficient Security Bindings for Information Centric Networks,” *CCNxCon 2015, Palo Alto Research Center, Palo Alto, CA*. May 20, 2015.
- P-2. “Handling Trust Enforcement,” presentation, *CCNxCon 2015, Palo Alto Research Center, Palo Alto, CA*. May 20, 2015.
- P-3. “Digital Signatures and Implicit Certificates,” guest lecture for Dr. Stanislaw Radziszowski’s (CS@RIT), Crypto II course, May 5, 2015.
- P-4. “Secure Content Dissemination in Content Centric Networking,” *CCNxCon 2013, Palo Alto Research Center, Palo Alto, CA*. September 5, 2013.
- P-5. “Cryptographic S-boxes,” guest lecture for Dr. Stanislaw Radziszowski’s (CS@RIT) Crypto II course, April 8, 2013.

RECENT PROFESSIONAL EXPERIENCE

<i>Palo Alto Research Center</i>	June 2014 - present
Computer Science Laboratory, Palo Alto, CA	Network Software Development Engineer
<ul style="list-style-type: none"> – Develop the CCNx 1.0 software stack and APIs. – Implement internal code measurement tools for quantifiable software quality improvements. – Write IETF RFC drafts for various elements of the CCN protocol. – Contribute to CCN-related patent portfolio. 	

<i>Palo Alto Research Center</i>	July 2013 - September 2013
Computer Science Laboratory, Palo Alto, CA	Security and Privacy Research Intern
<ul style="list-style-type: none"> – Researched security and privacy aspects related to content-centric network (CCN). – Implemented the Green-Ateniese (pairing-based) and Chow-Weng-Yang-Deng (Schnorr- and ElGamal-based) Proxy Re-Encryption schemes in Java for use in a CCNx application. – Studied and tested various techniques for securing content that is distributed throughout a CCN mesh for confidentiality purposes. – Experimented with techniques for improving name privacy in CCN. 	

<i>Intel Corporation</i>	June 2012 - August 2012
Virtual & Parallel Computing Group, Folsom, CA	Graphics Software Engineer Intern
<ul style="list-style-type: none"> – Developed production features for tool that processes hardware specifications to generate web content and source code for VHDL and C/C++ testbeds. – Interacted with internal customers within the VPG to utilize debug tools and environments for architecture specification and post-silicon testing. 	

RECENT ACADEMIC EXPERIENCE

<i>Advanced Cryptography</i>	May 5, 2015
Guest Lecturer for Dr. Stanislaw Radziszowski (CS)	(RIT)
<ul style="list-style-type: none"> – Lectured about digital signature algorithms, ElGamal and ECDSA batch verification techniques, standard public key infrastructures, and the OMC and ECQV implicit certificate schemes. 	

Cryptography II

April 8, 2013

Guest Lecturer for Dr. Stanisław Radziszowski (CS)

(RIT)

- Lectured about recent research on the security and (hardware) implementation efficiency of cryptographic S-boxes.

Hardware and Software Design with Cryptographic Applications

February 2011 - May 2013

Teaching Assistant and Lecturer for Dr. Marcin Lukowiak (CE)

(RIT)

- Developed and delivered lecture material on cryptography, embedded software optimization techniques, the Impulse C high-level synthesis tool, and AES cache timing attacks.
- Assisted students with weekly assignments and graded lab and project deliverables.

HONORS AND ACTIVITIES

- NSF GRFP fellowship recipient, 2014
- RIT Honors Program, 2009 – 2013
- RIT Tau Beta Pi Engineering Honors Society, 2011 – 2013
- RIT Outstanding Undergraduate Student award, selected, Winter 2012
- RIT Computer Science MS Student Delegate, selected, Winter 2012
- Recipient of Golisano College Honors research assistantship stipend, Winter 2009/2010
- Recipient of Golisano College Honors research assistantship stipend, Spring 2011
- Recipient of RIT undergraduate research award stipend, Summer 2009
- RIT Golisano College Dean's List, 2008 – 2013