

Adam J. Lee

Curriculum Vitæ

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EDUCATION

Ph.D. in Computer Science (October 2008)
University of Illinois at Urbana-Champaign
Advisor: Professor Marianne Winslett

M.S. in Computer Science (August 2005)
University of Illinois at Urbana-Champaign
Advisor: Professor Marianne Winslett

B.S. in Computer Science (May 2003)
Minor in Applied Mathematics
Cornell University
GPA: 3.89/4.0 Major (*Magna Cum Laude*)

APPOINTMENTS

Assistant Professor (September 2008–Present)
Department of Computer Science, University of Pittsburgh

Graduate Teaching/Research Assistant (August 2003–July 2008)
Department of Computer Science, University of Illinois at Urbana-Champaign

Research Assistant (Summer 2004, Summer 2005)
National Center for Supercomputing Applications; Urbana, IL

Computer Security Intern (2001–2003, Summer 2006, Winter 2007, Summer 2007)
Sandia National Laboratories; Livermore, CA

TEACHING EXPERIENCE

Courses Taught

- CS 3525: Advanced Topics in Security and Privacy (Fall 2009)
- CS 2530: Computer and Network Security (Spring 2009)

- CS/COE 0441: Discrete Structures for Computer Science (Fall 2008)
- CS 101: Introduction to Computing for Engineers and Applied Scientists (Fall 2003 and Spring 2004; *at UIUC*)

Courses Organized

- CS 3525: Advanced Topics in Security and Privacy
 - University of Pittsburgh Security Reading Group (Spring 2009–Present)
 - CS 591RHC: Security Reading Group (Fall 2005–Spring 2008; *at UIUC*)
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AWARDS AND HONORS

Conference Papers Invited to Journals

- 12th ACM Symposium on Access Control Models and Technologies (SACMAT 2007) paper [14] invited to ACM Transactions on Information and System Security (appears as [3]).
- 13th ACM Conference on Computer and Communications Security (CCS 2006) paper [16] invited to ACM Transactions on Information and System Security (appears as [4]).
- 11th ACM Symposium on Access Control Models and Technologies (SACMAT 2006) paper [19] invited to ACM Transactions on Information and System Security (appears as [5]).

Research and Academic Honors

- Motorola Center for Communications Graduate Fellowship: 2005–2006 Academic Year
- Cisco Systems Information Assurance Scholarship: Fall 2005
- Tau Beta Pi (TBPI) – National Engineering Honor Society

Teaching and Service Awards

- UIUC Computer Science Department Service Award: 2004–2005 Academic Year
 - UIUC Computer Science Department Teaching Excellence Award: Fall 2003, Spring 2004
 - UIUC Center for Teaching Excellence Incomplete List of Teachers Ranked as Excellent: Fall 2003, Spring 2004
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PROFESSIONAL SERVICE

Program Committees

- 11th IEEE International Symposium on Policies for Distributed Systems and Networks (POLICY)
- 10th Symposium on Identity and Trust on the Internet (IDtrust 2010)
- 15th ACM Symposium on Access Control Models and Technologies (SACMAT 2010)
- 19th International World Wide Web Conference (WWW2010), Security & Privacy Track
- Fourth IFIP WG 11.11 International Conference on Trust Management (IFIPTM 2010)
- 12th Information Security Conference (ISC 2009)

- 14th ACM Symposium on Access Control Models and Technologies (SACMAT 2009)
- Ninth Symposium on Identity and Trust on the Internet (IDtrust 2009)
- Third IFIP WG 11.11 International Conference on Trust Management (IFIPTM 2009)
- Seventh ACM Workshop on Privacy in the Electronic Society (WPES 2008)
- Second International Workshop on Cluster Security (Cluster-Sec '06)
- First International Workshop on Storage Security and Survivability (StorageSS '05)

Journal Reviewer

- ACM Transactions on Information and System Security
- ACM Transactions on the Web
- Computers and Security (Elsevier)
- Future Generation Computer Systems (Elsevier)
- IEEE Communications Letters
- IEEE Journal on Selected Areas in Communications
- IEEE Transactions on Dependable and Secure Computing
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Services Computing
- International Journal of Information Security (Springer)
- The VLDB Journal
- The SIGMOD Record

External Reviewer

- ACM Conference on Computer and Communications Security (CCS)
- ACM SIGMOD Conference
- ACM Symposium on Access Control Models and Technologies (SACMAT)
- ACM Workshop on Privacy in the Electronic Society (WPES)
- ACM Workshop on Visualization for Computer Security
- European Symposium on Research in Computer Security (ESORICS)
- IEEE/ACM International Conference on Grid Computing (Grid)
- IEEE Symposium on Security and Privacy
- IEEE Workshop on Policies for Distributed Systems and Networks (POLICY)
- International Conference on Data Engineering (ICDE)
- International Conference on Deontic Logic in Computer Science (DEON)
- International Conference on Emerging Trends in Information and Communication Security (ETRICS)
- International Conference on Trust Management (iTrust)
- International Conference on Trust, Privacy, and Security in Digital Business (TrustBus)
- International Conference on Very Large Data Bases (VLDB)
- International Semantic Web Conference (ISWC)
- Joint iTrust and PST Conferences on Privacy, Trust Management, and Security (IFIPTM)

- Secure Knowledge Management Workshop (SKM)
- The Workshop on the Value of Security through Collaboration (SECOVAL)
- WWW 2005 Workshop on Policy Management for the Web
- WWW 2006 Workshop on Models of Trust for the Web

Grant Proposal Panelist/Reviewer

- National Science Foundation CAREER Panelist (2009)

PUBLICATIONS

Theses

- [1] **Adam J. Lee**, "Towards Practical and Secure Decentralized Attribute-Based Authorization Systems," Ph.D. Dissertation, University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2008-2985, July 2008.
- [2] **Adam J. Lee**, "Traust: A Trust Negotiation Based Authorization Service for Open Systems." Master's Thesis, University of Illinois at Urbana-Champaign, August 2005.

Journal Articles

- [3] **Adam J. Lee**, Kazuhiro Minami, and Marianne Winslett, "On the Consistency of Distributed Proofs with Hidden Subtrees," *ACM Transactions on Information and System Security*, Accepted August, 2008.
- [4] **Adam J. Lee** and Marianne Winslett, "Enforcing Safety and Consistency Constraints in Policy-Based Authorization Systems," *ACM Transactions on Information and System Security*, 12(2), December 2008.
- [5] **Adam J. Lee**, Marianne Winslett, Jim Basney, and Von Welch, "The Traust Authorization Service," *ACM Transactions on Information and System Security*, 11(1), February 2008.

Magazine Articles and Book Chapters

- [6] **Adam J. Lee** and Ting Yu, "Report on the Sixth ACM Workshop on Privacy in the Electronic Society (WPES 2007)," in *The SIGMOD Record*, 37(1):56–58, March 2008.
- [7] **Adam J. Lee**, Kent E. Seamons, Marianne Winslett, and Ting Yu, "Automated Trust Negotiation in Open Systems," in *Secure Data Management in Decentralized Systems*, Ting Yu and Sushil Jajodia (Editors), Springer, Berlin, 2007.

Refereed Conference and Workshop Papers

- [8] **Adam J. Lee** and Ting Yu, "Towards a Dynamic and Composite Model of Trust," in *Proceedings of the 14th ACM Symposium on Access Control Models and Technologies (SACMAT 2009)*, June 2009.
- [9] **Adam J. Lee**, Marianne Winslett, and Kenneth J. Perano, "TrustBuilder2: A Reconfigurable Framework for Trust Negotiation," in *Proceedings of the Third IFIP WG 11.11 International Conference on Trust Management (IFIPTM 2009)*, June 2009.

- [10] **Adam J. Lee**, Kazuhiro Minami, and Nikita Borisov, "Confidentiality-Preserving Distributed Proofs of Conjunctive Queries," in *Proceedings of the Fourth ACM Symposium on Information, Computer, and Communication Security (ASIACCS 2009)*, March 2009.
- [11] Kazuhiro Minami, **Adam J. Lee**, Marianne Winslett, and Nikita Borisov, "Secure Aggregation in a Publish-Subscribe System," in *Proceedings of the Seventh ACM Workshop on Privacy in the Electronic Society (WPES 2008)*, October 2008.
- [12] **Adam J. Lee** and Marianne Winslett, "Towards Standards-Compliant Trust Negotiation for Web Services," in *Proceedings of the Second IFIP WG 11.11 Conference on Trust Management (IFIPTM 2008)*, June 2008.
- [13] **Adam J. Lee** and Marianne Winslett, "Towards an Efficient and Language-Agnostic Compliance Checker for Trust Negotiation Systems," in *Proceedings of the Third ACM Symposium on Information, Computer and Communications Security (ASIACCS 2008)*, March 2008.
- [14] **Adam J. Lee**, Kazuhiro Minami, and Marianne Winslett, "Lightweight Consistency Enforcement Schemes for Distributed Proofs with Hidden Subtrees," in *Proceedings of the 12th ACM Symposium on Access Control Models and Technologies (SACMAT 2007)*, June 2007.
- [15] **Adam J. Lee**, Jodie P. Boyer, Lars E. Olson, and Carl A. Gunter, "Defeasible Security Policy Composition for Web Services," in *Proceedings of the Fourth ACM Workshop on Formal Methods in Security Engineering (FMSE 2006)* held in conjunction with the *13th ACM Conference on Computer and Communications Security (CCS 2006)*, November 2006.
- [16] **Adam J. Lee** and Marianne Winslett, "Safety and Consistency in Policy-Based Authorization Systems," in *Proceedings of the 13th ACM Conference on Computer and Communications Security (CCS 2006)*, October/November 2006.
- [17] **Adam J. Lee**, Parisa Tabriz, and Nikita Borisov, "A Privacy-Preserving Interdomain Audit Framework," in *Proceedings of the Fifth ACM Workshop on Privacy in the Electronic Society (WPES 2006)* held in conjunction with the *13th ACM Conference on Computer and Communications Security (CCS 2006)*, October 2006.
- [18] Mehran Ahsant, Jim Basney, Olle Mulmo, **Adam J. Lee**, and Lennart Johnsson, "Toward an On-Demand Restricted Delegation Mechanism for Grids," in *Proceedings of the Seventh IEEE/ACM International Conference on Grid Computing (Grid 2006)*, September 2006.
- [19] **Adam J. Lee**, Marianne Winslett, Jim Basney, and Von Welch, "Traust: A Trust Negotiation-Based Authorization Service for Open Systems," in *Proceedings of the 11th ACM Symposium on Access Control Models and Technologies (SACMAT 2006)*, June 2006.
- [20] **Adam J. Lee** and Marianne Winslett, "Virtual Fingerprinting as a Foundation for Reputation in Open Systems," in *Proceedings of the Fourth International Conference on Trust Management (iTrust 2006)*, May 2006.
- [21] **Adam J. Lee**, Marianne Winslett, Jim Basney, and Von Welch, "Traust: A Trust Negotiation Based Authorization Service," Demonstration Short Paper, in *Proceedings of the Fourth International Conference on Trust Management (iTrust 2006)*, May 2006.
- [22] **Adam J. Lee** and Marianne Winslett, "Open Problems for Usable and Secure Open Systems," *ACM CHI 2006 Workshop on Usability Research Challenges for Cyberinfrastructure and Tools*, April 2006.
- [23] Ragib Hasan, Suvda Myagmar, **Adam J. Lee**, and William Yurcik, "Toward a Threat Model for Storage Systems," in *Proceedings of the International Workshop on Storage Security and Survivability (StorageSS)* in conjunction with the *12th ACM Conference on Computer and Communications Security (CCS 2005)*, November 2005.

- [24] **Adam J. Lee**, Gregory A. Koenig, and William Yurcik, "Cluster Security with NVisionCC: The Forseti Distributed File Integrity Checker," in *Proceedings of the Los Alamos Computer Science Institute Symposium (LACSI 2005)*, October 2005.
- [25] Suvda Myagmar, **Adam J. Lee**, and William Yurcik, "Threat Modeling as a Basis for Security Requirements," in *Proceedings of the IEEE Symposium on Requirements Engineering for Information Security (SREIS)*, August 2005.
- [26] **Adam J. Lee**, Gregory A. Koenig, Xin Meng, and William Yurcik, "Searching for Open Windows and Unlocked Doors: Port Scanning in Large-Scale Commodity Clusters," in *Proceedings of the First International Workshop on Cluster Security* held in conjunction with the *Fifth IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid)*, May 2005.
- [27] Gregory A. Koenig, Xin Meng, **Adam J. Lee**, Michael Treaster, Nadir Kiyancilar, and William Yurcik, "Cluster Security with NVisionCC: Process Monitoring by Leveraging Emergent Properties," in *Proceedings of the First International Workshop on Cluster Security* held in conjunction with the *Fifth IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid)*, May 2005.
- [28] **Adam J. Lee**, Jodie P. Boyer, Chris Drexelius, Prasad Naldurg, Raquel L. Hill, and Roy H. Campbell, "Supporting Dynamically Changing Authorizations in Pervasive Communication Systems," in *Proceedings of the Second International Conference on Security in Pervasive Computing*, April 2005.
- [29] Kiran Lakkaraju, William Yurcik, **Adam J. Lee**, Ratna Bearavolu, Yifan Li, and Xiaoxin Yin, "NVisionIP: NetFlow Visualizations of System State for Security Situational Awareness," in *Proceedings of the Workshop on Visualization and Data Mining for Computer Security (VizSEC/DMSEC)* held in conjunction with the *11th ACM Conference on Computer and Communications Security*, October 2004.

Other Publications

- [30] **Adam J. Lee**, Kazuhiro Minami, and Nikita Borisov, "Confidentiality-Preserving Distributed Proofs of Conjunctive Queries (Extended Version)," University of Pittsburgh Department of Computer Science Technical Report No. TR-08-161, December 2008.
- [31] **Adam J. Lee** and Marianne Winslett, "Towards Standards-Compliant Trust Negotiation for Web Services (Extended Version)," University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2008-2944, March 2008.
- [32] **Adam J. Lee** and Marianne Winslett, "Towards an Efficient and Language-Agnostic Compliance Checker for Trust Negotiation Systems," University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2007-2903, October 2007.
- [33] **Adam J. Lee**, Kazuhiro Minami, and Marianne Winslett, "Lightweight Consistency Enforcement Schemes for Distributed Proofs with Hidden Subtrees (Extended Version)," University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2007-2839, April 2007.
- [34] **Adam J. Lee** and Marianne Winslett, "Virtual Fingerprinting as a Foundation for Reputation in Open Systems," University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2006-2691, February 2006.
- [35] William Yurcik, **Adam J. Lee**, Gregory A. Koenig, Nadir Kiyancilar, Dmitry Mogilevsky, and Michael Treaster, "Cluster Security Research Challenges," NSF Infrastructure Experience 2005, NSF/CISE/CNS Cluster Computing Infrastructure Experience Workshop, Siebel Center for Computing Science, University of Illinois at Urbana-Champaign, July 27, 2005.

FUNDED RESEARCH

- Towards a Dynamic and Composable Model of Trust
Adam J. Lee (PI)
National Science Foundation Award No. CCF-0916015
09/2009–08/2010, \$231,248
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INVITED PRESENTATIONS

- “Privacy and Access Control for Inter-Domain Data Sharing,” Fuji Xerox Palo Alto Laboratory (FXPAL), July 2009.
- “Privacy, Security, and Performance in Distributed Proof Systems,” Università di Trento, June 2009.
- “Privacy, Security, and Performance in Distributed Proof Systems,” University of Texas at San Antonio, May 2009.
- “Confidentiality-Preserving Distributed Proofs of Conjunctive Queries,” University of Pittsburgh LER-SAIS Seminar Series, September 2008.
- “Towards Practical and Secure Decentralized Attribute-Based Authorization Systems,” Purdue University, April 2008.
- “Towards Practical and Secure Decentralized Attribute-Based Authorization Systems,” Michigan State University, March 2008.
- “Towards Practical and Secure Decentralized Attribute-Based Authorization Systems,” University of Pittsburgh, February 2008.
- “Towards Practical and Secure Decentralized Attribute-Based Authorization Systems,” University of Illinois at Urbana-Champaign Information Trust Institute (ITI) Trust and Security Seminar Series, February 2008.
- “Trust Negotiation: From Theory to Practice,” Sandia National Laboratories, December 2007.
- “Safety and Consistency in Policy-Based Authorization Systems,” University of Illinois at Urbana-Champaign Systems and Networking Seminar, September 2006.
- “Safety and Consistency in Policy-Based Authorization Systems,” University of Illinois at Urbana-Champaign Information Trust Institute (ITI) Trust and Security Seminar Series, September 2006.
- “Trust Negotiation and Security Policy Composition,” Sandia National Laboratories, August 2005.