DAWN SONG

Computer Science Division
University of California, Berkeley
675 Soda Hall
Berkeley, CA 94720-1776, USA

Phone: (510) 642-8282
Fax: (510) 642-5615
E-mail: dawnsong@cs.berkeley.edu
URL: http://www.cs.berkeley.edu/~dawnsong/

RESEARCH INTERESTS

Computer security, privacy, and applied cryptography. Brain-inspired computing.

APPOINTMENTS

- Associate Professor, University of California at Berkeley, July 2009-Present.
- Assistant Professor, University of California at Berkeley, July 2007-June 2009.
- Assistant Professor, Carnegie Mellon University, January 2003-June 2007.
- Research Intern, IBM T.J.Watson Research Center, Summer 1999.
- Research Intern, SRI International, Summer 1998.

EDUCATION

- Ph.D. in Computer Science, University of California at Berkeley, December 2002.
- M.S. in Computer Science, Carnegie Mellon University, May 1999.
- B.S. in Physics, Tsinghua University, China, May 1996.

SELECTED AWARDS AND HONORS

- MacArthur Fellowship, 2010
- Guggenheim Fellowship, 2010
- Li Ka Shing Foundation Women in Science Distinguished Lecture Series Award, 2010
- MIT Technology Review TR-35 Award (recognizing the world's top innovators under the age of 35), 2009.
- Okawa Foundation Research Award, 2008.
- Sloan Research Fellow, 2007.
- Best Paper Award, 2007 USENIX Security Symposium.
- George Tallman Ladd Research Award, Carnegie Mellon University, 2007.
- Highest ranked paper, 2006 IEEE Security and Privacy Symposium; paper invited to a special issue of the IEEE Transactions on Dependable and Secure Computing.
- NSF CAREER Award on "Exterminating Large Scale Internet Attacks", 2005.
- IBM Faculty Award, 2005.
- Highest ranked paper, 1999 IEEE Computer Security Foundation Workshop; paper invited to a special issue of Journal of Computer Security.

PUBLICATIONS

Books and Book Chapters

1. "Automatically Identifying Trigger-based Behavior in Malware." David Brumley, Cody Hartwig, Zhenkai Liang James Newsome, Pongsin Poosankam, Dawn Song, and Heng Yin. Book chapter in *Botnet Analy-*

sis and Defense, Editors Wenke Lee et. al., Page(s): 1-24, 2007.

2. "Sting: an End-to-End Self-healing System for Defending against Internet Worms." David Brumley, James Newsome, and Dawn Song. Book chapter in *Malware Detection and Defense*, Editors Christodorescu, Jha, Maughn, Song, Page(s): 147-170, 2007.

3. "Malware Detection.", Mihai Christodorescu, Somesh Jha, Dawn Song, Cliff Wang, and Doug Maughan, editors. Springer, 2006.

4. "Key Distribution Techniques for Sensor Networks." Haowen Chan, Adrian Perrig, and Dawn Song. Book chapter in *Wireless Sensor Networks*, Kluwer Academic Publishers, Page(s): 277-30, February 2004.

Refereed Journal Papers

5. "Beyond Output Voting: Detecting Compromised Replicas Using HMM-based Behavioral Distance." Debin Gao, Mike Reiter, and Dawn Song. In *IEEE Transactions of Dependable and Secure Computing*, vol. 6(2), Page(s): 96-110, April-June 2009.

6. "New Techniques for Private Stream Search." John Bethencourt, Dawn Song, and Brent Waters. In *ACM Transactions on Information and System Security*, vol. 12(3), Article No.: 16, January 2009.

7. "Theory and Techniques for Automatic Generation of Vulnerability-Based Signatures." David Brumley, James Newsome, Dawn Song, Hao Wang, and Somesh Jha. In *IEEE Transactions on Dependable and Secure Computing*,vol. 5(4), Page(s): 224-241, Oct.-Dec. 2008.

8. "StackPi: New Packet Marking and Filtering Mechanisms for DDoS and IP Spoofing Defense." Abraham Yaar, Adrian Perrig, and Dawn Song. In *IEEE Journal on Selected Areas in Communications (JSAC)*, Page(s): 1853-1863, 2007.

9. "SIA: Secure Information Aggregation in Sensor Networks." Haowen Chan, Adrian Perrig, Bartosz Przydatek, and Dawn Song. In *Journal of Computer Security (JCS), Special Issue on Security of Ad Hoc and Sensor Networks*, vol 15(1), Page(s): 69-102 (2006), 2006.

10. "Athena, a Novel Approach to Efficient Automatic Security Protocol Analysis." Dawn Song, Sergey Berezin, and Adrian Perrig. In *Journal of Computer Security (JCS)*, 9(1,2) Page(s): 47-74, 2001.

Refereed Conference Papers

11. "Private and Continual Release of Statistics." T-H. Hubert Chan, Elaine Shi, and Dawn Song. In *Proceedings of the 37th International Colloquium on Automata, Languages and Programming (ICALP)*, July 2010.

12. "HookScout: Proactive Binary-Centric Hook Detection." Heng.Yin, Pongsin Poosankam, Steve Hanna, and Dawn Song. In *Proceedings of the Seventh Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA)*, July 2010.

13. "Towards a Formal Foundation of Web Security." Devdatta Akhawe, Adam Barth, Peifung Lam, John C. Mitchell, and Dawn Song. In *Proceedings of the Computer Security Foundations Symposium (CSF)*, July 2010.

14. "A Symbolic Execution Framework for JavaScript." Prateek Saxena, Devdatta Akhawe, Steve Hanna, Stephen McCamant, Feng Mao, and Dawn Song. In *Proceedings of IEEE Symposium on Security and Privacy*, Page(s): 513-528, May 2010.

15. “Binary code extraction and interface identification for security applications.” Juan Caballero, Noah Johnson, Stephen McCamant, and Dawn Song. In *17th Annual Network and Distributed Systems Symposium (NDSS)*, February 2010.

16. “FLAX: Systematic discovery of client-side validation vulnerabilities in rich web applications.” Prateek Saxena, Steve Hanna, Pongsin Poosankam, and Dawn Song. In *17th Annual Network & Distributed System Security Symposium(NDSS)*, February 2010.

17. “Signatures of Reputation: Towards Trust Without Identity.” J. Bethencourt, E. Shi, and D. Song. In *Proceedings of the 14th International Conference on Financial Cryptography and Data Security*, Page(s): 400-407, January 2010.

18. “A Learning-Based Approach to Reactive Security.” Adam Barth, Benjamin I. P. Rubinstein, Mukund Sundararajan, John C. Mitchell, Dawn Song, and Peter L. Bartlett. In *Proceedings of the 14th International Conference on Financial Cryptography and Data Security*,Page(s): 192-206, January 2010.

19. “Tracking Dynamic Sources of Malicious Activity at Internet Scale.” Shobha Venkataraman, Avrim Blum, Dawn Song, Subhabrata Sen, and Oliver Spatscheck. In *Proceedings of the 23rd Annual Conference on Neural Information Processing Systems (NIPS)*, December 2009.

20. “Dispatcher: Enabling Active Botnet Infiltration using Automatic Protocol Reverse-Engineering.” Juan Caballero, Pongsin Poosankam, Christian Kreibich, and Dawn Song. In *Proceedings of ACM Conference on Computer and Communications Security (CCS)*, Novermber 2009.

21. “Towards Generating High Coverage Vulnerability-Based Signatures with Protocol-Level Constraint-Guided Exploration.” Juan Caballero, Zhenkai Liang, Pongsin Poosankam, and Dawn Song. In *Proceedings of the 12th International Symposium on Recent Advances in Intrusion Detection (RAID)*, Page(s): 161-181, September 2009.

22. “Cross-origin JavaScript Capability Leaks: Detection, Exploitation, and Defense.” Adam Barth, Joel Weinberger, and Dawn Song. In *Proceedings of USENIX Security Symposium*, Page(s): 187-198, August 2009.

23. “Loop-Extended Symbolic Execution on Binary Programs.” Prateek Saxena, Pongsin Poosankam, Stephen McCamant, and Dawn Song. In *Proceedings of International Symposium on Software Testing and Analysis (ISSTA)*, Page(s): 225-236, July 2009.

24. “Secure Content Sniffing for Web Browsers, or How to Stop Papers from Reviewing Themselves.” Adam Barth, Juan Caballero, and Dawn Song. In *Proceedings of IEEE Symposium on Security and Privacy*, Page(s): 360-371, May 2009.

25. “Document Structure Integrity: A Robust Basis for Cross-site Scripting Defense.” Yacin Nadji, Prateek Saxena, and Dawn Song. In *Proceedings of Network and Distributed System Security Symposium (NDSS)*, Feb 2009.

26. ”BinHunt: Automatically Finding Semantic Differences in Binary Programs.” Debin Gao, Michael K. Reiter, and Dawn Song. In *Proceedings of the 10th International Conference on Information and Communications Security (ICICS)*, October 2008.

27. ”Automatic Patch-Based Exploit Generation is Possible: Techniques and Implications.” David Brumley, Pongsin Poosankam, Dawn Song and Jiang Zheng. In *Proceedings of the IEEE Symposium on Security and Privacy*, Pages(s): 143-157, May 2008.

28. "Analysis-resistant Malware." John Bethencourt, Dawn Song, Brent Waters. In *Proceedings of Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 319-329 Feb 2008.

29. "Limits of Learning-based Signature Generation with Adversaries." Shobha Venkataraman, Avrim Blum, Dawn Song. In *Proceedings of Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 287-297, Feb 2008.

30. "HookFinder: Identifying and Understanding Malware Hooking Behaviors." Heng Yin, Zhenkai Liang, and Dawn Song. In *Proceedings of Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 239-249, Feb 2008.

31. "Would Diversity Really Increase the Robustness of the Routing Infrastructure Against Software Defects?" Juan Caballero, Theocharis Kampouris, Dawn Song, Jia Wang. In *Proceedings of Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 167-177, Feb 2008.

32. "Panorama: Capturing System-wide Information Flow for Malware Detection and Analysis." Heng Yin, Dawn Song, Manuel Egele, Engin Kirda and Christopher Kruegel. In *Proceedings of ACM Conference on Computer and Communications Security (CCS)*, Page(s): 116-127, October 2007.

33. "Polyglot: Automatic Extraction of Protocol Message Format using Dynamic Binary Analysis." Juan Caballero, Heng Yin, Zhenkai Liang, and Dawn Song. In *Proceedings of the 14th ACM Conference on Computer and Communications Security (CCS)*, Page(s): 317-329, October 2007.

34. "Provable Data Possession at Untrusted Stores." Giuseppe Ateniese, Randal Burns, Reza Curtmola, Joseph Herring, Lea Kissner, Zachary Peterson and Dawn Song. In *Proceedings of ACM Conference on Computer and Communications Security (CCS)*, Page(s): 598-609, Oct 2007.

35. "Towards Automatic Discovery of Deviations in Binary Implementations with Applications to Error Detection and Fingerprint Generation." David Brumley, Juan Caballero, Zhenkai Liang, James Newsome, and Dawn Song. In *Proceedings of USENIX Security Symposium*, Page(s): 213-228, Aug 2007. ***Best Paper Award***

36. "Exploiting Network Structure for Proactive Spam Mitigation." Shobha Venkataraman, Subhabrata Sen, Oliver Spatscheck, Patrick Haffner, and Dawn Song. In *Proceedings of USENIX Security Symposium*, Page(s): 149-166, Aug 2007.

37. "Creating Vulnerability Signatures Using Weakest Pre-conditions." David Brumley, Hao Wang, Somesh Jha, and Dawn Song. In *Proceedings of Computer Security Foundations Symposium*, Page(s): 311-325, Jul 2007.

38. "Dynamic Spyware Analysis." Manuel Egele, Christopher Kruegel, Engin Kirda, Heng Yin, and Dawn Song. In *Proceedings of USENIX Annual Technical Conference*, Page(s): 233-246, Jun 2007.

39. "Distributed Evasive Scan Techniques and Countermeasures." Min Gyyng Kang, Juan Caballero, and Dawn Song. In *Proceedings of International Conference on Detection of Intrusions & Malware, and Vulnerability Assessment (DIMVA)*, Page(s): 157-174, Jun 2007.

40. " Multi-Dimensional Range Query over Encrypted Data." Elaine Shi, John Bethencourt, Hubert Chan, Dawn Song, and Adrian Perrig. In *Proceedings of IEEE Security and Privacy Symposium (S & P)*, Page(s): 350-364, May 2007.

41. "Sweeper: a Lightweight End-to-End System for Defending against Fast Worms." Joseph Tucek, James Newsome,Shan Lu, Chengdu Huang, Spiros Xanthos, David Brumley, Yuanyuan Zhou, and Dawn Song. In *Proceedings of European Conference on Computer Systems (EuroSys)*, Page(s): 115-128, Mar 2007.

42. "FiG: Automatic Fingerprint Generation." Juan Caballero, Shobha Venkataraman, Pongsin Poosankam, Min Gyung Kang, Dawn Song, and Avrim Blum. In *Proceedings of Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 49-59, Feb 2007.

43. "RICH: Automatically Protecting Against Integer-based Attacks." David Brumley, Tzi-cker Chiueh, Rob Johnson, Huijia Lin, and Dawn Song. In *Proceedings of Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 235-245, Feb 2007.

44. "Replayer: Automatic Protocol Replay by Binary Analysis." James Newsome, David Brumley, Jason Franklin, and Dawn Song. In *Proceedings of the 13th ACM Conference on Computer and and Communications Security (CCS)*, Page(s): 311-321, Nov 2006.

45. "Secure Hierarchical In-Network Aggregation in Sensor Networks." Haowen Chan, Adrian Perrig, and Dawn Song. In *Proceedings of the 13th ACM Conference on Computer and Communications Security (CCS)*, Page(s): 278-287, Nov 2006.

46. "Paragraph: Thwarting Signature Learning by Training Maliciously." James Newsome, Brad Karp, and Dawn Song. In *Proceedings of the 9th International Symposium On Recent Advances in Intrusion Detection (RAID)*, Page(s): 81-105, September 2006.

47. "Behavioral Distance Measurement Using Hidden Markov Models." Debin Gao, Michael Reiter, and Dawn Song. In *Proceedings of the 9th International Symposium on Recent Advances in Intrusion Detection (RAID)*, Page(s): 19-40, September 2006.

48. "Towards Automatic Generation of Vulnerability Signatures." David Brumley, James Newsome, Dawn Song, Hao Wang, and Somesh Jha. In *Proceedings of the IEEE Symposium on Security and Privacy (S & P)*, Page(s): 2-16, May 2006. ***Highest-ranked Paper***

49. "New Constructions and Applications for Private Stream Search (Extended Abstract)." John Bethencourt, Dawn Song, and Brent Waters. In *Proceedings of the IEEE Symposium on Security and Privacy (S & P)*, Page(s): 132-139, May 2006.

50. "Vulnerability-Specific Execution Filtering for Exploit Prevention on Commodity Software." James Newsome, David Brumley, and Dawn Song. In *Proceedings of the 13th Annual Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 81-91, 2006.

51. "Behavioral Distance for Intrusion Detection." Debin Gao, Mike Reiter, and Dawn Song. In *Proceedings of Symposium on Recent Advances in Intrusion Detection (RAID)*, Page(s): 63-81, Sep 2005.

52. "Privacy Preserving Set Operations." Lea Kissner and Dawn Song. In *Proceedings of CRYPTO*, Page(s): 241-257, Aug 2005.

53. "Semantics-Aware Malware Detection." Mihai Christodorescu, Somesh Jha, Sanjit Seshia, Dawn Song, Randal E. Bryant. In *Proceedings of IEEE Symposium on Security and Privacy (S & P)*, Page(s): 32-48, May 2005.

54. "Polygraph: Automatic Signature Generation for Polymorphic Worms." James Newsome, Brad Karp, and Dawn Song. In *Proceedings of IEEE Symposium on Security and Privacy (S & P)*, Page(s): 226-241, May 2005.

55. "FIT: Fast Internet Traceback." Abraham Yaar, Adrian Perrig, and Dawn Song. In *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, Page(s): 1395-1406, March 2005.

56. "New Streaming Algorithms for Superspreader Detection." Shobha Venkataraman, Dawn Song, Phil Gibbons, and Avrim Blum. In *Proceedings of Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 149-159, Feb 2005.

57. "Dynamic Taint Analysis: Automatic Detection, Analysis, and Signature Generation of Exploit Attacks on Commodity Software." James Newsome and Dawn Song. In *Proceedings of Network and Distributed Systems Security Symposium (NDSS)*, Page(s): 221-231, Feb 2005.

58. "Gray-box Extraction of Execution Graphs for Anomaly Detection." Debin Gao, Mike Reiter, and Dawn Song. In *Proceedings of ACM Computer and Communication Security (CCS)*, Page(s): 318-329, Nov 2004 .

59. "Detection of Interactive Stepping Stones: Algorithms and Confidence Bounds." Avrim Blum, Dawn Song, and Shobha Venkataraman. In *Proceedings of Symposium on Recent Advances in Intrusion Detection (RAID)*, Page(s): 258-277, Sep 2004.

60. "Privtrans: Automatic Privilege Separation." David Brumley and Dawn Song. In *Proceedings of USENIX Security Symposium*, Page(s): 57-72, Aug 2004.

61. "Graybox Program Tracking for Hostbased Intrusion Detection." Debin Gao, Mike Reiter, and Dawn Song. In *Proceedings of USENIX Security Symposium*, Page(s): 103-118, Aug 2004.

62. "SIFF: A Stateless Internet Flow Filter to Mitigate DDoS Flooding Attacks." A. Yaar, A. Perrig, and D. Song. In *IEEE Symposium on Security and Privacy (S & P)*, Page(s): 130-143, May 2004.

63. "Sybil Attacks in Sensor Networks: Attacks and Analysis." J. Newsome, E. Shi, D. Song, and A. Perrig. In *Proceedings of Conference on Information Processing in Sensor Networks (IPSN)*, Page(s): 259-268, April 2004.

64. "GEM: Graph Embedding for Routing and Data-Centric Storage in Sensor Networks without Geographic Information." J. Newsome and D. Song. In *Proceedings of ACM Conference on Embedded Networked Sensor Systems (SenSys)*, Page(s): 76-88, November 2003.

65. "SIA: Secure Information Aggregation in Sensor Networks." B. Przydatek, D. Song, and A. Perrig. In *Proceedings of ACM Conference on Embedded Networked Sensor Systems (SenSys)*, Page(s): 255-265, November 2003.

66. "Pi: A Path Identification Mechanism to Defend against DDoS Attacks." A. Yaar, A. Perrig, and D. Song. In *Proceedings of IEEE Symposium on Security and Privacy (S & P)*, Page(s): 93-107, May 2003.

67. "Random Key Predistribution Schemes for Sensor Networks." H. Chan, A. Perrig, and D. Song. In *Proceedings of IEEE Symposium on Security and Privacy (S & P)*, Page(s): 197-213, May 2003.

68. "Expander Graphs for Digital Stream Authentication and Robust Overlay Networks." D. Song, D. Zuckerman, and J. D. Tygar. In *Proceedings of the IEEE Symposium on Security and Privacy (S & P)*, Page(s): 258-270, May 2002.

69. "Quasi-efficient Revocation of Group Signatures." G. Ateniese, D. Song, and G. Tsudik. In *Proceedings of Financial Crypto'2002*, Page(s): 183-197, Feb 2002.

70. "Homomorphic Signature Schemes." R. Johnson, D. Molnar, D. Song, and D. Wagner. In *Proceedings of RSA Conference, Cryptographer's Track*, Page(s): 244-262, February 2002.

71. "Practical Forward Secure Group Signature Schemes." D. Song. In *Proceedings of the Eighth ACM Conference on Computer and Communications Security (CCS-8)*, Page(s): 225-234, November 2001.

72. "Timing Analysis of Keystrokes and SSH Timing Attacks." D. Song, D. Wagner, and X. Tian. In *Proceedings of USENIX Security Symposium*, Page(s): 337-352, August 2001.

73. "AGVI — Automatic Generation, Verification, and Implementation of Security Protocols." D. Song, A. Perrig, and D. Phan. In *Proceedings of 13th Conference on Computer Aided Verification CAV 2001*, Page(s): 241-245, July 2001.

74. "ELK, a New Protocol for Efficient Large-Group Key Distribution." A. Perrig, D. Song, and D. Tygar. In *Proceedings of the IEEE Symposium on Security and Privacy (S & P)*, Page(s): 247-262, May 2001.

75. "Advanced and Authenticated Marking Schemes for IP Traceback." D. Song and A. Perrig. In *Proceedings of IEEE Conference on Computer Communications (INFOCOM) 2001*,) vol. 2, Page(s): 878-886, April 2001.

76. "Efficient and Secure Source Authentication for Multicast." A. Perrig, R. Canetti, D. Song, and J. D. Tygar. In *Proceedings of Symposium on Network and Distributed Systems Security (NDSS 2001)*, Page(s): 35-46, February 2001.

77. "Efficient Authentication and Signature of Multicast Streams Over Lossy Channels." A. Perrig, R. Canetti, J. D. Tygar, and D. Song. In *Proceedings of the IEEE Symposium on Security and Privacy (S & P)*, Page(s): 56-73, May 2000.

78. "Practical Techniques for Searches on Encrypted Data." D. Song, D. Wagner, and A. Perrig. In *Proceedings of the IEEE Symposium on Security and Privacy (S & P)*, Page(s): 44-55, May 2000.

79. "A First Step towards the Automatic Generation of Security Protocols." A. Perrig and D. Song. In *Proceedings of Symposium on Network and Distributed Systems Security (NDSS '00)*, Page(s): 73-83, February 2000.

Refereed Workshop Papers

80. "The Emperor's New API: On the (In)Secure Usage of New Client Side Primitives." Steve Hanna, Eui Chul Richard Shin, Devdatta Akhawe, Arman Boehm, and Dawn Song. In *Proceedings of WEB 2.0 SECURITY AND PRIVACY Workshop (W2SP)*, May 2010.

81. "Insights from the Inside: A View of Botnet Management from Infiltration. Chia Yuan Cho, Juan Caballero, Chris Grier, Vern Paxson and Dawn Song. In *Proceedings of the 3rd USENIX Workshop on Large-Scale Exploits and Emergent Threats (LEET)*, San Jose, California, April 2010.

82. "Emulating Emulation-Resistant Malware." Min Gyung Kang, Heng Yin, Steve Hanna, Steve McCamant, and Dawn Song. In *Proceedings of the 2nd Workshop on Virtual Machine Security*, November 2009.

83. "Measuring Channel Capacity to Distinguish Undue Influence." James Newsome, Stephen McCamant, and Dawn Song. In *Proceedings of the Fourth ACM SIGPLAN Workshop on Programming Languages and Analysis for Security (PLAS)*, Page(s): 73-85, June 2009.

84. "Black-box Anomaly Detection—Is it Utopian?" Shobha Venkataraman, Juan Caballero, Dawn Song, Avrim Blum, and Jennifer Yates. In *Proceedings of the Sixth Workshop on Hot Topics in Networks (HotNets)*, Page(s): 127-132, Nov 2006.

85. "Towards Attack-Agnostic Defenses." David Brumley and Dawn Song. In *Proceedings of the First Workshop on Hot Topics in Security (HOTSEC)*, Page(s): 57-62, Aug 2006.

86. "A Cryptanalysis of the High-bandwidth Digital Content Protection System." S. Crosby, I. Goldberg, R. Johnson, D. Song, and D. Wagner. In *Proceedings of Workshop on Security and Privacy in Digital Rights Management*, Page(s): 192-200, November 2001.

87. "Looking for Diamonds in the Desert — Extending Automatic Protocol Generation to Three-Party Authentication and Key Agreement Protocols." A. Perrig and D. Song. In *Proceedings of the 13th IEEE Computer Security Foundations Workshop*, Page(s): 64-76, July 2000.

88. "Hash Visualization: A New Technique to Improve Real-World Security." A. Perrig and D. Song. In Blum and Lee, editors, *International Workshop on Cryptographic Techniques and E-Commerce (CrypTEC)*, Page(s): 131-138, July 1999.

89. "Athena, an Automatic Checker for Security Protocol Analysis." D. Song. In Proceedings of the IEEE Computer Security Foundation Workshop, Page(s): 192-202, June 1999. ***Highest-ranked Paper***

Standards Documents

90. "The TESLA Broadcast Authentication Transform." Adrian Perrig, Ran Canetti, Bob Briscoe, Dawn Song, and Doug Tygar. IETF RFC 4082, 2005.

PROFESSIONAL SERVICES

Conference Steering Committee

- Network and Distributed System Security Symposium (NDSS), Feb 2006 - present.

Journal Editor

- Associate editor for IEEE Transactions on Dependable and Secure Computing

Conference Co-Organizer

- ACM Workshop on Security in Cloud Computing, Nov 2009
- DHS/ARO Workshop on Malware Detection, Aug 2005
- NSF Workshop on Next Generation Secure Internet, July 2005
- DIMACS Workshop on "Cryptography: Theory and Practice", 2004

Conference Program Committee

- ACM International Conference on Virtual Execution Environments (VEE), 2010
- ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), 2010
- IEEE Security and Privacy Symposium, 2010
- IEEE Security and Privacy Symposium, 2008
- ACM SIGCOMM, 2008
- European Conference on Computer Systems (EuroSys), 2007
- ACM Computer and Communication Security Symposium (CCS), 2006
- Symposium on Recent Advance in Intrusion Detection (RAID), 2006
- Symposium on Operating Systems Design and Implementation (OSDI), 2006
- Network and Distributed System Security Symposium (NDSS), 2006
- ACM Computer and Communication Security Symposium (CCS), 2005

- Symposium on Recent Advance in Intrusion Detection (RAID), 2005
- Network and Distributed System Security Symposium (NDSS), 2005
- IEEE Conference on Computer Communications (INFOCOM), 2005
- ACM Conference on Embedded Networked Sensor Systems (SenSys), 2004
- ACM Computer & Communication Security Symposium (CCS), 2004
- International World Wide Web Conference (WWW), 2004
- USENIX Security Symposium, 2003
- USENIX Annual Technical Conference 2003
- International World Wide Web Conference (WWW), 2003
- Network and Distributed System Security Symposium (NDSS), 2003

Selected Invited Talks and Seminars

- WebBlaze: New Techniques and Tools for Web Security, National University of Singapore, July 2010.
- BitBlaze: Computer Security via Binary Analysis, Li Kai Shing Foundation Distinguished Lecture, Tsinghua University, June 2010.
- BitBlaze++: Towards Next Generation Infrastructure for Binary Analysis, invited speaker at HCSS, May 2010.
- BitBlaze: Computer Security via Binary Analysis, Distinguished Lecture, State University of New York at Stony Brook, April 2010.
- BitBlaze: Computer Security via Binary Analysis, Distinguished Lecture, University of California at Irvine, March 2010.
- WebBlaze: New Techniques and Tools for Web Security, invited speaker at OWASP workshop, Feburary 2010.
- BitBlaze: Computer Security via Binary Analysis, University of British Columbia, December 2009.
- BitBlaze: Computer Security via Binary Analysis, MIT, September 2009.
- BitBlaze: Computer Security via Binary Analysis, invited speaker at HCSS, May 2009.
- BitBlaze: Computer Security via Binary Analysis, National University of Singapore, December 2008.
- BitBlaze: Computer Security via Binary Analysis, *Keynote* at ICISS, December 2008.
- BitBlaze: a Binary-centric Approach to Computer Security, Symantec, July 2008.
- Towards Automatic Generation of Vulnerability Signatures, Cisco, June 2008.
- BitBlaze: a Binary-centric Approach to Computer Security, Microsoft, March 2008.
- BitBlaze: a Binary-centric Approach to Computer Security, Johns Hopkins University, December 2007.
- Towards Automatic Generation of Vulnerability Signatures, Distinguished Lecture, Juniper, December 2007.
- Towards Automatic Generation of Vulnerability Signatures, UT Austin, November 2006.
- Towards Automatic Generation of Vulnerability Signatures, Cisco, July 2006.
- Privacy-Preserving Distributed Information Sharing, UCSD, February 2006.
- Privacy-Preserving Distributed Information Sharing, MIT, November 2005.
- Sting: Automatic Defense System against Zero-day Exploit Attacks, UMass Amherst, November 2005.
- Sting: Automatic Defense System against Zero-day Exploit Attacks, Stanford University, March 2005.
- Sting: Automatic Defense System against Zero-day Exploit Attacks, SRI International, March 2005.
- Sting: Automatic Defense System against Zero-day Exploit Attacks, Symantec, March 2005.

- Sting: Automatic Defense System against Zero-day Exploit Attacks, HP Labs, March 2005.
- Defending against Large Scale Internet Worm Attacks, Microsoft Research (Silicon Valley), October 2004.