

CURRICULUM VITAE

Dongwan Shin

1 INTRODUCTION

1.1 Contact Information

Office: Computer Science & Engineering
New Mexico Tech., Cramer 230-B
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1.2 Career Objectives

Rapid advances and ubiquity of computing have brought security to the fore. In order to guarantee information assurance for current and future computing systems, continuing research and education in the area of computer security are essentially required. My career objective is to play a major role in this area by leading active research & development, and education programs in computer security.

1.3 Education

University of North Carolina at Charlotte, North Carolina, USA

- *Ph.D. in Information Technology*, Department of Computer Science, 12/2004
- *M.S. in Computer Science*, Department of Computer Science, 12/1999
- *Completion of B.S. Core Courses in Computer Science (GPA:4.0/4.0)*, 5/1998

1.4 Research Expertise

- Cybersecurity
- Usable Security
- System Security
- Software Security/Engineering

2 APPOINTMENTS

Primary Academic Positions

- Chair, Dept. Computer Science and Engineering, New Mexico Tech, 7/2015 - *present*
- Associate Professor, Dept. Computer Science and Engineering, New Mexico Tech, 4/2010 - *present*
- Assistant Professor, Dept. Computer Science and Engineering, New Mexico Tech, 1/2005 - 3/2010

Other Academic/Industry Positions

- Visiting Researcher, Software Engineering Institute, Carnegie Mellon University, 8/2012 - 9/2013
- Chief Technology Officer, SecureApps, LLC, 6/2012 - *present*
- Founding Director, Secure Computing Laboratory, New Mexico Tech, 9/2005 - *present*
- Faculty Researcher, Institute for Complex Additive Systems Analysis, NM Tech, 4/2012 - *present*
- Consultant, CAaNES, LLC, 10/2011 - 1/2012
- Visiting Scholar, SEFCOM, Arizona State University, 8/2011

3 GRANTS

3.1 Research and Educational Grants at NM Tech: 2005 onwards

1. **GenCyber: Extending Cybersecurity Education Opportunities for Secondary School Teachers in New Mexico**
Sponsor: *NSA & NSF*, \$99,971 - PI (co-PIs: Dr. Lorie Liebrock, Dr. Subhasish Mazumdar), 2015
2. **Scholarship for Service: CyberCorps Cadre**
Sponsor: *NSF*, \$1,633,336 - co-PI (PI: Dr. Lorie Liebrock), 2014-18
3. **Security Analysis of Web Applications Vulnerability Scanners**
Sponsor: *CAaNES*, \$35,400 - PI (no co-PI), 2011-12
4. **Secure Data Services in Cloud Computing**
Sponsor: *Los Alamos National Laboratory*, \$8,500, 2010
5. **Establishing Virtual Desktop Infrastructure at SCL (Software & cash donation)**
Sponsor: *Virtual Bridges INC*, \$12,000 - PI (co-PI: Dr. Andrew Sung), 2010
6. **Trustworthy Computing: User-controlled Persona in Virtual Community**
Sponsor: *National Science Foundation*, \$209,748 - PI (no co-PI), 2009-13
7. **ENSL:Experimental Network of Sensors Lab for Advancing Research**
Sponsor: *National Science Foundation (CRI)*, \$160,000 - co-PI (PI: Dr. Hamdy Soliman), 2007-11
8. **ARIEL: An Advanced Security Policy Engineering Framework for Protecting Distributed and Critical Systems**
Sponsor: *Sandia National Laboratories*, \$40,000 - PI (no co-PI), 2007-8
9. **R&D: Secure Infrastructure Management Systems**
Sponsor: *Sandia National Laboratories*, \$9,000 - PI (no co-PI), 2007
10. **DoD Information Assurance Scholarship Program: Capacity Building**
Sponsor: *Department of Defense*, \$41,168 - co-PI (PI: Dr. Andrew Sung), 2006-7
11. **DoD Information Assurance Scholarship Program: Capacity Building**
Sponsor: *Department of Defense*, \$74,078 - co-PI (PI: Dr. Andrew Sung), 2005-6
12. **Building a Secure State-of-the-Art Embedded Real-Time Systems Laboratory at NMT**
Sponsor: *Intel Corporation*, \$62,000 - co-PI (PI: Dr. Xiao Qin), 2005-6

4 PUBLICATIONS

4.1 Journal and Book Chapter

1. Manoj Cherukuri, Srinivas Mukkamala, and **Dongwan Shin**. “Detection of Shellcodes in Drive-by Attacks using Kernel Machines,” *Journal of Computer Virology and Hacking Techniques*, Springer, 10(3), 2014.
2. **Dongwan Shin** and Huiping Yao. “A User Study of Security Warnings for Detecting QR Code Based Attacks on Android Phone,” *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications*, 4(4), 2013.
3. **Dongwan Shin**, Rodrigo Lopes, and Seok-Woo Jang. “An Efficient Scheme for User-controlled Attribute Sharing in Federated Identity,” *Smart Computing Review*, KAIS, 2012.

4. William Claycomb, **Dongwan Shin**, and Gail-Joon Ahn. “Enhancing Directory Virtualization to Detect Insider Activity,” *Security and Communication Networks*, Wiley, 5(8), 2012.
5. **Dongwan Shin**, Hakan Akkan, and William Claycomb. “Towards Role-based Provisioning and Access Control for Infrastructure as a Service (IaaS),” *Journal of Internet Services and Applications*, Springer, 2(3), 2011.
6. William Claycomb and **Dongwan Shin**. “Extending Formal Analysis of Mobile Device Authentication Applications,” *Journal of Internet Services and Information Security*, 1(1), 2011.
7. William Claycomb and **Dongwan Shin**. “A Novel Node Level Security Policy Framework for Wireless Sensor Networks,” *Journal of Network and Computer Applications*, Elsevier, 34(1), 2010.
8. **Dongwan Shin**, William Claycomb, and Seunghyun Im. “A Visual Way to Talk to Strangers: Authentication in Wireless Pervasive Computing,” *International Journal of Ad Hoc and Ubiquitous Computing*, InderScience, 5(4), 2010.
9. William Claycomb and **Dongwan Shin**. “A User Controlled Approach for Securing Sensitive Information in Directory Services,” *Journal of Universal Computer Science*, 15(15), 2009.
10. **Dongwan Shin** and Gail-Joon Ahn. “Role-based Privilege and Trust Management,” *Computer Science, Systems and Engineering Journal*, CRL Publishing, 20(6), 2005.
11. **Dongwan Shin**, Gail-Joon Ahn, Sangrae Cho, and Seunghun Jin. “A Role-based Infrastructure Management System: Design and Implementation,” *Concurrency and Computation: Practice and Experience*, 16(11), John Wiley & Sons, August 2004.
12. **Dongwan Shin**, Gail-Joon Ahn, and Sangrae Cho. “Role-based EAM Using X.509 Attribute Certificate,” A book chapter in *Research Directions in Data and Applications Security*, Ehad Gudes and Sujeet Shenoi (eds.), Kluwer Academic Publishers, 2003.

4.2 Conference, Symposium, and Workshop

13. Manoj Cherukuri, Srinivas Mukkamala, and **Dongwan Shin**. “Detection of Plugin Misuse Drive-By Download Attacks using Kernel Machines,” In *Proceedings of the 9th International Workshop on Trusted Collaboration (TrustCol’14 - in conjunction with CollaborateCom 14)*, Miami, FL, October 22, 2014.
14. **Dongwan Shin** and Huiping Yao. “A User Study of Security Warnings for Detecting QR Code Based Attacks on Android Phone,” In *Proceedings of the 5th International Workshop on Managing Insider Security Threats (MIST 2013)*, Pusan, South Korea, October 24-25, 2013.
15. Ying Wang and **Dongwan Shin**. “Towards Multi-policy Support for IaaS Clouds to Secure Data Sharing,” In *Proceedings of the 9th IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2013)*, Austin, Texas, October 20-23, 2013.
16. Huiping Yao and **Dongwan Shin**. “An Empirical Study of Security Warnings to Prevent QR Code Based Attacks on Android Phone,” In *Proceedings of the 8th ACM Symposium on Information, Computer and Communications Security (AsiaCCS 13)*, Hangzhou, China, May 7-10, 2013.
17. **Dongwan Shin**, Huiping Yao, and Une Rosi. “Supporting Visual Security Cues for WebView-based Android Apps,” In *Proceedings of the 28th ACM Symposium on Applied Computing (SAC 13)*, Coimbra, Portugal, March 18-22, 2013.
18. Manoj Cherukuri, Srinivas Mukkamala, and **Dongwan Shin**. “Similarity Analysis of Shellcodes in Drive-by Download Attack Kits,” In *Proceedings of the 7th International Workshop on Trusted Collaboration (TrustCol’12 - in conjunction with CollaborateCom 12)*, Pittsburgh, PA, October 14, 2012.

19. **Dongwan Shin**, Ying Wang, and William Claycomb. "A Policy-based Decentralized Authorization Management Framework for Cloud Computing," In *Proceedings of the 27th ACM Symposium on Applied Computing (SAC 12)*, Riva del Garda, Italy, March 26-30, 2012.
20. **Dongwan Shin** and Rodrigo Lopes. "An Empirical Study of Visual Security Cues to Prevent the SSLstripping Attack," In *Proceedings of the 27th Annual Computer Security Applications Conference (ACSAC 11)*, Orlando, Florida, December 5-9, 2011.
21. William Claycomb and **Dongwan Shin**. "Formal Analysis of Device Authentication Applications in Ubiquitous Computing," In *Proceedings of the 26th ACM Symposium on Applied Computing (SAC 11)*, TaiChung, Taiwan, March 21-24, 2011.
22. **Dongwan Shin** and Hakan Akkan. "Domain-based Virtualized Resource Management in Cloud Computing," In *Proceedings of 5th International Workshop on Trusted Collaboration (TrustCol 10 - in conjunction with CollaborateCom 10)*, Chicago, October 9, 2010.
23. William Claycomb and **Dongwan Shin**. "Detecting Insider Activity Using Enhanced Directory Virtualization," In *Proceedings of the ACM Workshop on Insider Threat (held in conjunction with ACM CCS 2010)*, Chicago, IL, October 7, 2010.
24. Victor Echeverria, Lorie M. Liebrock, and **Dongwan Shin**. "Permission Management System: Permission as a Service in Cloud Computing," In *Proceedings of the 1st IEEE International Workshop on Emerging Applications for Cloud Computing (CloudApp 10 - in conjunction with Compsac 10)*, Seoul, South Korea, July 19-23, 2010.
25. William Claycomb and **Dongwan Shin**. "Towards Secure Virtual Directories: A Risk Analysis Framework," In *Proceedings of the 34th IEEE International Computer Software and Applications Conference (Compsac 10)*, Seoul, South Korea, July 19-23, 2010.
26. William Claycomb, Rodrigo Lopes, **Dongwan Shin**, and Byunggi Kim. "Group-based Security Policy in Wireless Sensor Networks," In *Proceedings of the 25th ACM Symposium on Applied Computing (SAC 10)*, Sierre, Switzerland, March 22-26, 2010.
27. William Claycomb and **Dongwan Shin**. "A Framework for Risk Analysis in Virtual Directory Security," In *Proceedings of the 25th ACM Symposium on Applied Computing (SAC 10)*, Sierre, Switzerland, March 22-26, 2010.
28. Rodrigo Lopes, Hakan Akkan, William Claycomb, and **Dongwan Shin**. "An OpenSocial Extension for Enabling User-controlled Persona in Online Social Networks," In *Proceedings of 4th International Workshop on Trusted Collaboration (TrustCol 09 - in conjunction with CollaborateCom 09)*, Washington DC, November 11, 2009.
29. William Claycomb and **Dongwan Shin**. "Threat Modeling for Virtual Directory Services," In *Proceedings of the 43rd IEEE International Carnahan Conference on Security Technology*, Zurich, Switzerland, October 5-8, 2009.
30. William Claycomb and **Dongwan Shin**. "Secure Device Pairing Using Audio," In *Proceedings of the 43rd IEEE International Carnahan Conference on Security Technology*, Zurich, Switzerland, October 5-8, 2009.
31. William Claycomb, Rodrigo Lopes, **Dongwan Shin**, and Byunggi Kim. "Key Establishment using Group Information for Wireless Sensor Networks," In *Proceedings of the 1st International Conference on Sensor Systems and Software (S-Cube 09)*, Pisa, Italy, September 9-8, 2009.
32. **Dongwan Shin**, Rodrigo Lopes, and Gail-Joon Ahn. "A Framework for Enabling User-controlled Persona in Online Social Networks," In *Proceedings of the 33rd IEEE International Computer Software and Applications Conference (Compsac 09)*, Seattle, Washington, July 20-24, 2009.

33. William Claycomb and **Dongwan Shin**. “An Enhanced Approach to Using Virtual Directories for Protecting Sensitive Information,” In *Proceedings of the 7th International Workshop on Security in Information Systems (WOSIS 09)*, Milan, Italy, May 5-10, 2009.
34. **Dongwan Shin**, Rodrigo Lopes, and William Claycomb. “Authenticated Dictionary-based Attribute Sharing in Federated Identity Management,” In *Proceedings of the 6th International Conference on Information Technology: New Generation (ITNG 09)*, Las Vegas, Nevada, April 27-29, 2009.
35. **Dongwan Shin** and Rodrigo Lopes. “Enabling Interoperable and Selective Data Sharing among Social Networks Sites,” In *Proceedings of the 3rd International Workshop on Trusted Collaboration (TrustCol 08 - in conjunction with CollaborateCom 08)*, Orlando, Florida, November 13-16, 2008.
36. William Claycomb and **Dongwan Shin**. “Protecting Sensitive Information in Directory Service using Virtual Directories,” In *Proceedings of the 4th International Conference on Collaborative Computing (CollaborateCom 08)*, Orlando, Florida, November 13-16, 2008.
37. Rodrigo Lopes and **Dongwan Shin**. “Controlled Sharing of Identity Attributes for Better Privacy,” In *Proceedings of the 2nd International Workshop on Trusted Collaboration (TrustCol 07 - in conjunction with CollaborateCom 07)*, White Plains, USA, November 12-15, 2007.
38. William Claycomb and **Dongwan Shin**. “Enabling Delegation for Impromptu Collaboration in Pervasive Computing,” In *Proceedings of the 22nd IEEE International Symposium on Computer and Information Sciences (ISCIS 07)*, Ankara, Turkey, November 7-9, 2007.
39. William Claycomb, **Dongwan Shin**, and Della Hareland. “Towards Privacy in Enterprise Directory Services: A User-centric Approach to Attribute Management,” In *Proceedings of the 41st IEEE International Carnahan Conference on Security Technology*, Ottawa, Ontario, Canada, October 8-11, 2007.
40. William Claycomb and **Dongwan Shin**. “Towards Secure Resource Sharing for Impromptu Collaboration in Pervasive Computing,” In *Proceedings of the 22nd ACM Symposium on Applied Computing (SAC 07)*, Seoul, South Korea, March 11-15, 2007.
41. William Claycomb and **Dongwan Shin**. “A Visual Framework for Securing Impromptu Collaboration in Pervasive Computing,” In *Proceedings of the International Workshop on Trusted Collaboration (TrustCol 06 - in conjunction with CollaborateCom 06)*, Atlanta, USA, November 17-21, 2006.
42. William Claycomb and **Dongwan Shin**. “Using A Two Dimensional Colorized Barcode Solution for Authentication in Pervasive Computing,” In *Proceedings of the IEEE International Conference of Pervasive Services (ICPS 06)*, Lyon, France, June 26-29, 2006.
43. **Dongwan Shin**. “Modeling Role-Based Trust and Authority in Open Environments,” In *Proceedings of the International Conference on Security and Management (SAM 06)*, Las Vegas, NV, June 26-29, 2006.
44. William Claycomb and **Dongwan Shin**. “Secure Real World Interaction using Mobile Devices,” In *Proceedings of Pervasive Mobile Interaction Devices (Permid 06 - in conjunction with Pervasive 06)*, *Lecture Notes in Computer Science (LNCS)*, Dublin, Ireland, May 7, 2006.
45. William Claycomb and **Dongwan Shin**. “Enabling Mobility in Enterprise Security Management,” In *Proceedings of IEEE Workshop on Information Assurance (WIA 06 - in conjunction with IEEE IPCCC 06)*, Phoenix, Arizona, April 10-12, 2006.
46. William Claycomb and **Dongwan Shin**. “Mobile-driven Architecture for Managing Enterprise Security Policies,” In *Proceedings of 44th ACM Southeast Conference (ACMSE 06)*, Melbourne, FL, March 10-12, 2006.

47. **Dongwan Shin**. “Securing Spontaneous Communications in Wireless Pervasive Computing Environments,” In *Proceedings of IEEE International Symposium on Multimedia (ISM 05)*, Irvine, CA, December 12-14, 2005.
48. Gail-Joon Ahn, **Dongwan Shin**, and Prasad Shenoy. “Information Assurance in Federated Identity Management: Experimentations and Issues,” In *Proceedings of International Conference on Web Information Systems Engineering (WISE 04), Lecture Notes in Computer Science*, Brisbane, Australia, November 22-24, 2004.
49. **Dongwan Shin** and Gail-Joon Ahn. “Role-based Trust Assignment in Trust Management Systems,” In *Proceedings of the 17th International Conference on Parallel and Distributed Computing Systems (PDCS 04)*, San Francisco, USA, September 15-17, 2004.
50. Gail-Joon Ahn, **Dongwan Shin**, and Longhua Zhang. “Role-based Privilege Management Using Attribute Certificates and Delegation,” In *Proceedings of International Conference on Trust and Privacy in Digital Business (TrustBus 04), Lecture Notes in Computer Science*, Zaragoza, Spain, August 30 - September 3, 2004.
51. **Dongwan Shin**, Gail-Joon Ahn, and Prasad Shenoy. “Ensuring Information Assurance in Federated Identity Management,” In *Proceedings of the 23rd IEEE International Performance Computing and Communications Conference (IPCCC 04)*, Phoenix, Arizona, April 14-17, 2004.
52. Prasad Shenoy, **Dongwan Shin**, and Gail-Joon Ahn. “Towards Security-Aware Web Services for Federated Identity Management,” In *Proceedings of the IASTED International Conference on Communication, Network, and Information Security (CNIS 03)*, New York City, December 10-12, 2003.
53. Gail-Joon Ahn, Longhua Zhang, **Dongwan Shin**, and Bill Chu. “Authorization Management for Role-based Collaboration,” In *Proceedings of IEEE International Conference on System, Man and Cybernetic (SMC 03)*, Washington, D.C., October 5-8, 2003.
54. **Dongwan Shin**, Gail-Joon Ahn, Sangrae Cho, and Seunghun Jin. “On Modeling System-centric Information for Role Engineering,” In *Proceedings of 8th ACM Symposium on Access Control Models and Technologies (SACMAT 03)*, Villa Gallia, Como, Italy, June 2-3, 2003.
55. **Dongwan Shin**, Gail-Joon Ahn, Sangrae Cho, and Seunghun Jin. “A Role Administration System in Role-based Authorization Infrastructures - Design and Implementation,” In *Proceedings of 18th ACM Symposium on Applied Computing (SAC 03) in Special Track on Computer Security (Best Paper Award)*, Melbourne, Florida, USA, March 9-12, 2003.
56. **Dongwan Shin**, Gail-Joon Ahn, and Joon S. Park. “An application of DSML for RBAC,” In *Proceedings of 26th IEEE Annual International Computer Software and Application Conference (Compsac 02)*, Oxford, England, August 26-29, 2002.
57. **Dongwan Shin**, Gail-Joon Ahn, and Sangrae Cho. “Role-based EAM Using X.509 Attribute Certificate,” In *Proceedings of 16th Annual IFIP WG 11.3 Working Conference on Data and Application Security (DBSec 02)*, King’s College, University of Cambridge, UK, July 29-31, 2002.
58. Gail-Joon Ahn and **Dongwan Shin**. “Towards Scalable Authentication in Health Services,” In *Proceedings of 7th IEEE International Workshop on Enterprise Security (WETICE 02)*, CMU, PA, June 10-12, 2002.

4.3 Poster, Work-in-progress, and Demo

59. Daniel Fairweather and **Dongwan Shin**. “Demo: A Chrome Extension to Prevent the SSLstripping Attack,” In *Symposium on Usable Privacy and Security (SOUPS 12)*, Washington DC, July 11-13, 2012.

60. Rodrigo Lopes and **Dongwan Shin**. “Preventing SSLstripping Attack using Visual Security Cues,” In *Symposium on Usable Privacy and Security (SOUPS 11)*, Poster Abstract, Pittsburgh, PA, July 20-22, 2011.
61. William Claycomb and **Dongwan Shin**. “Designing and Implementing Access Control for Impromptu Collaboration,” In *Annual Computer Security Application Conference (ACSAC 06)*, Works-in-Progress, Miami Beach, Florida, December 11-15, 2006.

4.4 Tutorial

62. **Dongwan Shin** and William Claycomb. “From Security Fundamentals to Advanced Access Control of Cloud Computing,” In *26th ACM Symposium on Applied Computing (SAC 2011)*, TaiChung, Taiwan, March 21, 2011.
63. **Dongwan Shin**, William Claycomb, and Vincent Urias. “Cloud Computing Security,” In *17th ACM Conference on Computer and Communications Security (CCS 2010)*, Chicago, Illinois, October 7, 2010.

4.5 Miscellaneous Technical Publications

64. Rodrigo Lopes and **Dongwan Shin**. “Towards Secure Infrastructure Management System Development,” Technical Report, SIS-Fall-07-01, New Mexico Tech, September 2007. Also submitted to Sandia National Laboratories.
65. Prasad Shenoy, Badrinath Mohan, Uttam Sankhala, **Dongwan Shin**, and Gail-Joon Ahn. “Comparative Study of Microsoft .NET Passport and Liberty Alliance,” Technical Report, LIISP-Fall-03-01, UNC Charlotte, August 2003. Also submitted to Bank of America (copyrighted material).
66. **Dongwan Shin** and Gail-Joon Ahn. “Engineering Role-based Infrastructure Management System,” Technical Report, LIISP-Spring-03-01, UNC Charlotte, May 2003. Also submitted to Electronics and Telecommunications Research Institute (ETRI).
67. **Dongwan Shin**, Gail-Joon Ahn, and Zhaoyu Liu. “On Email Spoofing and Web Spoofing,” Technical Report, LIISP-Summer-02-01, UNC Charlotte, July 2002. Also submitted to Bank of America.
68. **Dongwan Shin**, Gail-Joon Ahn, and Sangrae Cho. “Role-based Access Control on Privilege Management Infrastructure,” Technical Report, LIISP-Spring-02-01, UNC Charlotte, May 2002. Also submitted to Electronics and Telecommunications Research Institute (ETRI).

5 PROFESSIONAL ACTIVITIES

5.1 Journal Editorship

- Review Board
 - *International Journal of Secure Software Engineering*, since 2009
 - *Journal of Internet Services and Information Security*, since 2011
- Guest Editors
 - *IEEE TDSC*, IEEE, Guest Editor, Special issue on Security and Privacy in Mobile Platforms, 2013

- *COSE*, Elsevier, *Guest Editor, Special issue on Trusted Collaboration*, 2013
- *JNCA*, Elsevier, *Guest Editor, Advanced Technologies for Homeland Defense & Security*, 2013
- *JOWUA*, *Guest Editor, Special issue on Insider Threats and Information Leakage*, 2011

5.2 Conference Leadership and Committee Service

- Organizing Committee

- *Publication Chair*, ACM Symposium on Applied Computing (SAC 2009-15)
- *Track co-Chair*, ACM SAC Special Track on Smart Grid and Smart Technology (SAC 2013-14)
- *Web Chair*, ACM Symposium on Access Control Models & Technologies (SACMAT 2011-14)
- *Publicity Chair*, ACM Symposium on Access Control Models & Technologies (SACMAT 2010)
- *Workshop co-Chair*, International Workshop on Trusted Collaboration (TrustCol 2009-13)
- *Workshop co-Chair*, IEEE International Workshop on Emerging Applications for Cloud Computing (CloudApp 2010)

- Program Committee

- ACM Symposium on Information, Computer and Communications Security (ASIACCS 2014)
- ACM Symposium on Access Control Models and Technologies (SACMAT 2006-14)
- International Conference on Utility and Cloud Computing (UCC 2010-12)
- IEEE Signature Conference on Computers, Software, and Applications (COMPSAC 2012-14)
- IEEE International Conference on Information Reuse and Integration (IRI 2014)
- IEEE Globecom: Ad Hoc, Sensor, and Mesh Networking Symposium (AHSN 2011-13)
- International Conference on Cloud and Green Computing (CGC 2011-13)
- Colloquium for Information Systems Security Education (CISSE 2011-12)
- Workshop on Privacy, Security, and Trust in Mobile and Wireless Systems (MobiPST 2011-14)
- IEEE International Performance Computing and Communications Conference (IPCCC 2012)
- Workshop on Managing Insider Security Threats (MIST 2011-12)
- International Conference on Computer Communications and Networks (ICCCN 11)
- International Conference on Advanced Communications and Computation (Infocomp 11)
- IEEE International Symposium on Service-Oriented System Engineering (SOSE 11)
- IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC 09)
- International World Wide Web Conference - Security and Privacy Track (WWW 09)

- IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec 2007-09)
- International workshop on Software Engineering for Secure Systems (SESS 2008-09)
- 7th ACIS International Conference on Software Engineering Research, Management and Applications (SERA 2009)
- IEEE International Workshop on Trusted Collaboration (TrustCol 2006-09)
- IEEE International Workshop on Information Assurance (WIA 2007)

5.3 Proposal Reviewer

- National Science Foundation
 - *Review Panel - Secure and Trustworthy Cyberspace (2012, 2013, 2015)*
 - *Review Panel - Trustworthy Computing (2009, 2011)*
 - *Review Panel - Computing Research Infrastructure (2009)*
- Nebraska Research Initiative
 - *Mail Reviewer (2012)*

5.4 Journal and Book Reviewer

- Journals and Books
 - Journal of Intelligent Information Systems, 2013
 - Computer Standards and Interface, 2013
 - IEEE Transactions on Parallel and Distributed Systems, 2013
 - IEEE Transactions on Dependable and Secure Computing (3 articles), 2013
 - International Journal of Distributed Sensor Networks, 2013
 - Journal of Communications and Networks, 2012
 - Information Sciences, 2012
 - IEEE Transactions on Parallel and Distributed Systems (2 articles), 2012
 - IEEE Transactions on Dependable and Secure Computing, 2012
 - IEEE Transactions on Knowledge and Data Engineering, 2011
 - IEEE Transactions on Parallel and Distributed Systems, 2011
 - IEEE Transactions on Dependable and Secure Computing (3 articles), 2011
 - Elsevier Computer Standards and Interfaces, 2011
 - Elsevier Computer and Security (2 articles), 2011
 - Security and Communication Networks, 2011
 - Future Generation Computer Systems, 2011

- Journal of Wireless Mobile, Ubiquitous Computing, and Dependable Applications, 2011
- Sensors, 2010
- IEEE Internet Computing, 2010
- Security and Communication Networks (3 articles), 2010
- Elsevier Computer and Security (2 articles), 2010
- IET Journal of Information Security, 2010
- IET Journal of Information Security, 2009
- Elsevier Computer Standards and Interfaces, 2009
- Elsevier Computer and Security, 2009
- International Journal of Secure Software Engineering, 2009
- International Journal of Computers and Applications, 2009
- Cryptography and Network Security (Chapter 13-16), Prentice Hall, 2009
- ACM Transactions on Information and System Security, 2009
- Elsevier Computers and Security, 2008
- EURASIP Journal on Information Security, 2008
- IEEE Transactions on Software Engineering, 2008
- IET Journal of Information Security, 2008
- Handbook of Technology Management (Wiley), 2008
- Exploring Cryptography (tentative title, Chapter 5) (Cengage), 2008
- International Journal of Computers and Applications, 2007
- Information and Software Technology, 2005-7
- Network Security (Chapter 2), 1st edition, McGraw-Hill, 2007
- Handbook of Computer Network (Wiley), 2006
- Journal of Supercomputing, 2006
- Journal of Automatic and Trusted Computing, 2006
- Data and Knowledge Engineering, 2005
- ACM Transactions on Information and System Security, 2003-4
- IEEE Transactions on Dependable and Secure Computing, 2004

5.5 Invited Talks and Presentations

- International Study and Collaboration at NMT, Soonchunhyang University, Asan, South Korea, 10/28/2013
- Preventing MITM Attacks using Visual Security Augmentation (VISAGE), Soongsil University, South Korea, 10/29/2013
- Preventing MITM Attacks using Visual Security Augmentation (VISAGE), University of Bridgeport, Bridgeport, CT, 2/23/2012
- An Empirical Study of Visual Security Cues to Prevent the SSLstripping Attack, 12th Technical Symposium of Korean Computer Scientists and Engineers Association in America, San Jose, 12/18/2011
- A Policy-based Decentralized Authorization Management Framework for Cloud Computing, Montclair State University, Montclair, NJ, 5/5/2011
- Cloud Computing Security: From Fundamentals to Advanced Access Control, Gyeongsang National University, Jinju, South Korea, 3/17/2011
- U-Control: User-controlled Privacy Management in Social Networks, Soongsil University, Seoul, South Korea, 7/19/2010
- U-Control: User-controlled Privacy Management in Social Networks, University of New Mexico CS Colloquium, 5/5/2009
- ARIEL: Advanced Security Policy Engineering Framework for Distributed and Critical Systems, Sandia National Labs, Albuquerque, New Mexico, 2/29/2008
- Panel Moderator at Information Technology Forum at NMT, Socorro, New Mexico Tech, 05/2005.
- Access Control and Trust Management, *Army Research Lab-New Mexico Tech Symposium* at White Sand Missile Range (WSMR), 04/2005.
- A Role-based Infrastructure Management System, *Electronics and Telecommunications Research Institute (ETRI)*, South Korea, 05/2003.
- Remote NT System Intrusion and Its Countermeasures, *ACM Student Chapter* at UNC Charlotte, 12/2000.

5.6 Departmental Services

- Served as faculty advisor for an NM Tech cyber hacking team that competed at Southwest Regional Collegiate Cyber Defense Competition (CCDC) in 2013.
- Have been serving as faculty advisor for ACM Student Chapter at NM Tech since 2012. Main activities hosted by NM Tech ACM Chapter were **Capture The Flag (CFT, cyber hacking competition)** for New Mexico college students and regional **International Collegiate Programming Competition (ICPC, ACM programming competition)** for Rocky Mountain Regional in 2012.
- Co-leading efforts to prepare for NM Tech CSE Department's application for re-accreditation for ABET in 2013.
- Led efforts to prepare for NM Tech CSE Department's application for a Center of Academic Excellence in Information Assurance **Research (CAE-R)** sponsored by National Security Agency (NSA) and Department of Defense (DoD). NM Tech has been a CAE-IAE (**Education**) since 2002. Application was submitted on 1/15/2009. Certified on 6/1/2009 (till 2014).

- Led efforts (course development and mapping) to prepare for NM Tech CS Department's application for national information assurance (IA) certification programs (**CNSS 4013**: System Administrators, **CNSS 4016**: Audit Analysts) managed by National Security Agency (NSA).
 - **CNSS 4013**: application submitted on 1/15/2007 and certified on 6/5/2007 (till 2012)
 - * *Primary courses mapped*: Access Control and System Security, Cryptography
 - **CNSS 4016**: application submitted on 1/15/2008 and certified on 6/4/2008 (till 2013)
 - * *Primary courses mapped*: Secure Software Construction
- Participated in NM Tech CS Department's efforts to get its program ABET-accredited. Application was submitted in 2007 summer. Accredited in 2007.

6 TEACHING ACTIVITIES

6.1 University Teaching at New Mexico Tech

- **Fall 2013**¹
 - CS389/IT263: Information Protection and Security⁺ (undergraduate class, 12 CS students)
 - IT321/CS389: Internet and Web Programming (undergraduate class, 20 CS/IT students)
- **Spring 2013**
 - CS589/489: Cloud Computing and Applications (graduate/senior class, 6 CS students)
 - CS326/IT326: Software Engineering (undergraduate class, 27 CS/IT students)
- **Fall 2012**
 - CS589/CS441/IT441: Cryptography and Applications (graduate/senior class, 16 CS students)
 - IT321/CS389: Internet and Web Programming (undergraduate class, 16 CS/IT students)
- **Spring 2012**
 - CS589/489: Access Control and System Security (graduate/senior class, 16 CS students)
 - CS326/IT326: Software Engineering (undergraduate class, 18 CS/IT students)
- **Spring 2011**
 - CS589: Cloud Computing and Application (graduate/senior class, 11 CS students)
 - CS326/IT326: Software Engineering (undergraduate class, 22 CS/IT students)
- **Fall 2010**
 - CS589/CS441/IT441: Cryptography and Applications (graduate/senior class, 12 CS students)
 - IT321/CS389: Internet and Web Programming (undergraduate class, 18 CS/IT students)
- **Spring 2010**
 - CS589: Access Control and System Security (co-instruct with Dr. Fu, 10 CS students)
 - CS326/IT326: Software Engineering (undergraduate class, 28 CS/IT students)
- **Fall 2009**
 - CS589: Virtualization Technologies* (co-instruct with Dr. Fu, 11 CS students)
 - CS389/IT321: Internet and Web Programming (undergraduate class, 16 CS/IT students)
- **Spring 2009**
 - CS589: Cloud Computing and Application* (graduate class, 11 CS students)
 - CS326/IT326: Software Engineering (undergraduate class, 28 CS/IT students)

¹New course development (*) and existing course enhancement (+)

- **Fall 2008**
 - CS589/CS441/IT441: Cryptography and Application (graduate/senior class, 18 CS/IT students)
 - CS328/IT328: Secure Software Construction (undergraduate class, 17 CS/IT students)
- **Spring 2008**
 - CS589: Access Control and System Security (graduate class, 10 CS students)
 - CS326/IT326: Software Engineering (undergraduate class, 31 CS/IT students)
- **Fall 2007**
 - CS589/CS441/IT441: Cryptography and Application (graduate/senior class, 16 CS/IT students)
 - CS328/IT328: Secure Software Construction⁺ (undergraduate class, 23 CS/IT students)
- **Spring 2007**
 - CS589: Advanced Computer Security* (graduate class, 10 CS students)
 - CS326/IT326: Software Engineering* (undergraduate class, 31 CS/IT students)
- **Fall 2006**
 - CS589/CS441/IT441: Cryptography and Application (graduate/senior class, 21 CS/IT students)
 - IT321/CS391: Internet and Web Programming* (undergraduate class, 18 CS/IT students)
- **Spring 2006**
 - CS589: Access Control and System Security* (graduate class, 9 CS students)
 - CS222: Systems Programming (undergraduate class, 30 CS/IT students)
- **Fall 2005**
 - CS441/IT441: Cryptography and Applications⁺ (undergraduate class, 44 CS/IT students)
- **Spring 2005**
 - CS391/IT222: Internet Programming (undergraduate class, 17 CS/IT students)

6.2 Student Research Advising at New Mexico Tech

- **Doctoral Students**
 - Manoj Cherukuri (since Fall 2011)
 - Huiping Yao (Spring 2012 - Fall 2013, Graduated with MS, Software Developer at Microsoft)
 - Ying Wang (Fall 2010 - Fall 2013, Graduated with MS, Software Developer at HP)
 - Rodrigo Lopes (Fall 2008 - Spring 2011, Graduated with MS, Software Developer at Amazon)
 - William R. Claycomb (graduated in 2009, Technical Lead at CERT/CC)
- **Master Students**
 - Cedric Snoy (graduated in 2013, currently at Sandia Lab)
 - Une T. Rosi (graduated in 2012, currently at Epic)
 - Hakan Akkan (graduated in 2009, currently at Los Alamos Lab)
 - Rodrigo Lopes (graduated in 2008)
 - William R. Claycomb (graduated in 2005)
- **Bachelor Students**
 - Daniel Fairweather (graduated in Fall 2013, Software Developer at Microsoft)
- **Doctoral Students whose committee I have served on**
 - **Current:** Lonny Montoya, Earl Eiland, Anand Paturi, Yang Wang, Chen Sun
 - **Graduated:** Ram Basnet (2011), Mengyu Qiao (2011), Danny Quist (2010), Majed Abusafiya (2008), Mohammed Alghamdi (2008),
- **Master Students whose committee I have served on**
 - **Current:** Ian Burns
 - **Graduated:** Jennifer Max, Jitendra Tummala, Hugh Wimberly, Marion Wilde, Nico Marrero, Derek Smith, Mengyu Qiao, Sherry

7 PROFESSIONAL CERTIFICATES/MEMBERSHIPS

- ACM, ACM SIGSAC, ACM SIGAPP
- IEEE, IEEE Computer Society

8 HONORS AND AWARDS

- Academic-Year Ambassadorial Scholarship (\$21,000), Rotary International (1996 - 97).
- Merit-based Scholarship (Best Entrance Exam Category): full tuition waiver & stipend (monthly ₩ 620,000 × 4 yrs.), Hongik University (1988-90, 1993-95).