

CURRICULUM VITAE

Giovanni Vigna

Professor

Department of Computer Science
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Contact Information

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Personal Information

Date of Birth: February 28, 1969
Place of Birth: Milano, Italy
Citizenship: United States

Education

Ph.D. Electronic Engineering, Politecnico di Milano, Italy, January 1998
Dissertation Title: *Mobile Code Technologies, Paradigms, and Applications*
M.S. (cum laude) Computer Engineering, Politecnico di Milano, Italy, July 1994
Dissertation Title: *The Design and Implementation of SPADE-1 2.0, A Process-Centered Software Engineering Environment*

Research Experience

- 7/09 – Present: *Full Professor* at the Department of Computer Science, University of California Santa Barbara.
- 7/04 – 7/09: *Associate Professor* at the Department of Computer Science, University of California Santa Barbara.
- 7/00 – 6/04: *Assistant Professor* at the Department of Computer Science, University of California Santa Barbara.
- 10/97 – 6/00: *Post-Doctoral Researcher* at the Department of Computer Science, University of California Santa Barbara. Research on intrusion detection and network security.
- 11/94 – 11/97: *PhD student* at Politecnico di Milano, Italy. Research on mobile code, software architectures, models for network security, and WWW software engineering.
- 9/94 – 6/95: *Researcher* at CEFRIEL, a research center in Milano, Italy, sponsored by a number of national and international companies. Research on software process, software architectures, and integration of security technologies in wide-area network services.
- 9/93 – 7/94: *Graduate Intern* at CEFRIEL. Research on software development process and process-centered software engineering environments. *Master in Information Technology, awarded with outstanding student scholarship.*

Awards and Honors

- 2011, “Best Paper Award,” ISOC Symposium on Network and Distributed Systems Security (NDSS), San Diego, CA.
- 2010, “Classic Paper” invited presentation, Annual Computer Security Application Conference (AC-SAC), Austin, TX, December 2010.
- 2007, “Most Influential Paper of ICSE ’97” Award, International Conference on Software Engineering (ICSE), Minneapolis, MN.
- 2007, Keynote Lecture, Yardi Developers Conference, Santa Barbara, CA.
- 2006, College of Engineering Student Council Outstanding Professor Award.
- 2006, Keynote Lecture, Network Protocol Security Workshop, Santa Barbara, CA.
- 2005, Winner of the “Capture The Flag,” competition at DefCon, Las Vegas, NV.
- 2005, Best Paper Award, AusCERT Asia Pacific Information Technology Security Conference, Gold Coast, Australia.
- 2004, UCSB Academic Senate Distinguished Teaching Award.
- 2004, College of Engineering Student Council Outstanding Professor Award.
- 2003, National Science Foundation CAREER Award.

2001, UC Regents Junior Faculty Fellowship Award.

2001, Keynote address at *Workshop su Sistemi Distribuiti: Architetture, Algoritmi, Linguaggi (WS-DAAL '01)*, Como, Italy.

1998, Best Paper Award, Annual Computer Security Applications Conference, Scottsdale, AZ.

Research Funding

Army 2009-2014. *MURI: A Cyber-awareness Framework for Attack Analysis, Prediction and Visualization*, \$6,579,163, Co-PI (Richard Kemmerer, PI).

Army 2009-2014. *MURI: Botnet Attribution and Removal: From Axioms to Theory to Practice*, \$7,500,000, Co-PI (Wenke Lee, PI).

NSF 2009-2012. *Analyzing the Underground Economy*, \$1,197,306, Co-PI (Chris Kruegel, PI).

NSF 2008-2010. *Grand Challenges in Cyber Security*, \$249,968, PI.

NSF 2008-2011. *Understanding the Underground Economy*, \$199,994, Co-PI (Chris Kruegel, PI).

NSF 2007-2010. *Modeling and Analyzing Trust in Service-Oriented Architectures*, \$ 850,002, PI.

NSF 2007-2009. *A Framework for Live Security Exercises and Challenges*, \$ 200,000, PI.

California Secretary of State, 2007. *Accessibility and Usability Testing of Voting Systems*, \$100,300, PI.

NSF 2007-2008. *Using Structural and Behavioral Models to Detect Malware*, \$235,000, PI.

NSF 2006-2008. *Multi-model Anomaly Detection for Web-based Applications*, \$449,999, PI.

NSF 2003-2008. *CAREER: A Multi-level Approach to Malicious Mobile Code Detection*, \$399,946, PI.

NSA 2002-2003. *Graphical Compiler for the State Transition Analysis Technique (STAT)*, \$46,437, Co-PI (Richard Kemmerer, PI).

NSF 2002-2005. *MASSA: Mobile Agent System Security Through Analysis*, \$230,115, PI.

ARL 2001-2006. *Hi-DRA: High-speed, Wide-area Network Detection, Response, and Analysis*, \$4,283,526, Co-PI (Richard Kemmerer, PI).

ISTS 2001-2002. *Network Memory for Intrusion Analysis*, \$41,090, PI.

DARPA 2001-2002. *NetSTAT: A Network-based Intrusion Detection System (addition)*, \$250,000, Co-PI (Richard Kemmerer, PI).

Publications

Journal Papers

1. D. Balzarotti, G. Banks, M. Cova, V. Felmetzger, R. Kemmerer, W. Robertson, F. Valeur, and G. Vigna, "An Experience in Testing the Security of Real-world Electronic Voting Systems," in *IEEE Transactions on Software Engineering*, no. 36(4), July/August 2010.
2. G. Vigna, F. Valeur, D. Balzarotti, W. Robertson, C. Kruegel, and E. Kirda, "Reducing Errors in the Anomaly-based Detection of Web-Based Attacks through the Combined Analysis of Web Requests and SQL Queries," in *Journal of Computer Security*, vol. 17, no. 3, IOS Press, 2009.
3. E. Kirda, N. Jovanovic, C. Kruegel, and G. Vigna, "Client-side Cross-site Scripting Protection," in *Computers & Security*, vol. 28, no. 7, Elsevier, 2009.
4. P. Klinkoff, E. Kirda, C. Kruegel, and G. Vigna, "Extending .NET Security to Unmanaged Code," in *International Journal of Information Security*, 2007.
5. A. Arnes, P. Haas, G. Vigna, and R. Kemmerer, "Using a Virtual Security Testbed for Digital Forensic Reconstruction," in *Journal in Computer Virology*, Springer, 2007.
6. D. Mutz, F. Valeur, C. Kruegel, and G. Vigna, "Anomalous System Call Detection," in *ACM Transactions on Information and System Security*, ACM Press, 2006.
7. R. Kemmerer and G. Vigna, "Hi-DRA: Intrusion Detection for Internet Security," in *IEEE Proceedings*, vol. 93, no. 10, pp. 1848–1857, October 2005.
8. C. Kruegel, G. Vigna, and W. Robertson, "A Multi-model Approach to the Detection of Web-based Attacks," in *Computer Networks*, vol. 48, no. 5, pp. 717–738, August 2005.
9. C. Kruegel, W. Robertson, and G. Vigna, "Using Alert Verification to Identify Successful Intrusion Attempts," in *Practice in Information Processing and Communication (PIK)*, vol. 27, no. 4, pp. 219–227, October/December 2004.
10. F. Valeur, G. Vigna, C. Kruegel and R. Kemmerer, "A Comprehensive Approach to Intrusion Detection Alert Correlation," in *IEEE Transactions on Dependable and Secure Computing*, vol. 1, no. 3, pp. 146–169, July-September 2004.
11. G. Vigna, "Teaching Hands-On Network Security: Testbeds and Live Exercises," in *Journal of Information Warfare*, vol. 3, issue 2, pp. 8–25, 2003.
12. R.A. Kemmerer and G. Vigna, "Intrusion Detection: A Brief History and Overview," in *Security and Privacy*, supplement to IEEE Computer, pp. 27–30, April 2002. Also translated to Russian and printed in the Russian computer science journal *Open Systems* (<http://www.osp.ru>), November 2002.
13. S.T. Eckmann, G. Vigna, and R.A. Kemmerer, "STATL: An Attack Language for State-based Intrusion Detection," *Journal of Computer Security*, vol. 10, no. 1/2, pp. 71–104, IOS Press, 2002.

14. G. Vigna and R.A. Kemmerer, "NetSTAT: A Network-based Intrusion Detection System," *Journal of Computer Security*, vol. 7, no. 1, pp. 37–71, IOS Press, 1999.
15. A. Fuggetta, G.P. Picco, and G. Vigna, "Understanding Code Mobility," in *IEEE Transactions on Software Engineering*, vol. 24, no. 5, pp. 342–361, May 1998.

Conference Papers with Proceedings (refereed)

1. M. Cova, D. Canali, C. Kruegel, and G. Vigna, "Prophiler: A Fast Filter for the Large-Scale Detection of Malicious Web Pages," in *Proceedings of the World Wide Web Conference (WWW)*, Hyderabad, India, March 2011.
2. M. Egele, C. Kruegel, E. Kirda, and G. Vigna, "PiOS: Detecting Privacy Leaks in iOS Applications," in *Proceedings of the Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2011.
3. G. Stringhini, C. Kruegel, and G. Vigna, "Detecting Spammers on Social Networks," in *Proceedings of the Annual Computer Security Application Conference (ACSAC)*, Austin, TX, December 2010.
4. G. Vigna, "Network Intrusion Detection: Dead or Alive?," in *Proceedings of the Annual Computer Security Application Conference (ACSAC)*, Austin, TX, December 2010.
5. V. Felmetzger, L. Cavedon, C. Kruegel, and G. Vigna, "Toward Automated Detection of Logic Vulnerabilities in Web Applications," in *Proceedings of the USENIX Security Symposium*, Washington, DC, August 2010.
6. N. Childers, B. Boe, L. Cavallaro, L. Cavedon, M. Cova, M. Egele, and G. Vigna, "Organizing Large Scale Hacking Competitions," in *Proceedings of the Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA)*, Bonn, Germany, July 2010.
7. A. Doupe, M. Cova, and G. Vigna, "Why Johnny Cant Pentest: An Analysis of Black-box Web Vulnerability Scanners," in *Proceedings of the Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA)*, Bonn, Germany, July 2010.
8. M. Cova, C. Kruegel, and G. Vigna, "Detection and Analysis of Drive-by-Download Attacks and Malicious JavaScript Code," in *Proceedings of the World Wide Web Conference (WWW)*, Raleigh, NC, April 2010.
9. L. Cavedon, C. Kruegel, and G. Vigna, "Are BGP Routers Open To Attack? An Experiment," in *Proceedings of the iNetSec Conference*. Sophia, Bulgaria, March 2010.
10. W. Robertson, F. Maggi, C. Kruegel, and G. Vigna, "Effective Anomaly Detection with Scarce Training Data," in *Proceedings of the Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2010.
11. D. Balzarotti, M. Cova, C. Karlberger, C. Kruegel, E. Kirda, and G. Vigna, "Efficient Detection of Split Personalities in Malware," in *Proceedings of the Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2010.

12. S. Ford, M. Cova, C. Kruegel, and G. Vigna, "Analyzing and Detecting Malicious Flash Advertisements," in *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, Honolulu, HI, December 2009.
13. B. Stone-Gross, M. Cova, L. Cavallaro, B. Gilbert, M. Szydlowski, R. Kemmerer, C. Kruegel, and G. Vigna, "Your Botnet is My Botnet: Analysis of a Botnet Takeover," in *Proceedings of the ACM Conference on Computer and Communications Security (CCS)*, Chicago, IL, November 2009.
14. W. Robertson and G. Vigna, "Static Enforcement of Web Application Integrity Through Strong Typing," in *Proceedings of the USENIX Security Symposium*, Montreal, Canada, August 2009.
15. F. Maggi, W. Robertson, C. Kruegel, and G. Vigna, "Protecting a Moving Target: Addressing Web Application Concept Drift," in *Proceedings of the International Symposium on Recent Advances in Intrusion Detection (RAID)*, Saint-Malo, France, September 2009.
16. A. Stamminger, C. Kruegel, G. Vigna, and E. Kirda, "Automated Spyware Collection and Analysis," in *Proceedings of the Information Security Conference (ISC)*, Pisa, Italy, September 2009.
17. L. Foschini, A. Thapliyal, L. Cavallaro, C. Kruegel, and G. Vigna, "A Parallel Architecture for Stateful, High-Speed Intrusion Detection," in *Proceedings of the International Conference on Information Systems Security (ICISS)*, Hyderabad, India, December 2008.
18. D. Balzarotti, G. Banks, M. Cova, V. Felmetzger, R. Kemmerer, W. Robertson, F. Valeur, and G. Vigna, "Are Your Votes Really Counted? Testing the Security of Real-world Electronic Voting Systems," in *Proceedings of the International Symposium on Software Testing and Analysis*, Seattle, WA, July 2008.
19. Balzarotti, M. Cova, V. Felmetzger, N. Jovanovic, E. Kirda, C. Kruegel, and G. Vigna, "Saner: Composing Static and Dynamic Analysis to Validate Sanitization in Web Applications," in *Proceedings of the IEEE Symposium on Security and Privacy*, Oakland, CA, May 2008.
20. D. Balzarotti, M. Cova, and G. Vigna, "ClearShot: Eavesdropping on Keyboard Input from Video," in *Proceedings of the IEEE Symposium on Security and Privacy*, Oakland, CA, May 2008.
21. M. Van Gundy, H. Chen, Z. Su, and G. Vigna, "Feature Omission Vulnerabilities: Thwarting Signature Generation for Polymorphic Worms," in *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, Miami, FL, December 2007.
22. C. Kruegel, D. Balzarotti, W. Robertson, and G. Vigna, "Improving Signature Testing Through Dynamic Data Flow Analysis," in *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, Miami, FL, December 2007.
23. D. Balzarotti, M. Cova, V. Felmetzger, and G. Vigna, "Multi-Module Vulnerability Analysis of Web-based Applications," in *Proceedings of the ACM Conference on Computer and Communications Security (CCS)*, Alexandria, VA, October 2007.
24. M. Cova, D. Balzarotti, V. Felmetzger, and G. Vigna, "Swaddler: An Approach for the Anomaly-based Detection of State Violations in Web Applications," in *Proceedings of the International Symposium on Recent Advances in Intrusion Detection (RAID)*, Queensland, Australia, September 2007.

25. D. Mutz, W. Robertson, G. Vigna, and R. Kemmerer, "Exploiting Execution Context for the Detection of Anomalous System Calls," in *Proceedings of the International Symposium on Recent Advances in Intrusion Detection (RAID)*, Queensland, Australia, September 2007.
26. A. Carzaniga, G.P. Picco, and G. Vigna, "Is Code Still Moving Around? Looking Back at a Decade of Code Mobility," in *Proceedings of the International Conference on Software Engineering (ICSE)*, May 2007.
27. P. Vogt, F. Nentwich, N. Jovanovic, E. Kirda, C. Kruegel, and G. Vigna, "Cross-Site Scripting Prevention with Dynamic Data Tainting and Static Analysis," in *Proceeding of the Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2007.
28. C. Mulliner and G. Vigna, "Vulnerability Analysis of MMS User Agents," in *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, Miami, Florida, December 2006.
29. M. Cova, V. Felmetzger, G. Banks, and G. Vigna, "Static Detection of Vulnerabilities in x86 Executables," in *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, Miami, Florida, December 2006.
30. A. Arnes, F. Valeur, G. Vigna, and R. Kemmerer, "Using Hidden Markov Models to Evaluate the Risks of Intrusions: System Architecture and Model Validation," in *Proceedings of the International Symposium on Recent Advances in Intrusion Detection (RAID)*, Hamburg, Germany, September 2006.
31. E. Kirda, C. Kruegel, G. Banks, G. Vigna, and R. Kemmerer, "Behavior-based Spyware Detection," in *Proceedings of the USENIX Security Symposium*, Vancouver, Canada, August 2006.
32. P. Klinkoff, C. Kruegel, E. Kirda, and G. Vigna, "Extending .NET Security to Unmanaged Code," in *Proceedings of the Information Security Conference (ISC)*, Samos, Greece, August 2006.
33. G. Banks, M. Cova, V. Felmetzger, K. Almeroth, R. Kemmerer, and G. Vigna, "SNOOZE: toward a Stateful NetwOrk prOtocol fuzZEer," in *Proceedings of the Information Security Conference (ISC)*, Samos, Greece, August 2006.
34. C. Mulliner, G. Vigna, D. Dagon, and W. Lee, "Using Labeling to Prevent Cross-Service Attacks Against Smart Phones," in *Proceedings of the Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA)*, Berlin, Germany, July 2006.
35. A. Arnes, P. Haas, G. Vigna, and R. Kemmerer, "Digital Forensic Reconstruction and the Virtual Security Testbed ViSe," in *Proceedings of the Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA)*, Berlin, Germany, July 2006.
36. F. Valeur, G. Vigna, C. Kruegel, and E. Kirda, "An Anomaly-driven Reverse Proxy for Web Applications," in *Proceedings of the ACM Symposium on Applied Computing (SAC)*, Dijon, France, April 2006.
37. E. Kirda, C. Kruegel, G. Vigna, and N. Jovanovic, "Noxes: A Client-Side Solution for Mitigating Cross-Site Scripting Attacks," in *Proceedings of the ACM Symposium on Applied Computing (SAC)*, Dijon, France, April 2006.

38. W. Robertson, G. Vigna, C. Kruegel, and R. Kemmerer, "Using Generalization and Characterization Techniques in the Anomaly-based Detection of Web Attacks," in *Proceeding of the Network and Distributed System Security (NDSS) Symposium*, San Diego, CA, February 2006.
39. C. Kruegel, E. Kirda, D. Mutz, W. Robertson, and G. Vigna, "Polymorphic Worm Detection Using Structural Information of Executables," in *Proceedings of the International Symposium on Recent Advances in Intrusion Detection (RAID)*, LNCS, Springer-Verlag, Seattle, WA, September 2005.
40. C. Kruegel, E. Kirda, D. Mutz, W. Robertson, and G. Vigna, "Automating Mimicry Attacks Using Static Binary Analysis," in *Proceedings of the USENIX Security Symposium*, Baltimore, MD, August 2005.
41. F. Valeur, D. Mutz, and G. Vigna, "A Learning-Based Approach to the Detection of SQL Attacks," in *Proceedings of the Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA)*, Vienna, Austria, July 2005.
42. O. Hallaraker and G. Vigna, "Detecting Malicious JavaScript Code in Mozilla," in *Proceedings of the IEEE International Conference on Engineering of Complex Computer Systems (ICECCS)*, pp. 85–94, Shanghai, China, June 2005.
43. V. Felmetzger and G. Vigna, "Exploiting OS-level Mechanisms to Implement Mobile Code Security," in *Proceedings of the IEEE International Conference on Engineering of Complex Computer Systems (ICECCS)*, pp. 234–243 Shanghai, China, June 2005.
44. C. Kruegel, D. Mutz, W. Robertson, G. Vigna, and R. Kemmerer, "Reverse Engineering of Network Signatures," in *Proceedings of the AusCERT Asia Pacific Information Technology Security Conference*, Gold Coast, Australia, May 2005 (Best Paper Award).
45. G. Vigna, S. Gwalani, K. Srinivasan, E. Belding-Royer, and R. Kemmerer, "An Intrusion Detection Tool for AODV-based Ad Hoc Wireless Networks," in *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, pp. 16–27, Tucson, AZ, December 2004.
46. J. Zhou and G. Vigna, "Detecting Attacks That Exploit Application-Logic Errors Through Application-Level Auditing," in *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, pp. 168–178, Tucson, AZ, December 2004.
47. C. Kruegel, W. Robertson, and G. Vigna, "Detecting Kernel-Level Rootkits Through Binary Analysis," in *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, pp. 91–100, Tucson, AZ, December 2004.
48. G. Vigna, W. Robertson, and D. Balzarotti "Testing Network-based Intrusion Detection Signatures Using Mutant Exploits," in *Proceedings of the ACM Conference on Computer and Communication Security (ACM CCS)*, pp. 21–30, Washington, DC, October 2004.
49. C. Kruegel, W. Robertson, F. Valeur, and G. Vigna, "Static Disassembly of Obfuscated Binaries," in *Proceedings of USENIX Security 2004*, pp. 255–270, San Diego, CA, August 2004.
50. G. Vigna, "Mobile Agents: Ten Reasons For Failure," in *Proceedings of the IEEE International Conference on Mobile Data Management*, pp. 298–299, Invited Position Paper, Berkeley, CA, January 2004.

51. D. Mutz, G. Vigna, and R.A. Kemmerer, “An Experience Developing an IDS Stimulator for the Black-Box Testing of Network Intrusion Detection Systems,” in *Proceedings of the Annual Computer Security Applications Conference (ACSAC 2003)*, pp. 374–383, Las Vegas, NV, December 2003.
52. G. Vigna, W. Robertson, V. Kher, and R.A. Kemmerer, “A Stateful Intrusion Detection System for World-Wide Web Servers,” in *Proceedings of the Annual Computer Security Applications Conference (ACSAC 2003)*, pp. 34–43, Las Vegas, NV, December 2003.
53. C. Kruegel and G. Vigna, “Anomaly Detection of Web-based Attacks,” in *Proceedings of the 10th ACM Conference on Computer and Communication Security (CCS ’03)*, pp. 251–261, ACM Press, Washington, DC, October 2003.
54. C. Kruegel, D. Mutz, W. Robertson, F. Valeur, and G. Vigna, “On the Detection of Anomalous System Call Arguments,” in *Proceedings of the 8th European Symposium on Research in Computer Security (ESORICS ’03)*, pp. 326–343, Lecture Notes in Computer Science, Springer-Verlag, Gjøvik, Norway, October 2003.
55. G. Vigna, “A Topological Characterization of TCP/IP Security,” in *Proceedings of the 12th International Symposium of Formal Methods Europe (FME ’03)*, Lecture Notes in Computer Science, no. 2805, pp. 914–940, Springer-Verlag, Pisa, Italy, September 2003.
56. G. Vigna, F. Valeur, and R.A. Kemmerer, “Designing and Implementing A Family of Intrusion Detection Systems,” in *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE 2003)*, Helsinki, Finland, September 2003.
57. S. Soman, C. Krintz, and G. Vigna, “Detecting Malicious Java Code Using Virtual Machine Auditing,” in *Proceedings of the 12th USENIX Security Symposium*, pp. 153–167, Washington DC, August 2003.
58. G. Vigna, “Teaching Network Security Through Live Exercises,” in *Proceedings of the Third Annual World Conference on Information Security Education (WISE 3)*, Kluwer Academic Publishers, pp. 3–18, Monterey, CA, June 2003.
59. G. Vigna, F. Valeur, J. Zhou, and R.A. Kemmerer, “Composable Tools For Network Discovery and Security Analysis,” in *Proceedings of the 18th Annual Computer Security Applications Conference (ACSAC ’02)*, IEEE Press, pp. 14–24, Las Vegas, NV, December 2002.
60. G. Vigna and A. Mitchell, “Mnemosyne: Designing and Implementing Network Short-Term Memory,” in *Proceedings of the IEEE International Conference on Engineering of Complex Computer Systems (ICECCS ’02)*, IEEE Press, pp. 91–100, Greenbelt, MD, December 2002.
61. V. Mittal and G. Vigna, “Sensor-Based Intrusion Detection for Intra-Domain Distance-Vector Routing,” in *Proceedings of the ACM Conference on Computer and Communication Security (CCS’02)*, pp. 127–137, ACM Press, Washington, DC, November 2002.
62. G. Vigna, B. Cassell, and D. Fayram, “An Intrusion Detection System for Aglets,” in *Proceedings of the 6th International Conference on Mobile Agents (MA ’02)*, Lecture Notes in Computer Science, Springer-Verlag, vol. 2535, pp. 64–77, Barcelona, Spain, October 2002.

63. C. Kruegel, F. Valeur, G. Vigna, and R.A. Kemmerer, "Stateful Intrusion Detection for High-Speed Networks," in *Proceedings of the IEEE Symposium on Security and Privacy*, pp. 285–293, IEEE Press, Oakland, CA, May 2002.
64. S. Fischmeister, G. Vigna, and R.A. Kemmerer, "Evaluating the Security Of Three Java-Based Mobile Agent Systems," in *Proceedings of the 5th International Conference on Mobile Agents (MA '01)*, Atlanta, GA, Lecture Notes in Computer Science, Springer-Verlag, vol.2240, pp. 31–41, December 2001.
65. G. Vigna, P. Blix, and R.A. Kemmerer, "Designing a Web of Highly-Configurable Intrusion Detection Sensors," in *Proceedings of the 4th International Symposium on Recent Advances in Intrusion Detection (RAID 2001)*, Lecture Notes in Computer Science, Springer-Verlag, vol. 2212, pp. 69–84, Davis, CA, October 2001.
66. G. Vigna, S.T. Eckmann, and R.A. Kemmerer, "The STAT Tool Suite," in *Proceedings of DISCEX 2000*, IEEE Press, pp. 46–55, Hilton Head, SC, January 2000.
67. G. Vigna and R.A. Kemmerer, "NetSTAT: A Network-based Intrusion Detection Approach," in *Proceedings of the 14th Annual Computer Security Applications Conference (ACSAC '98)*, IEEE Press, pp. 25–34, Scottsdale, AZ, December 1998. (Best Paper Award)
68. G. Vigna and L. Bonomi, "A Model-Centered Electronic Commerce Middleware," in *Proceedings of the International IFIP Working Conference on Trends in Electronic Commerce (TrEC '98)*, Hamburg, Germany, June 1998.
69. A. Carzaniga, G.P. Picco, and G. Vigna, "Designing Distributed Applications with Mobile Code Paradigms," in *Proceedings of the 19th International Conference on Software Engineering (ICSE '97)*, ACM Press, pp. 22–32, Boston, MA, April 1997.
70. A. Carzaniga, G.P. Picco, and G. Vigna, "Designing and Implementing Inter-Client Communication in the O₂ Database Management System," in *Proceedings of the International Symposium on Object-Oriented Methodologies and Systems (ISOOMS'94)*, Lecture Notes in Computer Science, Springer-Verlag, vol. 858, pp. 53–64, Palermo, Italy, September 1994.

Workshop Papers with Proceedings (refereed)

1. M. Cova, C. Kruegel, and G. Vigna, "There is No Free Phish: An Analysis of "Free" and Live Phishing Kits," in *Proceedings of the USENIX Workshop On Offensive Technologies (WOOT)*, San Jose, CA, August, 2008.
2. M. Van Gundy, D. Balzarotti, and G. Vigna, "Catch Me, If You Can: Evading Network Signatures with Web-based Polymorphic Worms," in *Proceedings of the First USENIX Workshop on Offensive Technologies (WOOT)*, Boston, MA, August 2007.
3. A. Orso, G. Vigna, and M.J. Harrold, "MASSA: Mobile Agents Security through Static Analysis," in *Proceedings of the ICSE Workshop on Software Engineering and Mobility (WSEM 2001)*, Toronto, Canada, April 2001.

4. A.L.M. dos Santos, G. Vigna, R.A. Kemmerer, “Security Testing of the Online Banking Service of a Large International Bank,” in *Proceedings of the 1st ACM Workshop on Security and Privacy in E-Commerce (WSPEC 2000)*, pp. 1–13, Athens, Greece, November 2000.
5. S.T. Eckmann, G. Vigna, and R.A. Kemmerer, “STATL: An Attack Language for State-based Intrusion Detection,” in *Proceedings of the 1st ACM Workshop on Intrusion Detection Systems*, Athens, Greece, November 2000.
6. G. Vigna, S.T. Eckmann, and R.A. Kemmerer, “Attack Languages,” in *Proceedings of the 3rd IEEE Information Survivability Workshop (ISW 2000)*, pp. 163–166, Boston, MA, October 2000.
7. F. Coda, C. Ghezzi, G. Vigna, and F. Garzotto, “Towards a Software Engineering Approach to Web Site Development,” in *Proceedings of the 9th International Workshop on Software Specification and Design (IWSSD ’98)*, IEEE Press, pp. 8–17, Ise-Shima, Japan, April 1998.
8. G. Vigna, “Protecting Mobile Agents through Tracing,” in *Proceedings of the Third Workshop on Mobile Object Systems*, in conjunction with the 11th European Conference on Object-Oriented Programming (ECOOP ’97), Online proceedings, Jyväskylä, Finland, June 1997.
9. C. Ghezzi and G. Vigna, “Mobile Code Paradigms and Technologies: A Case Study,” in *Proceeding of the 1st International Workshop on Mobile Agents (MA ’97)*, Lecture Notes in Computer Science, Springer-Verlag, vol. 1219, pp. 39–49, Berlin, Germany, April 1997.
10. G. Cugola, C. Ghezzi, G.P. Picco, and G. Vigna, “A Characterization of Mobility and State Distribution in Mobile Code Languages,” in *Proceedings of the First Workshop on Mobile Object Systems*, included in M. Mühlhäuser, Ed., “Special Issues in Object-Oriented Programming: Workshop Reader of the 10th European Conference on Object-Oriented Programming (ECOOP ’96)”, dpunkt, pp. 309–318, Linz, Austria, July 1996.
11. S. Bandinelli, A. Carzaniga, and G. Vigna, “Archetype: Addressing Configuration Issues in Software Architectures,” in *Proceedings of the First International Workshop on Architectures for Software Systems*, in conjunction with the 17th International Conference on Software Engineering (ICSE ’95), pp. 9–12, Seattle, WA, April 1995.

Books, Proceedings Edited, and Book Chapters

1. P. McDaniel, M. Blaze, and G. Vigna, *EVEREST: Evaluation and Validation of Election-Related Equipment, Standards and Testing*, Ohio Secretary of State’s EVEREST Report, December 2007.
2. G. Vigna, R. Kemmerer, D. Balzarotti, G. Banks, M. Cova, V. Felmetzger, W. Robertson, and F. Valeur, *Security Evaluation of the Sequoia Voting System*, in California Secretary of State’s Top-To-Bottom Review of the California Voting Machines, July 2007.
3. M. Cova, V. Felmetzger, and G. Vigna, “Vulnerability Analysis of Web Applications.” in *Testing and Analysis of Web Services*, L. Baresi and E. Dinitto Eds., 2007.
4. G. Vigna, “Static Disassembly and Code Analysis.” in *Malware Detection*, M. Christodorescu, S. Jha, D. Maughan, D. Song, and C. Wang Eds., 2007.

5. G. Vigna and C. Kruegel, "Host-based Intrusion Detection Systems," in *The Handbook of Information Security*, Volume III, John Wiley & Sons, December 2005.
6. C. Kruegel, F. Valeur, and G. Vigna, "Intrusion Detection and Correlation: Challenges and Solutions," Springer, Advances in Information Security Series, ISBN 0-387-23398-9, 2005.
7. R.A. Kemmerer and G. Vigna, "Sensor Families for Intrusion Detection Infrastructures," book chapter in *Managing Cyber Threats: Issues, Approaches and Challenges*, Springer, Massive Computing Series, vol. 5, January 2005.
8. G. Vigna, E. Jonsson, and C. Kruegel, Eds., "Proceedings of the 6th International Symposium on Recent Advances in Intrusion Detection (RAID)," Lecture Notes in Computer Science, Springer-Verlag, vol. 2820, Pittsburgh, PA, September 2003.
9. A. Wespi, G. Vigna, and L. Deri, Eds., "Proceedings of the 5th International Symposium on Recent Advances in Intrusion Detection (RAID 2002)," Lecture Notes in Computer Science, Springer-Verlag, vol. 2516, Zurich, Switzerland, October 2002.
10. A.L.M. dos Santos, G. Vigna, and R.A. Kemmerer, "Security Testing of an Online Banking Service," book chapter in A. Ghosh, Ed., *E-Commerce Security and Privacy*, pp. 3–15, Advances in Information Security, Kluwer Academic Publishers, 2001.
11. G. Vigna, Ed., "Mobile Agents and Security," Lecture Notes in Computer Science, State-of-the-Art Survey Series, Springer-Verlag, vol. 1419, June 1998.
12. G. Vigna, "Cryptographic Traces for Mobile Agents," book chapter in *Mobile Agents and Security*, Lecture Notes in Computer Science, State-of-the-Art Survey Series, Springer-Verlag, vol. 1419, pp. 137–153, June 1998.
13. C. Ghezzi and G. Vigna, "Software Engineering Issues in Network Computing," book chapter in M. Broy and B. Rumpe, Eds., *Requirements Targeting Software and System Engineering*, Lecture Notes in Computer Science, Springer-Verlag, vol. 1526, pp. 101–123, August 1998.
14. G. Cugola, C. Ghezzi, G.P. Picco, and G. Vigna, "Analyzing Mobile Code Languages," book chapter in J. Vitek and C. Tschudin, Eds., *Mobile Object Systems: Towards the Programmable Internet*, Lecture Notes in Computer Science, State-of-the-Art Survey Series, Springer-Verlag, vol. 1222, pp. 93–111, April 1997.

Invited Colloquia, Panels, and Tutorials

"Ethical Issues in Security Research," *Invited Panelist*, Network and Distributed Systems Security Symposium, San Diego, CA, February 2010.

"E-Voting," *Invited Panelist*, USENIX Security Conference, Boston, MA, August 2008.

"Read Teaming and Hacking Games," *Invited Panelist*, Network and Distributed Systems Security Symposium, San Diego, CA, February 2007.

"Web Application Security: Keeping Up with the Wily Hackers," *Keynote Lecture*, Yardi Developers Conference, Santa Barbara, CA, February 2007.

“Defining a Security Grand Challenge: Lessons Learned from (participating in/running) Hacking Competitions,” *Invited Presentation*, CyberTrust PI Meeting, Atlanta, GA, January 2007.

“Testing Network-based Intrusion Detection Systems: Issues and Approaches,” *Invited Keynote Lecture*, Network Protocol Security Workshop, Santa Barbara, CA, November 2006.

“Bringing the Road to the Rubber: Grand Challenges and Hacking Competitions”, *Invited Presentation*, NSF CyberTrust meeting, Pittsburgh, PA, October 2006.

“Internet Security: History, Challenges, and Opportunities,” *Invited Presentation*, CEFRIEL Research Center, Milan, Italy, June 2006.

“Web-based Attacks,” *Invited Tutorial*, Scuola Superiore Sant’Anna, Pisa, Italy, May 2006.

“Testing Intrusion Detection Systems Using Mutant Exploits,” *Invited Presentation*, State University of Milan, Italy, April 2006.

“Testing Network-based Intrusion Detection Signatures Using Mutant Exploits,” *Invited Presentation*, Southern California Security and Cryptography Workshop, UC Irvine, CA, September 2005.

“Detecting Malicious Software Using Binary Analysis,” *Invited Presentation*, ARO-DHS Workshop on Malware Detection, Pittsburgh, PA, August 2005.

“Network Security: People, Hackers, and Software,” *Invited Presentation*, Strategic Healthcare Programs, Santa Barbara, CA, June 2005.

“Testing Network-based Intrusion Detection Signatures Using Mutant Exploits,” *Invited Presentation*, Symantec, San Jose, CA, April 2005.

“Network Security: History, Challenges, and Opportunities,” *Invited Keynote*, Central Coast MIT Enterprise Forum, Santa Barbara, CA, February 2005.

“Testing Network-based Intrusion Detection Signatures Using Mutant Exploits,” *Invited Presentation*, Microsoft Research, Redmond, WA, February 2005.

“A Multi-Model Approach to the Detection of Web-based Attacks,” *Invited Presentation*, Politecnico di Milano, Italy, December 2004.

“Capture The Flag,” *Invited Panelist*, USENIX Security 2004, San Diego, CA, August 2004.

“A Multi-Model Approach to the Detection of Web-based Attacks,” *Invited Presentation*, George Mason University, Washington, DC, April 2004.

Invited Panelist, “Mobile Agents: Ten Reasons for Failure,” IEEE MDM ’04, Berkeley, CA, January 2004.

“Designing a Web of Highly-Configurable Intrusion Detection Sensors,” *Invited Presentation*, Naval Post-Graduate School, Monterey, CA, August 2003.

“Designing and Implementing Intrusion Detection Sensors,” *Invited Presentation*, HRL Labs, Santa Monica, CA, June 2003.

“Designing a Web of Highly-Configurable Intrusion Detection Sensors,” *Invited Presentation*, University of Colorado, Boulder, CO, March 2003.

“Highly Customizable Intrusion Detection,” *Invited Presentation*, Air Force Rome Lab, Rome, NY, August 2001.

“Intrusion Detection, Distributed Systems, and Mobile Code”, *Invited Keynote Address*, “Workshop su Sistemi Distribuiti: Architetture, Algoritmi, Linguaggi” (WSDAAL 2001), Como, Italy, September 2001.

“Highly configurable Webs of Sensors,” *Invited Presentation*, Politecnico di Milano, Italy, June 2001.

“STAT: An Extensible Intrusion Detection Framework,” *Invited Speaker*, Workshop on Foundations For Secure/Survivable Systems and Networks, Tokyo Institute of Technology, Tokyo, Japan, January 2001.

“STAT: An Extensible Intrusion Detection Framework,” *Invited Presentation*, Department of Computer Science, Dartmouth College, October 2000.

“Understanding Code Mobility,” *Tutorial*, ECOOP '99, Lisbon, Portugal, June 1999.

“Understanding Code Mobility,” *Tutorial*, Autonomous Agents '99, Seattle, May 1999.

“NetSTAT: A Network-based Intrusion Detection Approach,” *Invited Presentation*, Department of Computer Science, University of California in Santa Barbara, February 1999.

“Internet Programming,” *Tutorial*, Telecom Italia, June 1998.

“Mobile Code Paradigms, Technologies, and Applications,” *Invited Presentation*, Ecole Polytechnique Federale de Lausanne (EPFL), July 1997.

“Protecting Mobile Agents Through Cryptographic Traces,” *Invited Presentation*, Ecole Polytechnique Federale de Lausanne (EPFL), July 1997.

“Security of Mobile Code Systems,” *Invited Presentation*, European Center for Atomic Energy (EU-RATOM), June 1997.

“TCP/IP Security,” *Three-day tutorial*, given five times during '96-'99 to representatives of Italian banks, law enforcement agencies, military, and public administration.

Professional Activities and Service

Society Memberships

Member, Association for Computing Machinery (ACM)

Member, Institute of Electrical and Electronics Engineers (IEEE)

Member, IEEE Computer Society

Member, USENIX Association

Editorship

Member of the Editorial Board of the ACM Transactions on Information and System Security, 2007-2009.

Member of the Editorial Board of the IEEE Transactions on Dependable and Secure Computing, 2005-2009.

Member of the Editorial Board of the Journal of Computer Security, 2004-2009.

Member of the Editorial Board of IEEE Security & Privacy Magazine, 2003-2009.

Co-Editor of the *Proceedings of the 6th International Symposium on Recent Advances in Intrusion Detection (RAID)*, Lecture Notes in Computer Science, Springer-Verlag, Pittsburgh, PA, September 2003.

Co-Editor of the *Proceedings of the 5th International Symposium on Recent Advances in Intrusion Detection (RAID)*, Lecture Notes in Computer Science, Springer-Verlag, Zurich, Switzerland, October 2002.

Guest Editorial Board member for the Informatik Forum Journal, special issue on Mobile Agents, July 2001.

Editor of *Mobile Agents and Security*, State-of-the-Art Survey Series, Lecture Notes in Computer Science, Springer-Verlag, June 1998.

Conference Committee Activities

Chair and Co-chair

Program Chair of the IEEE Symposium on Security and Privacy, 2011.

Program Co-Chair of the IEEE Symposium on Security and Privacy, 2010.

Program Chair of the ISOC Network and Distributed Systems Security Symposium (NDSS), 2009.

Junior Program Chair of the Network and Distributed Systems Security Symposium (NDSS), 2008.

Senior Program Chair of the International Symposium on Recent Advances in Intrusion Detection (RAID), 2003.

Junior Program Chair of the International Symposium on Recent Advances in Intrusion Detection (RAID), 2002.

Publicity Chair of the International Symposium on Recent Advances in Intrusion Detection (RAID), 2001.

Technical Program Committees

- USENIX Workshop On Offensive Technologies (WOOT), 2011.
- IEEE Symposium on Security and Privacy, 2009.
- IEEE International Workshop on Systematic Approaches to Digital Forensic Engineering (SADFE), 2009.
- International Symposium on the Recent Advances in Intrusion Detection (RAID), 2009.
- International Workshop on Cloud Computing Security (CCSW), 2009.
- USENIX Workshop On Offensive Technologies (WOOT), 2008.
- European Symposium on Research in Computer Security (ESORICS), 2008.
- ACM Conference on Computer and Communication Security (CCS), 2008.
- International Conference on Security and Privacy for Emerging Areas in Communication Networks (Securecomm), 2008.
- International Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA), 2008.
- Brazilian Symposium on Information and Computer System Security, (SBSeg), 2008.
- Network and Distributed Systems Security Symposium (NDSS), 2008.
- ICSE Workshop on Software Engineering for Secure Systems (SESS), 2008.
- Annual Computer Security Applications Conference (ACSAC), 2008.
- USENIX Workshop On Offensive Technologies (WOOT), 2007.
- Network and Distributed Systems Security Symposium (NDSS), 2007.
- Annual Computer Security Applications Conference (ACSAC), 2007.
- International Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA), 2007.
- International Symposium on Recent Advances in Intrusion Detection (RAID), 2007.
- International Symposium on Recent Advances in Intrusion Detection (RAID), 2006.
- Annual Computer Security Applications Conference (ACSAC), 2006.
- ACM Conference on Computer and Communication Security (CCS), 2006.
- International Symposium on Recent Advances in Intrusion Detection (RAID), 2005.
- IEEE International Conference on the Engineering of Complex Computer Systems (ICECCS), 2005.

Annual Computer Security Applications Conference (ACSAC), 2005.

Secure Mobile AD-hoc NETworks and Sensors Workshop (MADNES), 2005.

ACM Conference on Computer and Communication Security (CCS), 2005.

International Conference on Security and Privacy for Emerging Areas in Communication Networks (Securecomm), 2005.

IEEE Symposium on Security and Privacy, 2005.

IEEE Symposium on Multi-Agent Security and Survivability (MASS), 2005.

International Symposium on Recent Advances in Intrusion Detection (RAID), 2004.

Workshop on Education in Computer Security (WECS), 2004.

IEEE Symposium on Multi-Agent Security and Survivability (MASS), 2004.

IEEE International Conference on the Engineering of Complex Computer Systems (ICECCS), 2004.

ACM Conference on Computer and Communication Security (CCS), 2003.

IEEE International Conference on Mobile Agents (MA), 2002.

ACM Conference on Computer and Communication Security (CCS), 2002.

ACM Workshop on Data Mining for Security Applications, 2001.

ACM Conference on Computer and Communication Security (CCS), 2001.

IEEE International Conference on Mobile Agents (MA), 2001.

International Symposium on Recent Advances in Intrusion Detection (RAID), 2001.

Autonomous Agents Conference (AA), 2001.

First ACM Workshop on Security and Privacy in E-Commerce (WSPEC), 2000.

Joint Symposium on Mobile Agents and Agent Systems and Applications (ASA/MA), 2000.

IEEE International Conference on Software Engineering (ICSE), 2000.

Steering Committees

Network and Distributed Systems Security Symposium (NDSS).

IEEE International Conference on Mobile Agents (MA).

International Symposium on Recent Advances in Intrusion Detection (RAID).

Reviewing Activities

Panelist for the NSF CyberTrust Program, 2009.

Panelist for the NSF CyberTrust Program, 2007.

Panelist for the NSF Trusted Computing Program, 2003.

Panelist for the Council for Physical Sciences of the Netherlands Organization for Scientific Research (NWO), 2002.

Panelist for the NSF Trusted Computing Program, 2002.

Reviewer for the IEEE Transactions on Software Engineering, IEEE Transactions on Networks, IEEE Transactions on Mobile Computing, IEEE Transactions on Systems, Man and Cybernetics, IEEE Transactions on Dependable and Secure Computing, IEEE Security and Privacy Magazine, ACM Transactions on Software Engineering and Methodology, ACM Transactions on Information and System Security, ACM Transactions on Internet Technology, ACM Computer Surveys, Computer Networks, Journal of Computer Security, Journal of Systems and Software, Applied Artificial Intelligence, Computer Communications, Distributed Computing, Information Processing Letter, Informatik Forum Journal, Lecture Notes in Computer Science, Automated Software Engineering, Software Practice and Experience.

Translation reviewer for McGraw Hill, Italian translation of the book “Software Engineering: A Practitioner’s Approach,” by Roger S. Pressman.

University of California Committees

Department Committees

| | |
|-----------|--|
| 2000-2001 | Colloquia Committee |
| 2000-2002 | Graduate Student Admission Committee |
| 2001-2007 | Facilities Committee |
| 2001-2004 | Faculty Advisor of the ACM Student Chapter |
| 2001-2008 | Faculty Liaison for the USENIX Association |
| 2002-2004 | Curriculum Committee |
| 2004-2005 | Graduate Student Admission Committee |
| 2007-2010 | Head of Facilities Committee |
| 2007-2009 | Undergraduate Curriculum Affairs Committee |
| 2009-2010 | Graduate Affairs Committee |

University Committees

| | |
|-----------|---|
| 2002-2003 | Department Representative to the Faculty Legislature |
| 2003 | Team Leader for the Security Evaluation of the Academic Senate Web Site |
| 2005 | Graduate Division’s Central Fellowship Committee |
| 2007-2008 | Department Representative to the College of Engineering Executive Committee |
| 2008 | Chief Information Security Officer Search Committee |
| 2008 | Continuing Student Central Fellowship Competition Committee |

Teaching and Advising

Courses

| | | |
|--------|---|--|
| CS170 | <i>Operating Systems</i> | Spring 2001, Fall 2001, Spring 2004 |
| CS176B | <i>Network Computing</i> | Winter 2003, Winter 2004, Winter 2005, Winter 2006 |
| CS177 | <i>Introduction to Computer Security</i> | Winter 2008 |
| CS189B | <i>Senior Computer Systems Project</i> | Spring 2005, Spring 2009. |
| CS279 | <i>Network Security and Intrusion Detection</i> | Winter 2001, Spring 2002, Fall 2002, Fall 2003, Fall 2004, Fall 2007, Fall 2009. |
| CS90I | <i>Vulnerability Analysis</i> | Fall 2005 |
| CS595I | <i>Security Issues in Wireless Network</i> | Fall 2001 |
| CS595I | <i>Advanced Topics in Intrusion Detection Seminar</i> | Fall 2002 |
| CS595N | <i>Special Topics in Intrusion Detection</i> | Winter 2003 |
| CS595N | <i>Special Topics in Intrusion Detection</i> | Winter 2003 |
| CS595N | <i>Vulnerability Analysis</i> | Winter 2004 |
| CS595X | <i>Goedel, Escher, Bach an Eternal Golden Braid</i> | Spring 2004 |
| CS595N | <i>Vulnerability Analysis</i> | Spring 2005 |
| CS595N | <i>Security of Web Technologies</i> | Fall 2006 |
| CS595N | <i>Web Vulnerability Analysis</i> | Winter 2007 |
| CS595G | <i>Security Issues in MMORPGs</i> | Spring 2007 |
| CS595G | <i>Understanding the Underground Economy</i> | Spring 2008 |

PhD Students

Yan Shoshitaishvili, started in Fall 2010, Area: Malware Analysis.

Luca Invernizzi, started in Fall 2010, Area: Security of Social Networks.

Adam Doupè, started in Fall 2010, Area: Web Security.

Alex Kapravelos, started in Fall 2009, Area: Web Malware.

Gorkem Yakin, started in Fall 2009, Area: OS Security.

Ali Zand, started in Fall 2009, Area: Situation Awareness.

Ludovico Cavedon, started in Fall 2008, Area: Web Security.

Vika Felmetzger, graduated in September 2010, Area: Web Application Vulnerability Analysis, Thesis Title: *Identifying Logic Vulnerabilities in Web Applications*.

Marco Cova, graduated in June 2010, Area: Web-based Malware, Thesis Title: *Taming the Malicious Web: Avoiding and Detecting Web-based Attacks*.

Will Robertson, graduated in June 2009, Area: Detection of Web-based Attacks, Thesis title: *Detecting and Preventing Attacks Against Web Applications*.

Fredrik Valeur, graduated in June 2006, Area: Intrusion Detection and Alert Correlation, Thesis title: *A Modular Framework for Intrusion Detection Alert Correlation*

Darren Mutz, graduated in June 2006, Area: Anomaly Detection Systems, Thesis title: *Context-sensitive Multi-model Anomaly Detection*.

Steve T. Eckmann, graduated in June 2002, Area: Signature-based Intrusion Detection, Thesis title: *The STATL Attack Detection Language*.

Master Students (with Thesis/Project Option)

Nicholas Childers, Project Title: *Teaching Security through Competition*, March 2010.

Adam Doupè, Project Title: *An Analysis of Black-box Web Vulnerability Scanners*, June 2009.

Sean Ford, Project Title: *Analyzing and Detecting Malicious Flash Advertisements*, June 2009.

Greg Banks, Project Title: *MISHIMA: Multilateration of Internet hostS Hidden usIng Malicious fast-flux Agents*, November 2008.

Collin Mulliner, Thesis title: *Smart Phone Security*, June 2006.

Michael Richmond, Thesis title: *ViSe: A Virtual Security Testbed*, June 2005.

Susana Aguiar, Thesis title: *Smart Cards and Secure Areas of Computation*, Fall 2004.

Marco Cova, Thesis title: *An Intrusion Detection System For Linux*, Fall 2003.

Vishal Kher, Project title: *Writing STAT Applications: WebSTAT, LogSTAT*, Fall 2003.

Jingyu Zhou, Thesis title: *NetMap Design and Implementation*, Winter 2003.

Alberto Revelli, Thesis title: *Modelli e strumenti per la verifica della sicurezza in sottoreti TCP/IP*, Politecnico di Milano, Italy, 1999.

Tullio Dovera and Norberto Nespoli, Thesis title: *Paradigmi e tecnologie per lo sviluppo di applicazioni basate su codice mobile*, Politecnico di Milano, Italy, 1998.

Francesco Coda, Thesis title: *Un modello orientato agli oggetti a supporto dello sviluppo di un sito World Wide Web*, Politecnico di Milano, Italy, 1998.

Elena Colombo, Thesis title: *SALTA: Un linguaggio a codice mobile sicuro*, Politecnico di Milano, Italy, 1998.

Post-Doctoral and Visiting Students

Manuel Egele, Post-Doc Student, April 2011-present, TU Vienna, Austria.

Gregoire Jacob, Post-Doc Student, Jan 2010-present, ESIEA Laval, France.

Lorenzo Cavallaro, Post-Doc Student, April 2008-November 2009, Università Statale di Milano, Italy.

Fredrik Valeur, Post-Doc Student, Jul 2006-February 2008, UCSB.

Davide Balzarotti, Post-Doc Student, Jul 2006-April 2008, Politecnico di Milano, Italy.

Davide Balzarotti, PhD Student, Jun 2004-Dec 2004, Politecnico di Milano, Italy.

Chris Kruegel, Post-Doc, Sep 2002-Jun 2004, Technical University of Vienna, Austria.

Marco Cova, MS Student, Jun 2002-Oct 2002 and Jul 2003-Oct 2003, Università di Bologna, Italy.

Matteo Rossi, PhD Student, Jun 2002-Sep 2002, Politecnico di Milano, Italy.

Chris Kruegel, PhD Student, Jul 2001-Nov 2001, Technical University of Vienna, Austria.

Sebastian Fischmeister, MS Student, Nov 1999-May 2000, Technical University of Vienna, Austria.