

## Curriculum Vita

### Vijay Atluri

Professor

Management Science and Information Systems Department

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#### EDUCATION:

- **Ph.D.**, Information Technology, May, 1994, George Mason University, Fairfax, VA.  
Dissertation: Concurrency Control in Multilevel Secure Databases  
Dissertation Adviser: Sushil Jajodia
- **M.Tech.**, Electronics and Communication Engineering, (Controls and Automation), June 1979, Indian Institute of Technology, Kharagpur, India.  
Thesis: Implementation of Nearest Neighbour Identification Algorithms
- **B.Tech.** Electronics and Communications Engineering, May 1977, Jawaharlal Nehru Technological University, Kakinada, India

#### EXPERIENCE:

- **Professor**, MSIS Dept., Rutgers University. July 2006 - present; Associate Professor, July 2001 - June 2006; Assistant Professor, July 1995 - June 2001; Visiting Assistant Professor, Sept 1994- June 1995.
- **Research Director**, Center for Information Management, Integration and Connectivity (CIMIC), Rutgers University. January 2002 - present
- **Computer Scientist**, National Institute of Standards & Technology, Information Technology Laboratory, Computer Security Division, Systems & Network Security Group, February 2007 - present
- **Faculty Associate**, Center for Information Management, Integration and Connectivity (CIMIC), Rutgers University. September 1994 - December 2001
- **Visiting Associate Professor**, Computer Science Department, New Jersey Institute of Technology. July 2004 - June 2005
- **Member**, Graduate School-Newark Faculty of the Ph.D. in the Management program, Rutgers University. October 1996 - October 2011
- **Research Assistant**, Center for Secure Information Systems, George Mason University. August 1990 - August 1994
- **Assistant Professor**, Dept. of Electronics & Communication and Computer Engineering, Nagarjuna University, India. March 1985 - August 1990
- **Lecturer**
  - Dept. of Electronics & Communication and Computer Engineering, Nagarjuna University, India. December 1983 - March 1985
  - Dept. of Electronics & Communication Engineering, Andhra University, India. December 1982 - December 1983
  - Dept. of Electronics & Communication Engineering, Nagarjuna University, India. August 1980 - December 1982

## **RESEARCH INTERESTS:**

Information Systems Security, Database Management Systems, Privacy, Distributed Systems, Workflow Management, Multimedia, Spatial Databases, Digital Libraries and Electronic Commerce

## **TEACHING INTERESTS:**

Database Management Systems, Distributed Databases, Computer Information Systems, Information Systems Security, Formal models of Computer Security, Electronic Commerce, Multimedia Information Systems, Operating Systems, Computer Architecture, Programming Languages, Object-Oriented Systems, and Computer Networking

## **HONORS and SCHOLARLY RECOGNITION:**

- Received the Research Award for untenured faculty for outstanding research contributions, Rutgers University, 1999
- Received the CAREER Award from National Science Foundation, 1996
- Received National Merit Scholarship from the Government of India, June 1970 - May 1977
- Vice-Chair, ACM SIGSAC (Special Interest Group in Security, Audit, and Control), Elected, 2009 - present
- Secretary/Treasurer, ACM SIGSAC (Special Interest Group in Security, Audit, and Control), Elected, 2005 - 2009
- Senior Member, IEEE (December 2006 - )
- Chair, IFIP WG11.3 on Data and Information Security (July 2008 - )
- Finalist, Paul Nadler Teaching Excellence Award, Rutgers University, 1996, 1997, 1999
- Keynote Speaker, The Third International Conference on Availability, Reliability and Security, Barcelona, Spain, March 2008.
- Finalist, Research Award for untenured faculty, Rutgers University, 1998
- Listed in *Who's Who in Business Higher Education* 2005 -
- Listed in *International Who's Who of Professionals* 1997 -
- Listed in *International Who's Who of Information Technology* 1998 -
- Listed in *MARQUIS Who's Who in the World* 2000 -

## **MEMBERSHIPS:**

- Member, IFIP WG11.3 on Data and Information Security (July 1994 - )
- Member, IEEE Technical Committee on Security and Privacy (May 1995 - )
- Member, IEEE Technical Committee on Data Engineering (May 1995 - )
- Member, IEEE Technical Committee on Multimedia (May 1996 - )
- Member, IEEE Technical Committee on Digital Libraries
- Member, IEEE Computer Society (Jan 1996 - )
- Member, Association for Computing Machinery (December 1996 - )

## EXTERNAL GRANTS:

1. Principal Investigator, "Formal Security Analysis of Access Control Models and Extensions," *National Science Foundation*, \$275,001, August 2010 - July 2013. (No Co-PIs)
2. Principal Investigator, "Information Sharing across States' Incident Management Systems using UICDS," United States Army Armament Research, Development and Engineering Center (ARDEC), \$498,431, Oct 2009- Oct 2011.
3. Principal Investigator, "Research on Theoretical and Practical Aspects of Computer and Communications Security," *Army Research Office*, \$10,000, September 2008 - February 2009. (No Co-PIs)
4. Principal Investigator, Evaluation of Secure Resource Sharing Approaches for Dynamic Ad-hoc Coalitions, *National Science Foundation*, \$11,300, Sept 2008 - Feb 2009. (supplement)
5. Principal Investigator, "Computer and Communications Security: Issues and Research Directions," *Army Research Office*, \$10,000, September 2007 - February 2008. (No Co-PIs)
6. Principal Investigator, "Access Control for Spatial Databases," *National Science Foundation*, \$320,000, July 2003 - June 2006. (No Co-PIs)
7. Co-Principal Investigator, Improving Business Knowledge Management & Analysis Through the use of the RFID Technology and Semantic Web Services. \$538,254, August 01, 2007 - June 30, 2009, SAP America. (Nabil R. Adam, PI)
8. Co-Principal Investigator, Technology Transfer: A Context Sensitive Alert Management System *National Science Foundation*, \$50,000, Jul 2008 - June 2009.
9. Principal Investigator, "Security of Sensor Networks: Issues and Research Directions," *Army Research Office*, \$10,000, September 2005 - February 2006. (No Co-PIs)
10. Co-Principal Investigator, "Secure Agency Interoperation for Effective Data Mining in Border Control and Homeland Security Applications," *National Science Foundation*, \$1,050,000, July 2003 - June 2006. (Nabil R. Adam, PI) 30% effort
11. Co-Principal Investigator, "Improving Business Knowledge Management and Analysis Through the use of Semantic Web Services and RFID Technology," *SAP Research Labs*, \$320,000, June 2004 - June 2007. (Nabil R. Adam, PI) 40% effort
12. Co-Principal Investigator, "Semantic Based Emergency Management System," *Department of Homeland Security*, \$80,000, July 2005 - December 2005 (Nabil R. Adam, PI) 40% effort
13. Co-Principal Investigator, "A Study for Improving Business Intelligence Through the use of Text Mining and Ontology" *Relevant Noise*, \$43,748, July 2005 - June 2006 (Nabil R. Adam, PI) 30% effort
14. Co-Principal Investigator, Meadowlands Environmental Research Institute, *Hackensack Meadowlands Development Commission*, \$350,000, July 2005 - June 2006. (Nabil R. Adam, PI). 30% effort
15. Co-Principal Investigator, Municipal Technology Initiative, *Hackensack Meadowlands Development Commission*, \$150,000, July 2005 - June 2006. (Nabil R. Adam, PI). 30% effort
16. Co-Principal Investigator, "Technology Transfer of Inter-agency e-Government Services and Their Transnational Feasibility Studies," *National Science Foundation*, \$99,928 September, 2004 - August, 2005. (Nabil R. Adam, PI) 30% effort
17. Co-Principal Investigator, "A Decision Support System to Assess Urban Women's HIV Sexual Risk Behavior," *National Library of Medicine*, \$398,000, Feb 2005 - Jan 2008. (Rachel Jones, PI) 30% effort
18. Principal Investigator, "Security of Sensor Networks: Issues and Research Directions," *Army Research Office*, \$10,000, July 2004 - June 2005. (No Co-PIs)

19. Co-Principal Investigator, Meadowlands Environmental Research Institute, *Hackensack Meadowlands Development Commission*, \$350,000, July 2004 - June 2005. (Nabil R. Adam, PI). 30% effort
20. Co-Principal Investigator, Municipal Technology Initiative, *Hackensack Meadowlands Development Commission*, \$150,000, July 2004 - June 2005. (Nabil R. Adam, PI). 30% effort
21. Co-Principal Investigator, "Improving Business Knowledge Management and Analysis Through the use of Semantic Web Services and RFID Technology," *SAP Research Labs*, \$320,000, June 2004 - July 2006. (Nabil R. Adam, PI). 30% effort
22. Principal Investigator, "Supporting Workflow, Long Duration and Nested Transaction Models in a Multilevel Secure Database Environment," *National Science Foundation*, The CAREER Award, \$214,337, June 1996 - May 2000. (No Co-PIs)
23. Principal Investigator, "A Petri Net Based Approach to Enforcing Mandatory and Discretionary Security in Workflow Management Systems," *National Security Agency*, \$59,986, October 1996 - December 1997. (No Co-PIs)
24. Co-Principal Investigator, "E-Government: Human-Centered Systems for Business Services," *National Science Foundation*, \$916,949, June 2000 - May 2003. (Nabil R. Adam, PI) 30% effort
25. Co-Principal Investigator, Meadowlands Environmental Research Institute, *Hackensack Meadowlands Development Commission*, \$8,000,000, Jan 2002 - December 2006. (Nabil R. Adam, PI) 25% effort
26. Co-Principal Investigator, "Spatially Integrated Coastal Permitting System," *National Oceanic and Atmospheric Administration* (NOAA), \$87,750 September 2002 - August 2003. (Robert Ceberio, PI) 30% effort
27. Co-Principal Investigator, "Workshop on Advanced Technologies in Real-Time Monitoring and Modeling for Drinking Water Safety and Security," *Environmental Protection Agency*, \$75,000, June 2002-December 2002. (Nabil R. Adam, PI) 30% effort
28. Co-Principal Investigator, "Exploratory Research on Reconfigurable and Scalable Enterprise Planning Systems," *National Science Foundation*, \$111,977, July 2000 - June 2001. (Mohsen Jafari, PI) 20% effort
29. Co-Principal Investigator, "On Management Theory and Approach under Electronic Commerce Environment," *National Science Foundation of China*, 600,000BMR (\$72,000), January 2001 - December 2003. (Prof. Deli Yang, Dallion Technology Institute, PI) 20% effort
30. Co-Principal Investigator, "Change Detection in Data Warehousing," *Lawrence Livermore National Laboratory*, \$21,271, September 1, 1998 - June 30, 1999. (Nabil R. Adam, PI) 30% effort
31. Co-Principal Investigator, Meadowlands Environmental Research Institute, *Hackensack Meadowlands Development Commission*, \$3,000,000, July 1998 - June 2003. (Nabil R. Adam, PI) 25% effort
32. Co-Principal Investigator, "Trader In Distributed Computing Environment," *National Security Agency*, \$50,000, April 1998 - September 1998. (Yelena Yesha, PI) 25% effort

#### **INTERNAL GRANTS:**

1. Co-Principal Investigator, "The Rutgers University Research Initiative on Cybersecurity Economics (RICE)," Academic Excellence Fund (AEF), Rutgers University, \$60,000 2009-10.
2. Co-Principal Investigator, "information Technology for Emergency mAnageMent (iTEAM)," Academic Excellence Fund (AEF), Rutgers University, \$40,000 2007-08.
3. Principal Investigator, "Enforcing Security and Privacy Policies in a Mobile Commerce Environment," *Rutgers Business School*, \$4000 July 2007 - June 2008.

4. Principal Investigator, "Efficient Enforcement of Security Policies in a Peer-to-Peer Mobile Environment," *Rutgers Business School*, \$3000 July 2006 - June 2007.
5. Principal Investigator, "Spatio-temporal Indexing Structure for the CIMIC Image Database," *Meadowlands Environmental Research Institute*, \$10,500, January 1, 2000 - December 31, 2000.
6. Co-Principal Investigator, "Strengthening the Electronic Commerce Certificate and Graduate Program at Rutgers Newark - Support for Resources," *Strategic Resources and Opportunity Analysis (SROA) Process*, \$30,000, 1999-2000.
7. Co-Principal Investigator, "Developing and Implementing an Innovative Instruction Methodology for MSIS Courses," *GE Grant*, \$14,000, 1988-99.
8. Principal Investigator, "A Multi-layered Clinical Decision Support System," *Rutgers FOM Research Grant*, \$4,800, March 1997 - February 1998.
9. Principal Investigator, "Microsoft Access for SOM-ENG," *Newark Campus Computer Planning Committee*, \$1,970, July 1996.
10. Co-Principal Investigator, "Computer Proficiency Assessment for Effective MIS Undergraduate Education," *Rutgers Dialogues Grant*, \$6,100, January 1995 - June 1995.

## **RESEARCH PUBLICATIONS:**

### **Book:**

1. V. Atluri, S. Jajodia and B. George, *Multilevel Secure Transaction Processing*, Kluwer Academic Publishers, November 1999. ISBN 0-7923-7702-8, 144 pages.

### **Edited Book:**

1. *Encyclopedia of GIS* (The book web site, <http://refworks.springer-sbm.com/geograph/>), ISBN-13: 978-0387308586, Springer; 1 edition, Field Editor, Geo-Security (Shashi Shekhar and Hui Xiong, Editors-in-Chief), December 2007.

### **Edited Refereed Journal Special Issues:**

1. V. Atluri (Ed.), *ACM Transactions on Information Systems Security*, Special Issue on Computer and Communications Security, Volume 8, Number 1, February 2005.
2. V. Atluri and I. Ray (Eds.), *Journal on Digital Libraries (JDL)*, Special Issue on Security, Volume 4, Number 3, 2004.
3. V. Atluri, A. Joshi and Y. Yesha (Ed.), *The VLDB Journal*, Special Issue on Semantic Web, Volume 12, Number 4, November 2003.
4. V. Atluri (Ed.), *ACM Transactions on Information Systems Security*, Special Issue on Role-Based Access Control, Volume 4, Number 3, August 2001.
5. V. Atluri and J. Hale (Eds.), *Journal of Computer Security*, Special Issue on Database Security, Volume 8, 2000
6. V. Atluri and J. Hale (Eds.), *Research Advances in Database and Information Systems Security*, Kluwer Academic Publishers, 2000, ISBN 0-7923-7848-2, 332 pages.
7. V. Atluri and P. Samarati (Eds.), *Distributed and Parallel Databases: An International Journal*, Special Issue on Security of Data and Transaction Processing", Vol.8, No.1, January 2000. ISBN 0926-8782, 145 pages.

### **Edited Refereed Proceedings:**

1. V. Atluri (Ed.), "Proceedings of the 22nd IFIP Working Conference on Database Security, 2008, Springer, Lecture Notes in Computer Science, LNCS 5054, ISBN 978-3-540-70566-6.
2. A. Bagchi and V. Atluri (Eds.), "Proceedings of the Second International conference on Information Systems Security," 2006, Lecture Notes in Computer Science, LNCS 4332. ISBN 978-3-540-68962-1
3. V. Atluri, C. Meadows and A. Juels (Eds.), Proceedings of the 12th ACM Conference on Computer and Communications Security, 2005, 407 pages, ISBN 1-59593-226-7.
4. V. Atluri, B. Pfitzmann and P. McDaniel (Eds.), Proceedings of the 11th ACM Conference on Computer and Communications Security, 2004, 363 pages, ISBN 1-58113-971-3.
5. S. Jajodia, V. Atluri and T. Jaeger (Eds.), 10th ACM Proceedings on Computer and Communications Security, 2003, 364 pages, ISBN 1-58113-738-9.
6. R. Sandhu and V. Atluri (Eds.), 9th ACM Proceedings on Computer and Communications Security, 2002, 274 pages, ISBN 1-58113-612-9.
7. V. Atluri (Ed.) Proceedings of the 5th ACM Workshop on Role-Based Access Control, ACM Press, 2000, ACM ISBN: 1-58113-259-X

### **Refereed Book Chapters:**

1. S. Yu, V. Atluri and N. Adam, "Preview: Optimizing View Materialization Cost in Spatial Data Warehouses," in Complex Data Warehousing and Knowledge Discovery for Advanced Retrieval Development: Innovative Methods and Applications" in the series Advances in Data Warehousing and Mining, IGI Press.
2. S. Chun and V. Atluri, "Risk-based Access Control for Personal Data Services," Indian Statistics Institute Platinum Jubilee Monograph Series, World Scientific Press, 2008.
3. V. Atluri and J. Warner, "Security for Workflow Systems," in Handbook of Database Security: Applications and Trends, Springer, 2007, pages 213-230.
4. V. Atluri and H. Shin, "Efficiently Enforcing the Security and Privacy Policies in a Mobile Environment," in Handbook of Database Security: Applications and Trends, Springer, 2007, pages 553-574.
5. S. Chun and V. Atluri, "Geospatial Database Security," in Handbook of Database Security: Applications and Trends, Springer, 2007, pages 247-266.
6. S. Chun and V. Atluri, "Geospatial Security Models," in Encyclopedia of Geographic Information Science, Springer, December 2007.
7. V. Atluri and H. Shin, "Efficient Enforcement of Authorizations in Geospatial Databases," in Encyclopedia of Geographic Information Science, Springer, December 2007.
8. J. Vaidya and V. Atluri, "Privacy, Profiling, Targeted Marketing, and Data Mining," in Digital Privacy: Theory, Technologies and Practices, edited by Alessandro Acquisti, Sabrina De Capitani di Vimercati, Stefanos Gritzalis and Costas Lambrinoudakis, Auerbach Publications (Taylor and Francis Group), 2007, pages 117-134.
9. V. Atluri, "Mobile Commerce," in The Handbook of Computer Networks, Volume III Distributed Networks, Network Planning, Control, Management and Applications, Part 3: Computer Network Popular Applications, 2006.
10. V. Atluri, "Mobile Commerce," in The Handbook of Information Security, Volume I, Key Concepts, Infrastructure, Standards and Protocols, John Wiley & Sons Inc., pages 254-267.
11. R. Clark, N. R. Adam, V. Atluri, M. Halem, E. Vowinkel, P. C. Tao, L. Cummings, E. A. Ibrahim, "Developing an Early Warning System for Drinking Water Safety and Security," Water Supply Systems Security, McGraw Hill, 2004, pages 8.1-8.19.

12. N. Adam, V. Atluri, D. Guo and S. Yu, "Challenges in Environmental Data Warehousing and Mining," in *Data Mining: Next Generation Challenges and Future Directions*, edited by H. Kargupta, A. Joshi, K. Sivakumar, and Y. Yesha, AAAI (American Association for Artificial Intelligence), 2004, pages 335-355.
13. V. Atluri, S. Chun, R. Holowczak, and N. R. Adam, "Automating the Delivery of Governmental Business Services Through Workflow Technology," in *Advances in Digital Government: Technology, Human Factors, and Policy* (eds.) William J. McIver and Ahmed K. Elmagarmid, Kluwer Academic Publishers, 2002, pages 69-84.
14. N.R. Adam, V. Atluri and Y. Yesha, "Electronic Commerce: Technological Challenges," *McGraw-Hill 2000 Yearbook of Science & Technology*, pages 143-146.

#### **Refereed Journal Articles:**

1. S. Mondal, S. Sural and V. Atluri, "Security Analysis of GTRBAC and its Variants using Model Checking," *Computers & Security*, accepted.
2. H. Shin, J. Vaidya and V. Atluri, "A Profile Anonymization Model for Location Based Services," *Journal of Computer Security*, accepted.
3. D. Ferraiolo, V. Atluri, S. Gavrila, "The Policy Machine: A Novel Framework for Access Control Policy Specification and Enforcement," *Journal of Systems Architecture*, Elsevier, to appear.
4. J. Vaidya, V. Atluri and Q. Guo, "The Role Mining Problem: Finding a Minimal Descriptive Set of Roles," *ACM Transactions on Information Systems Security* (invited paper), Volume 13, Issue 3, July 2010.
5. V. Janeja, N.R. Adam, V. Atluri and J. Vaidya, "Spatial Neighborhood based Anomaly Detection in High Dimensional Spatio-temporal Sensor Datasets," *Journal of Data Mining and Knowledge Discovery*, Volume 20, Issue 2 (2010), pages 221-258.
6. H. Shin, J. Vaidya and V. Atluri, "Anonymization Models for Directional Location Based Service Environments," *Computers & Security*, Volume 29, Issue 1, February 2010, pages 59-73.
7. L. Qin and V. Atluri, "Semantics-aware Security Policy Specification for the Semantic Web Data," *International Journal of Information and Computer Security*, Vol. 4, No. 1, 2010.
8. V. Atluri, Q. Guo, H. Shin and J. Vaidya, "Towards a Unified Index Structure for Spatiotemporal Data and Authorizations," *International Journal of Information and Computer Security*, Vol.4, No.2, 2010.
9. J. Vaidya, V. Atluri, J. Warner and Q. Guo "Role Engineering via Prioritized Subset Enumeration," *IEEE Transactions on Dependable and Secure Computing*, Vol.7, No.3, 2010.
10. D. Guo, H. Xiong, V. Atluri and N. Adam, "Object Discovery in High-Resolution Remote Sensing Images: A Semantic Perspective," *Knowledge and Information Systems* (invited paper), Volume 19, Number 2, May 2009, pages 211-233.
11. J. Vaidya, V. Atluri, Q. Guo and H. Lu, "Edge-RMP: Minimizing Administrative Assignments for Role-based Access Control," *Journal of Computer Security*, Volume 17, Number 2, 2009, pages 211-235.
12. V. Janeja and V. Atluri, "Spatial Outlier Detection in Heterogeneous Neighborhoods," *Intelligent Data Analysis - An International Journal*, Volume 13(1), 2009, pages 85-107.
13. L. Qin and V. Atluri, "Evaluating the validity of data instances against ontology evolution over the Semantic Web," *Information & Software Technology*, Volume 51, Issue 1, pages 83-97, January 2009.
14. V. Janeja and V. Atluri, "Random Walks to Identify Anomalous Free-Form Spatial Scan Windows," *IEEE Transactions on Knowledge and Data Engineering*, Volume 20, Number 11, November 2008.
15. V. Atluri, H. Shin and J. Vaidya, "Efficient Security Policy Enforcement for the Mobile Environment," *Journal of Computer Security*, Volume 16, Number 4, 2008, pages 439-475.

16. V. Atluri, S. Chun, R. Mukkamala and P. Mazzoleni, "A Decentralized Workflow Execution Model for Inter-organizational Workflows," *Distributed and Parallel Databases*, Volume 22, Number 1, August, 2007, pages 55-83.
17. V. Atluri and S. Chun, "An Authorization System for Geospatial Image Databases," *International Journal of Information and Computer Security*, Vol. 1, No. 1/2, 2007, pages 143-168.
18. L. Qin and V. Atluri, "SemDiff: An Approach to Detecting Semantic Changes to Ontologies," *International Journal on Semantic Web and Information Systems*, 2(4), 1-16, October-December 2006, pages 1-32.
19. L. Qin and V. Atluri, An Ontology-Guided Approach to Change Detection to the Semantic Web Data, *Journal on Data Semantics*, V, 2006, pages 130-157.
20. S. Chun, V. Atluri, N.R. Adam, "Using Semantics for Policy-based Composition of Web Services," *Distributed and Parallel Databases: An International Journal*, Volume 18, Number 1, July 2005, pages 37 - 64.
21. V. Atluri and S. Chun, "An Authorization Model for Geo-spatial Data," *IEEE Transactions on Dependable and Secure Computing*, October-December, 2004, Vol.1, No. 4, pages 238-254.
22. V. Atluri, S. Chun and P. Mazzoleni, "Chinese Wall Security for Decentralized Workflow Management Systems," *Journal of Computer Security*, Volume 12, Number 6, 2004, pages 799-840.
23. V. Atluri and R. Mukkamala "Employing an Extended Transaction Model in Multilevel Secure Transaction Processing," *Informatica*, An International Journal of Computing and Informatics, Special Issue on Security, Volume 26, 2002, pages 105-115.
24. E. Ferrari, N.R. Adam, V. Atluri, E. Bertino and U. Capuzzo, "An Authorization System for Digital Libraries," *The VLDB Journal (The International Journal on Very Large Data Bases)*, Volume 11, issue 1, 2002, pages 58-67.
25. N.R. Adam, V. Atluri, E. Bertino and E. Ferrari, "A Content-based Authorization Model for Digital Libraries," *IEEE Transactions on Knowledge and Data Engineering*, Volume 14, Number 2, 2002, pages 296-315.
26. V. Atluri and A. Gal, "An Authorization Model for Temporal and Derived Data: Securing Information Portals," *ACM Transactions on Information Systems Security*, Volume 5, Number 1, 2002, pages 62-94.
27. V. Atluri, Security for Workflow Systems, *Information Security Technical Report*, Volume 6, Number 2, 2001, Elsevier Science, pages 59-68.
28. N.R. Adam, V. Atluri, I. Adiwijaya and S. Banerjee, "A Dynamic Manifestation Approach for Providing Universal Access to Digital Library Objects," *IEEE Transactions on Knowledge and Data Engineering*, Volume 13, Number 4, 2001, pages 705-716.
29. S. Jajodia, V. Atluri, T.F. Keefe, C. McCollum, and R. Mukkamala, "Multilevel Secure Transaction Processing," *Journal of Computer Security*, Volume 9, Issue 3, 2001, pages 165-195.
30. V. Atluri and W-K. Huang, "A Petri Net Based Safety Analysis of Workflow Authorization Models," *Journal of Computer Security*, Volume 8, Issue 2/3, 2000, pages 209-240.
31. N. Adam, V. Atluri and I. Adiwijaya, System Integration in Digital Libraries, *Communications of the ACM*, June 2000, Volume 43, Number 6, pages 64-72.
32. V. Atluri, W-K. Huang and E. Bertino, "A Semantic Based Execution Model for Multilevel Secure Workflows," *Journal of Computer Security*, Special Issue on Database Security, eds. T.Y. Lin and Shelly Qian, Volume 8, Number 1, 2000, pages 3-41.
33. E. Bertino, E. Ferrari and V. Atluri, "The Specification and Enforcement of Authorization Constraints in Workflow Management Systems," *ACM Transactions on Information Systems Security*, Volume 2, Number 1, February 1999, pages 65-104.

34. N.R. Adam, V. Atluri and W-K. Huang, "Modeling and Analysis of Workflows Using Petri Nets," *Journal of Intelligent Information Systems*, Special Issue on Workflow and Process Management, Volume 10, Number 2, March 1998, pages 131-158.
35. V. Atluri and W-K. Huang, "Enforcing Mandatory and Discretionary Security in Workflow Management Systems," invited paper, *Journal of Computer Security*, Special Issue on Database Security, eds. Pierangela Samarati and Ravi Sandhu, Vol. 5, No. 4, 1997, pages 303-339.
36. V. Atluri, S. Jajodia and E. Bertino, "Transaction Processing in Multilevel Secure Databases using Kernelized Architecture: Challenges and Solutions," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 9, No. 5, 1997, pages 697-708.
37. V. Atluri, E. Bertino, and S. Jajodia, "A Theoretical Framework for Degrees of Isolation in Databases," *Information and Software Technology*, Elsevier Science, Vol. 39, No. 1, 1997, pages 47-53.
38. V. Atluri, S. Jajodia, and E. Bertino, "Alternative Correctness Criteria for Concurrent Execution of Transactions in Multilevel Secure Databases," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 8, No. 5, 1996, pages 839 - 854.
39. P. Ammann, V. Atluri, and S. Jajodia, "The Partitioned Synchronization Rule for Planar Extendible Partial Orders," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 7, No. 5, 1995, pages 797 - 808.
40. V. Atluri, E. Bertino, and S. Jajodia, "Achieving Stricter Correctness Requirements in Multilevel Secure Database Management Systems," *Journal of Computer Security*, Vol. 2, No. 4, 1993, pages 311-351.

#### **Unrefereed Journal Articles:**

1. D. Ferraiolo, V. Atluri and S. Gavrilu, "The Policy Machine: A Standards-Driven Enterprise-Wide Access Control Enforcement Mechanism," *Defense Standardization Program Journal*, July/December 2008, pages 87-92.

#### **Refereed Conference Publications:\***

1. J. Vaidya, V. Atluri, Q. Guo and H. Lu "Effect of Noise on Mining Roles," *24th Annual IFIP WG 11.3 Working Conference on Data and Applications Security*, June, 2010.
2. J. Vaidya, V. Atluri, B. Shafiq and N. Adam, "Privacy-preserving Trust Verification," *ACM Symposium on Access Control Models and Technologies*, June, 2010. (Acceptance Ratio: 19/82)
3. B. Shafiq, J. Vaidya, V. Atluri and S. Chun, *UICDS Compliant Resource Management System for Emergency Response*, *International Conference on Digital Government Research*, May 2010.
4. H. Lu, J. Vaidya, V. Atluri and Y. Hong, "Extended Boolean Matrix Decomposition," *IEEE International Conference on Data Mining (ICDM)*, December 2009. (Acceptance Ratio: 70/786)
5. Y. Hong, X. He, J. Vaidya, N. Adam and V. Atluri, "Effective Anonymization of Query Logs," *ACM Conference on Information and Knowledge Management*, November 2009. (Acceptance Ratio: 171/847)
6. X. He, J. Vaidya, B. Shafiq, N. Adam and V. Atluri, "Preserving Privacy in Social Networks: A Structure-Aware Approach," *IEEE/WIC/ACM International Conference on Web Intelligence*, 2009. (acceptance ratio: 55/343)
7. H. Shin and V. Atluri, "Spatiotemporal Access Control Enforcement under Uncertain Location Estimates," *23rd Annual IFIP WG 11.3 Working Conference on Data and Applications Security*, July, 2009.

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\*Acceptance rates of less than 30% have been noted.

8. S. Mondal, S. Sural and V. Atluri, "Towards a Formal Security Analysis of GTRBAC using Timed Automata," ACM Symposium on Access Control Models and Technologies, June, 2009. (acceptance ratio: 24/75)
9. H. Lu, Y. Li, V. Atluri and J. Vaidya, "An Efficient Online Auditing Approach to Limit Private Data Disclosure," 12th International Conference on Extending Database Technology, March 2009. (acceptance ratio: 92/283)
10. Q. Guo, J. Vaidya and V. Atluri, "The Role Hierarchy Mining Problem: Discovery of Optimal Role Hierarchies, Annual Computer Security Applications Conference (ACSAC) December, 2008. (acceptance ratio: 42/173)
11. J. Vaidya, V. Atluri, Q. Guo and N. Adam, "Migrating to Optimal RBAC with Minimal Perturbation," ACM Symposium on Access Control Models and Technologies, June 2008. (acceptance ratio: 21/95)
12. H. Shin, V. Atluri and J. Vaidya, "A Profile Anonymization Model for Privacy in a Personalized Location Based Service Environment," International Conference on Mobile Data Management, April 2008. (Acceptance Ratio: 26/119)
13. H. Lu, J. Vaidya and V. Atluri "Optimal Boolean Matrix Decomposition: Application to Role Engineering," IEEE International Conference on Data Engineering, April 2008, (Acceptance ratio: 44/627).
14. V. Atluri and H. Shin, "Efficient Security Policy Enforcement in a Location Based Service Environment," *21st Annual IFIP WG 11.3 Working Conference on Data and Applications Security*, July, 2007.
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22. R. Mukkamala, V. Atluri, J. Warner and R. Abbasasari "A Distributed Coalition Service Registry for Ad-hoc Dynamic Coalitions: A Service-oriented Approach," *20th Annual IFIP WG 11.3 Working Conference on Data and Applications Security*, July, 2006.
23. J. Warner and V. Atluri, "Inter-Instance Authorization Constraints for Secure Workflow Management," ACM Symposium on Access Control Models and Technologies, June, 2006, pages 190-199.

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#### **Refereed Workshop Publications:**

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2. A. Gomaa, N. Adam and V. Atluri, "Adapting Spatial Constraints of Composite Multimedia Objects to achieve Universal Access," *IEEE International Workshop on Multimedia Systems and Networking (WMSN05)*, held in conjunction with the *24th IEEE International Performance, Computing, and Communications Conference (IPCCC)*, Phoenix, Arizona, USA, April 2005, pages 519-525.
3. D. Kim, I. Im, N. Adam, V. Atluri, M. Bieber and Y. Yesha, "A Clickstream-Based Collaborative Filtering Personalization Model: Towards A Better Performance," *6th ACM International Workshop on Web Information and Data Management (WIDM 2004)*, November, 2004, pages 88-95.
4. S. Chun, V. Atluri and N.R. Adam, "Policy-based Web Service Composition," *The 14th International Workshop on Research Issues on Data Engineering: Digital Government Services (RIDE-DGS'2004)*, March, 2004.
5. L. Qin and V. Atluri, "Concept-level Access Control for the Semantic Web," *ACM Workshop on XML Security*, held in conjunction with the *10th ACM Conference on Computer and Communications Security*, October 2003, pages 94-103.
6. C. Ghirardini, S. Chun, V. Atluri, I. Kamel and N. Adam "A Study on the Indexing of Satellite Images at NASA Regional Application Center," a special track on *Image-Based Geospatial Databases* at 5th International Workshop on Query Processing and Multimedia Issues in Distributed Systems (QPMIDS'2001), September 2001, pages 859-864.
7. W-K. Huang and V. Atluri, "SecureFlow: A Secure Web-enabled Workflow Management System," *4th ACM Workshop on Role-based Access Control*, October, 1999, pages 83-94.
8. E. Bertino, E. Ferrari and V. Atluri, "A Flexible Model Supporting the Specification and Enforcement of Role-based Authorizations in Workflow Management Systems," *2nd ACM Workshop on Role-based Access Control*, November 1997, pages 1-12.
9. N.R. Adam, V. Atluri and K.R. McKeown, "Clinical Information Systems: Making Use of Research in Digital Libraries," Invited White Paper, The NSF Workshop on Research & Development Opportunities in Federal Information Services, May 1997.

#### **Refereed Abstracts/Posters:**

1. H. Shin, J. Vaidya and V. Atluri, "Optimal Trajectory Partitioning Methods for Privacy in Continuous Location Based Services," International Conference on Mobile Data Management, 2010, poster paper.

2. H. Shin, J. Vaidya, V. Atluri and S. Choi, "Optimal Trajectory Partitioning for Enhanced Privacy and Utility in Continuous Location Based Services," ACM Conference on Computer and Communications Security, November 2009. (Poster)
3. N. Adam, V. Atluri, S. Chun, J. Ellenberger, B. Shafiq, J. Vaidya and H. Xiong, "Secure Information Sharing and Analysis for Effective Emergency Management," 9th Annual International Conference on Digital Government Research, May 2008.
4. S. Chun, N.R. Adam and V. Atluri, "MENVIS: Mobile Environmental Information System," 8th Annual International Conference on Digital Government Research, May 2007.
5. N. R. Adam, V. Atluri, S. Chun, P. Fariselli, J. Culver-Hopper, O. Bojic, R. T. Stewart, J. Fruscione and N. Mannocho, "Technology transfer of inter-agency government services and their transnational feasibility studies," *Conference on Digital Government*, May 2005, pages 225-226.
6. N. R. Adam, V. Atluri, R. Koslowski, V. Janeja, J. Warner and A. Paliwal, "Agency interoperation for effective data mining in border control and homeland security applications," *Conference on Digital Government*, May 2005, pages 285-286.
7. N. Adam, V. Atluri, V. Janeja, J. Vaidya, M. Youssef., "Semantic Graph based Knowledge Discovery from Heterogeneous Information Sources," *Inaugural conference on Working Together: Research & Development Partnerships in Homeland Security*, Department of Homeland Security Science & Technology, April, 2005.
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9. N. R. Adam, F. Artigas, V. Atluri, S. Chun and E. Konsevick, "Geospatial Tool for Managing the Ecological Risk of the Contaminated Wetlands Sediments," *Coastal GeoTools '05*, pages 44-45, March, 2005.
10. N. R. Adam, V. Atluri and S. Chun, "GIS and Mobility Support for New Jersey Watershed Volunteer Monitoring Network," *Coastal GeoTools '05*, pages 37-38, March, 2005.
11. N. R. Adam, V. Atluri and Janeja, "Agency interoperation for effective data mining in border control and homeland security applications," *Conference on Digital Government*, May 2004, pages 375-376.
12. N. Adam, F. Artigas, V. Atluri, I. Bora, R. Ceberio, S. Chun and A. Paliwal, "Spatially Integrated Coastal Permitting System (SICOP)," *Costal Zone 03 conference*, July, 2003.
13. N. Adam, F. Artigas, V. Atluri, S. Chun and P. Mazzoleni, "Customized Visualization of GeoSpatial Government Regulations," *Conference on Digital-Government*, May, 2002, pages 457.

#### **Miscellaneous Technical Publications:**

1. V. Atluri, Program Chair's message, *22nd Annual IFIP WG 11.3 Working Conference on Data and Applications Security*, July, 2008.
2. V. Atluri, Panel on role engineering, *ACM Symposium on Access Control Models and Technologies (SACMAT)*, June 2008, pages 61-62.
3. D. Ferraiolo and V. Atluri, A meta model for access control: why is it needed and is it even possible to achieve? *ACM Symposium on Access Control Models and Technologies (SACMAT)*, June 2008, pages 153-154.
4. A. Bagchi and V. Atluri, Program Chairs' message, 2nd International Conference on Information Systems Security, 2006.
5. V. Atluri, Guest Editor's Introduction to the Special Issue on Computer and Communications Security, *ACM Transactions on Information Systems Security*, Volume 4, Number 3, August 2005.

6. V. Atluri and I. Ray, Guest Editor's Introduction to the Special Issue on Security, International Journal on Digital Libraries, Volume 4, Number 3, pages 137-138, 2004.
7. V. Atluri, General Chair's message, 11th ACM Proceedings on Computer and Communications Security, 2004.
8. V. Atluri, Program Chair's message, 10th ACM Proceedings on Computer and Communications Security, 2003.
9. V. Atluri, A. Joshi and Y. Yesha Guest Editor's Introduction to the Special Issue on Semantic Web, VLDB Journal, Volume 12, Number 4, 2003
10. V. Atluri, Guest Editor's Introduction to the Special Issue on Role-based Access Control, ACM Transactions on Information Systems Security, Volume 4, Number 3, August 2001.
11. V. Atluri and J. Hale, Guest Editors' Introduction to the Special Issue on Database Security, Journal of Computer Security, Volume 4, Number 3, August 2001.
12. V. Atluri and J. Hale, Preface to the Research Advances in Database and Information Systems Security, Kluwer Academic Publishers, 2000.
13. V. Atluri and P. Samarati, Guest Editors' Introduction to the Special Issue on Security of Data and Transaction Processing, Distributed and Parallel Databases: An International Journal, Vol.8, No.1, January 2000, 145 pages 1-2.
14. V. Atluri and D. L. Spooner: Workshop Summary. *Database Security, XII: Status and Prospects* Chapman & Hall, 1999, eds. Sushil Jajodia, pages 287-293.
15. V. Atluri, "Supporting Workflow, Long Duration and Nested Transaction Models in a Multilevel Secure Database Environment," *Information and Data Management: Research Agenda for the 21<sup>st</sup> Century*, Workshop Proceedings, March 1998.
16. V. Atluri, "Incorporating Security into Workflow Management Systems," Invited paper, 1998 NSF Design & Manufacturing Grantees Conference, January 1998.

#### Technical Reports:

1. N.R. Adam, V. Atluri, and W-S. Li, "A Multi-layered Clinical Information System for Efficient Analysis and Retrieval," CIMIC Technical Report, 1996.

#### PROFESSIONAL ACTIVITIES:

- *Secretary/Treasurer*, ACM SIGSAC (Special Interest Group in Security, Audit, and Control), Elected, July 2005 - June 2009.
- Chair, IFIP WG11.3 on Data and Information Security (July 2008 - )
- *Steering Committee Member*
  - ACM SIGSAC (Special Interest Group in Security, Audit, and Control), 2001 - 2009
  - ACM Symposium on Access Control Models and Technologies (SACMAT), 2001 - 2008
  - International Conference on Information Systems Security, 2007 - 2008
  - Annual Conference on Privacy, Security and Trust (PST 2006,2008)
  - Workshop on Advanced Technologies in Real-Time Monitoring and Modeling for Drinking Water Safety and Security, June 2002, and December 2002, Rutgers University
  - Science on the Semantic Web (SWS) Workshop: Building the Next Generation of Environmental Information Systems, Oct 24 and 25, 2002, Rutgers University
- *Member*, SIGSAC Awards Committee, 2009
- *Associate Editor*, IEEE Transactions on Knowledge and Data Engineering (TKDE) (2005 - 2009)

- *Editorial Board*
  - Journal of Computer Security, IOS Press (2009- )
  - International Journal on Digital Libraries, Springer (JDL) (2004 - )
  - International Journal of Information and Computer Security, Inder science (IJICS)(2004 - )
  - Computers & Security, Elsevier (2008-2010)
  - International Journal of E-Business Research, IGI Global (IJEBR) (2004 - 2008)
  - ACM SIGMOD DiSC (Digital Symposium Collection) (2002 - 2005)
- *Editor, Special Issue*
  - ACM Transactions on Information Systems Security, Special Issue on Computer and Communications Security, 2005.
  - Journal on Digital Libraries (JDL), Special Issue on Security (with Indrakshi Ray), 2004
  - The Very Large Databases (VLDB) Journal, Special Issue on the Semantic Web (with Anupam Joshi and Yelena Yesha), 2003.
  - ACM Transactions on Information Systems Security, Special Issue on Role-Based Access Control, 2001
  - Journal of Computer Security, Special Issue on Database Security, 2000 (with John Hale)
  - Distributed and Parallel Databases: An International Journal, Special Issue on Security of Data and Transaction Processing, Vol.8, No.1, January 2000 (with Pierangela Samarati)
  - Area editor in Geo-security, Encyclopedia of Geographic Information Science, Springer, 2007.
- *General Chair*
  - 11th and 12th ACM Conference on Computer and Communications Security, 2004 and 2005.
  - Web Information Systems Engineering (WISE) 2005 (with Dimitrios Georgakopoulos)
- *Program Chair*
  - 22nd IFIP Working Conference on Database Security, 2008
  - 2nd International Conference on Information Systems Security (ICISS 2006) (with Aditya Bagchi)
  - 10th ACM Conference on Computer and Communications Security, 2003.
  - 5th ACM Workshop on Role-based Access Control, 2000
  - 13th IFIP Working Conference on Database Security, 1999 (with John Hale)
- *Organization Committee Chair* ACM SIGMOD/PODS 2005 (with Anupam Joshi)
- *Workshops Chair* 14th ACM Conference on Computer and Communications Security, 2007, 2008, 2009
- *Tutorial and Panel Co-chair* 2009 IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT-09)
- *Panel Leader*, Panel on Role Engineering, ACM Symposium on Access Control Models and Technologies, June 2008
- *Panel Leader*, Panel on Data Aggregation, Data Mining and Privacy, NSF Cyber Trust PI Conference, August 2004.
- *Panelist* in the panel discussion on
  - “Directions for data and applications security,” in the 23rd IFIP Working Conference on Database Security, 2009.
  - “Access Control for Assured Information Sharing,” ACM Symposium on Access Control Models and Technologies, June 2007.
  - “E-commerce Security,” International Symposium on Distributed Autonomous Systems, March 2001

- “Role-Based Access Control in Workflow Systems” in the 5th ACM Workshop on Role-based Access Control, 2000
- “Directions for Securer Data and Applications Security,” in the 14th IFIP Working Conference on Database Security, 2000
- “Multilevel Secure Transaction Processing: Is it Well-understood?” in the 10th IFIP Working Conference on Database Security, 1996

- *Program Committee Member*

- ACM Symposium on Access Control Models and Technologies (SACMAT), 2001, 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2011
- IFIP WG 11.3 Working Conference on Database and Applications Security, 2003, 2004, 2005, 2006, 2007, 2009, 2010, 2011
- ACM Conference on Computer and Communications Security, 2001, 2002, 2006, 2007, 2008
- International Conference on Distributed Computing Systems (ICDCS), 2010
- IEEE International Symposium on Trust, Security and Privacy for Emerging Applications (TSP 2010)
- Annual Computer Security Applications Conference (ACSAC), 2008, 2009, 2010
- International Conference on Information and Knowledge Management (CIKM) 2010
- International Symposium on Information Security (IS) 2008,2009,2010
- 18th IFIP International Information Security Conference, 2003, 2008, 2009, 2010
- IEEE International Conference on Web Services (ICWS) 2010
- Workshop in Information Security Theory and Practice (WISTP 2011)
- International Conference on Advanced Information Networking and Applications (AINA), 2009
- ACM Symposium on Information, Computer and Communications Security (AsiaCCS), 2006, 2007, 2009, 2010
- IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT), 2009, 2010
- IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC 2009)
- ACM Workshop on Information Security Governance (WISG’09)
- ACM Workshop on Privacy in the Electronic Society (WPES 2009)
- International Conference on Database Systems for Advanced Applications (DASFAA), 2006, 2007, 2008
- Fourth International Conference on Information Security and Cryptology (Inscrypt 2008)
- International Conference of Digital Government Research, 2008, 2009, 2010
- IEEE International Conferences on Intelligence and Security Informatics (ISI), 2007, 2008, 2011.
- International Conference on Trust, Privacy and Security in Digital Business 2008, 2009, 2010 (TrustBus)
- International Conference on Security and Cryptography (SECRYPT) 2010
- 10th IEEE International Conference on Multimedia (ISM), 2008
- IEEE/IFIP International Symposium on Trust, Security and Privacy for Pervasive Applications (TSP 2008, 2009)
- The Secure Knowledge Management Workshop (SKM) 2006, 2008, 2010
- The Joint Conference of the 9th Asia-Pacific Web Conference and the 8th International Conference on Web-Age Information Management, 2007
- First International Workshop on Privacy-Aware Location-based Mobile Services (PALMS 07)
- Third International Workshop on Information Assurance (WIA-2007)
- International Workshop on Security and Trust Management (STM), 2007, 2008, 2009

- International ICST Conference on Security and Privacy in Communication Networks, 2010 (SecureComm)
- 1st ACM Workshop on Information and Communications Security Standards and Regulations (StaR\_SEC 2007)
- “Multimedia Security” track of the IEEE International Symposium on Multimedia (ISM2007)
- 9th Information Security Conference (ISC), 2006
- Eighth International Conference on Information and Communications Security (ICICS 2006,2007,2008)
- Workshop on Trusted Collaboration 2006 (TrustCol-2006)
- 20th International Conference on Data Engineering (ICDE 2004, 2008)
- European Symposium on Research in Computer Security (ESORICS) 2004, 2005, 2007, 2008
- IEEE International Conference on Information Reuse and Integration, 2006, 2007, 2008,2010 (IEEE-IRI)
- International Workshop on Security, Privacy and Trust in Pervasive and Ubiquitous Computing, 2006, 2007 (SecPerU)
- International Conference on Emerging Trends in Information and Communication Security (ETRICS), 2006
- ACM Symposium on Applied Computing, Datamining Track, 2006, 2007, 2008, 2009.
- International Workshop on Privacy in Location-Based Applications (PiLBA 08)
- International Conference on Information Systems Security (ICISS 2005, 2007, 2008, 2009)
- 3rd International Conference on Business Process Management (BPM05)
- Semantic Web and Policy Workshop, 2005
- Workshop on Policy Management for the Web, 2005
- 2nd International Workshop P2P Data Management, Security and Trust (PDMST’05)
- Third Workshop on Security in Information Systems, 2005
- IASTED International Conference on Databases and Applications (DBA) 2005, 2006
- 2005 IRMA international conference, San Diego, May 2005.
- The Fifth International Workshop on Multimedia Data Mining (MDM/KDD2004)
- The 14th International Workshop on Research Issues on Data Engineering: Digital Government Services (RIDE-DGS’2004)
- The International Conference on Distributed Computing and Internet Technology (Systems Security Track), 2004
- The Workshop on Geographic and Biological Data Management, to be held in conjunction with COMPSAC’04
- Next Generation Information Technologies and Systems (NGITS’2002)
- The Third International Symposium on Electronic Commerce (ISEC-02)
- The Second International Conference on Web-Age Information Management (WAIM’01), 2001, 2007
- 20th International Conference on Conceptual Modeling (ER2001)
- 2001 International Workshop on Data Semantics in Web Information Systems (DASWIS-2001)
- IEEE Conference on Advances in Digital Libraries, 1999, 2000
- HICSS33: Minitrack on Evolution of Business to Business Electronic Commerce, 2000
- 3rd and 4th ACM Workshop on Role-based Access Control, 1998, 1999
- *Treasurer*, ACM Symposium on Access Control Models and Technologies (SACMAT), 2009
- *Session Chair*
  - Data Protection, Annual IFIP WG 11.3 Working Conference on Database and Applications Security, June 2010.

- Privacy: Applications, Annual IFIP WG 11.3 Working Conference on Database and Applications Security, July 2009.
  - Role Engineering, ACM Symposium on Access Control Models and Technologies, June 2009.
  - Temporal Access Control and Usage Control, Annual IFIP WG 11.3 Working Conference on Database and Applications Security, July 2007.
  - Secure Operating Systems, ACM Symposium on Access Control Models and Technologies, June 2007.
  - Data and Application Security, International Conference on Information Systems Security, December 2006.
  - Anonymity, 13th ACM Conference on Computer and Communications Security, October 2006
  - Role-based Access Control, 21st Annual IFIP WG 11.3 Working Conference on Database and Applications Security, July 2006.
  - Access Control Technology, ACM Symposium on Access Control Models and Technologies, June 2006.
  - Intrusion detection, European Symposium on Research in Computer Security, September 2005.
  - Handling Encrypted Data, 19th Annual IFIP WG 11.3 Working Conference on Database and Applications Security, August 2005.
  - Access Control for XML Documents, ACM Symposium on Access Control Models and Technologies, June 2005
  - Access Control, 18th Annual IFIP WG 11.3 Working Conference on Database and Applications Security, August 2004
  - Access Control Models and Technologies, 17th Annual IFIP WG 11.3 Working Conference on Database and Applications Security, August 2003
  - Constraints, ACM Symposium on Access Control Models and Technologies, June, 2003.
  - Metadata, NSF Conference on Digital-Government, May, 2003.
  - Intrusion Detection, 9th ACM Conference on Computer and Communications Security, 2002.
  - Mobile and Cooperative Systems, ACM Symposium on Access Control Models and Technologies, 2002.
  - Graph Models, ACM Symposium on Access Control Models and Technologies, 2001.
  - Information Warfare and Intrusion Detection, 15th IFIP Working Conference on Database Security, 2001
  - Encryption and Related Security Mechanisms, 14th IFIP Working Conference on Database Security, 2000
  - Implementations, 5th ACM Workshop on Role-based Access Control, 2000
  - Constraints, 4th ACM Workshop on Role-based Access Control, 1999
  - Database querying and mining, IEEE Conference on Advances in Digital Libraries, 1999
  - Applications of RBAC, 3rd ACM Workshop on Role-based Access Control, 1998
  - Concurrency Control, The Fourteenth International Conference on Data Engineering, 1998
- *Proceedings Chair*
    - 9th ACM Conference on Computer and Communications Security, 2002.
    - 3rd and 4th ACM Workshop on Role-based Access Control, 1998 and 1999
- *Registration Chair*, The Fourteenth IEEE International Conference on Data Engineering, 1998
- *Publicity Chair*
    - The Secure Knowledge Management Workshop (SKM) 2010
    - ACM Symposium on Access Control Models and Technologies (SACMAT), 2006
    - 7th ACM Conference on Computer and Communications Security, 2000

- IEEE Conference on Advances in Digital Libraries, 1998
- *Publicity Co-Chair*; International Workshop on Advanced Transaction Models and Architectures, August, 1996 held in conjunction with VLDB'96 Conference
- *Proposal Reviewer*
  - National Science Foundation: Information and Data Management, Trusted Computing, Small Business Innovative Research, Biodiversity and Ecosystems Informatics, and International programs
  - Natural Sciences and Engineering Research Council
  - Council for International Exchange of Scholars - The Fulbright Program for Faculty and Professionals
- *SIGSAC Volunteer* for the ACM's Career Resource Centre for the Special Interest Group in Security, Audit, and Control
- *Referee for numerous journals and conferences*

Journals and Books:

ACM Transactions on Database Systems, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Computers, IEEE Transactions on Dependable and Secure Computing, IEEE Transactions on Parallel and Distributed Systems, IEEE Transaction on Systems, Man and Cybernetics, IEEE Computer, IEEE Internet Computing, ACM Transactions on Information Systems Security (TISSEC), ACM Transactions on Information Systems (TOIS), ACM Computing Surveys, Information Systems, Kluwer Academic Publishers, Journal of Computer Security, Distributed and Parallel Databases, Journal of Intelligent Information Systems, International Journal of Cooperative Information Systems, SIGMOD Record, Data and Knowledge Engineering Journal, Decision Support Systems, International Journal of Information Security, Theory and Practice of Object Systems, Journal of Digital Libraries, The Computer Journal, Computing Systems Journal, International Journal of Semantic Web and Information Systems, Journal of Systems Architecture, Information & Software Technology, International Journal of Foundations of Computer Science, Journal of Database Management, Information Processing Letters, Theoretical Computer Science, The VLDB Journal, Information Sciences, Journal of Network and Systems Management, ACM Journal of Educational Resources in Computing, International Journal of Advanced Manufacturing Technology, International Journal of Information and Computer Security, IEEE Transactions on Software Engineering (TSE), IEEE Transactions on Services Computing, Knowledge and Information Systems, Information Systems Frontiers, ACM Transactions on Internet Technology

Conferences: All the conferences serving as the program committee member.

**INVITED TALKS (Selected):**

1. "The Role Mining Problem: A Formal Perspective," Mathematics and Computer Science Department, Emory University, April 2009.
2. "The Role Mining Problem: A Formal Perspective," Indian Institute of Technology, Kharagpur, India, October 2008.
3. "The Role Mining Problem: A Formal Perspective," International Institute of Information Technology, Hyderabad, India, October 2008.
4. "Privacy Challenges in Customized Location Based Services," Security and Privacy Day, May 30, 2008.
5. "Security and Privacy Challenges in Location Based Service Environments," The Third International Conference on Availability, Reliability and Security, Barcelona, Spain, March 2008, Invited Keynote Talk.

6. "Efficient Enforcement of Authorizations in Geospatial Databases," College of Computing, Georgia Tech, April, 2006.
7. "Unified Indexing of Spatio-temporal Data and Authorizations," Computer Science Department, Polytechnic University, April, 2004.
8. "Access Control for Spatio-temporal Databases," Department of Information Science & Telecommunications, University of Pittsburgh, April, 2004.
9. "Unified Indexing of Spatio-temporal Data and Authorizations," Computer Science Department, New Jersey Institute of Technology, March, 2004.
10. "Security Challenges in an Electronic Commerce Environment," International Institute of Information Technology, Hyderabad, India, December 2003.
11. "Access Control for Spatial Databases," Computer Science and Engineering Colloquium, Pennsylvania State University, University Park, November 2003.
12. "Secure Agency Interoperation for Effective Data Mining in Container Security Applications," The European Workshop Exploring R&D Supporting Container Security, Hamburg October, 2003.
13. "Secure Agency Interoperation for Effective Data Mining in Border Control and Homeland Security Applications," IBM Global Services, Reston, VA, October, 2002.
14. "Secure Agency Interoperation for Effective Data Mining in Border Control and Homeland Security Applications," SAP Research Labs, Palo Alto, CA, July 2002.
15. "Border Control Challenges: Secure Agency Interoperation for effective data mining," SAP Public Services, Washington, DC June, 2002.
16. "Building E-government Services with the State of New Jersey," NSF Conference on Digital-Government, May, 2002.
17. "Continuous High-resolution Satellite Surveillance: Privacy Concerns," Workshop on Global Public-Private Partnerships in a Networked World, Rutgers University, March 8, 2002.
18. "A Content-based Authorization Model for Digital Libraries," Computer Science Department, SUNY Buffalo, October, 2001.
19. "E-government for State Business Services," Office of Information Technology, State of New Jersey, October, 2001
20. "E-Government: Human-Centered Systems for Business Services," NSF Workshop on Digital-Government. May, 2001.
21. "E-government for State Business Services," NSF Site Visit, Rutgers University, May 2001.
22. "Digital Libraries Research at CIMIC" School of Information and Library Studies (SCILS), Rutgers University, October 2000.
23. "E-government Project for State Business Services" Workshop on EGOV, Rutgers University, March 2000.
24. "Procuring Grants: Some Guidelines," Orientation for New Faculty, FoM, Rutgers University, September 1999, 2000, 2001.
25. "Digital Libraries: Multimedia Distribution" Panasonic Information and Networking Technologies Laboratory, Princeton, NJ, March 1999.
26. "Change Detection in Data Warehouses" IBM Watson Research Center, October 1997
27. "DigiTerra: An Environmental Decision Support System," David Sarnoff Research Center, Princeton, NJ, September 1997.
28. "Secure Concurrency Control," Naval Research Laboratory, Washington, D.C., November 1992.

## **DOCTORAL THESIS SUPERVISION:**

### **Primary Adviser:**

1. Wei-Kuang Huang, Rutgers University, graduated in May, 1998, Associate professor, Department of Operation and Information Management, University of Connecticut.  
Dissertation: Incorporating Security into Workflow Management Systems (Co-Adviser: N. Adam)
2. Soon Ae Chun, Rutgers University, May 2003, Assistant Professor, City University of New York  
Dissertation: Decentralized Management of Dynamic and Distributed Workflows (Co-Adviser: N. Adam)
3. Li Qin, Rutgers University, May 2005, Assistant Professor, Western New England College  
Dissertation: Change Detection and Management for the Semantic Web
4. Songmei Yu, Rutgers University, May 2006  
Dissertation: Efficient Data Management in Spatial Data Warehouses (Co-Adviser: N. Adam)
5. Vandana Janeja, Rutgers University, May 2007, Assistant professor, Department of Information Systems, University of Maryland, Baltimore County  
Dissertation: Inter-domain Anomaly Detection in Highdimensional Datasets (Co-Adviser: N. Adam)
6. Janice Warner, Rutgers University, May 2007  
Dissertation: Secure Resource Sharing in Dynamic Ad-hoc Collaborations
7. Qi Guo, Rutgers University, June 2010  
Dissertation: The Role Mining Problem: A Formal Approach (Co-Adviser: J. Vaidya)
8. Heechang Shin, Rutgers University, August 2010  
Dissertation: Ensuring Security and Privacy in Personalized Mobile Environments (Co-Adviser: J. Vaidya)
9. Haibing Lu, Rutgers University, expected, May 2011 (Co-Adviser: J. Vaidya)

### **Co-Adviser:**

1. Igg Adiwijaya, Rutgers University, graduated in May, 2000, AdvanTechnologies Inc.  
Dissertation: Detecting Changes to Data and Schema in Semi-structured Documents (Primary Adviser: N. Adam)
2. June-Suh Cho, Rutgers University, December 2001, Hankuk University of Foreign Studies, South Korea  
Dissertation: Recognition of Partially Occluded Objects in Content-based Image Retrieval (Primary Adviser: N. Adam)
3. Mahamoud Youseff Mohamed, Rutgers University, May 2005,  
Dissertation: Semantically Enhanced and Efficient Location Services for Preserving Mobile Consumer's Privacy (Primary Adviser: N. Adam)
4. Ahmed Gomaa, Rutgers University, May 2006  
Dissertation: Self-manifestation of composite multimedia objects to achieve Universal access (Primary Adviser: N. Adam)
5. Dihua Guo, Rutgers University, October 2006  
Dissertation: Semantic-based High Resolution Remote Sensing Image Retrieval (Primary Adviser: N. Adam)

### **Member of Dissertation Committee:**

1. Richard Holowczak, Rutgers University, 1997, Currently assistant professor, Department of Statistics and CIS, Baruch College, City University of New York.

- Dissertation: Extractors for Digital Library Objects
2. Binto George, Indian Institute of Science, Bangalore, India, December 1998, currently assistant professor, Department of Computer Science, Western Illinois University.  
Dissertation: Secure Real-time Transaction Processing
  3. Dong-Ho Kim, Rutgers University, May 2005  
Dissertation: A Learning-Based Model In Clickstream-based Collaborative Filtering
  4. Francis Mendez, Rutgers University, July 2005  
Dissertation: Using Discrete Multivariate MCMC Bayesian Methods for Change Detection and Disclosure Control
  5. External Supervisor, Elena Ferrari, University of Milan, Italy, May 1998, Currently professor, Department of Computer Science, University of Milan, Italy.  
Dissertation: Temporal Authorization Models
  6. External Supervisor, Sabrina De Capitani di Vimercati , University of Milan, Italy, January 2001, Currently associate professor, Department of Electronics for Automation, University of Brescia, Italy.  
Dissertation: Protecting Information in the Global Infrastructure
  7. External Examiner, Frans A. Lategan, August 2002, Rand Afrikans University, South Africa.  
Dissertation: Enforcing Privacy on the Internet
  8. External Reader, Li Zhang, August 2004, SUNY Buffalo  
Dissertation: VizStruct: Visual Exploration for Gene Expression Profiling
  9. External Examiner, Sergio Mascetti, University of Milan, December 2007  
Dissertation: Privacy Protection through Anonymity in Location-based Services
  10. Mudhakar Srivatsa, College of Computing, Georgia Tech, May 2007  
Dissertation: Security Architectures and Algorithms for Overlay Network Services
  11. Aabhas Paliwal, Rutgers University, May 2007  
Dissertation: Semantic based Discovery of Web Services and Orchestration of Web Service Process
  12. Wugang Xu, New Jersey Institute of Technology, June 2007  
Dissertation: Automatic Physical Database Design: Recommending Indexes and Materialized Views
  13. External Examiner, Sara Foresti, University of Milan, May 2009  
Dissertation: Preserving privacy in data outsourcing
  14. External Examiner, He Wang, The University of Western Ontario, December 2008  
Dissertation: Fine-grained Role Graph Model
  15. Wenjun Zhou, Rutgers University  
Dissertation: Correlation Computing in Dynamic and Complex Data

#### **Comprehensive Examination Committee:**

Heechang Shin, Xinwin Zhou, Xioyun He, Haibing Lu, Qi Guo, Janice Warner, Aabhas Paliwal, Vandana Janeja, Dihua Guo, Ahmed Gomaa, Mahamoud Youseff Mohamed, Li Qin, Songmei Yu, Xin Wei, Jia Wu, Tanya Levina, Francisco Badua, Francis Mendez, Yu Cong, Rani Hoitash, Soon Ae Chun, Igg Adiwijaya, June-Suh Cho, Yuri Korostyshevski, Dong-Ho Kim, Richard Holowczak, Wei-Kuang Huang, Chao-Min Chiu, Sidan Lin, Barry Davis and Loverton Okwuosa.

#### **MASTERS THESIS SUPERVISION**

1. Co-adviser, Chiara Ghirardini, University of Milan, December 2000  
Thesis: Performance Evaluation of Spatio-temporal indexing structures for geo-spatial satellite imagery

2. Co-adviser, Pietro Mazzoleni, University of Milan, December 2001  
Thesis: Decentralized Workflow Management: Issues and Solutions
3. Co-adviser, Anna Curridori, University of Milan, May 2002  
Thesis: Network Analysis And Graph Drawing Applied To The Development Of A Tool For The Analysis Of A Network Of Alliances

## **COURSES TAUGHT:**

### **Courses Taught at Rutgers:**

1. 26:198:731 Applications of Database Systems (Ph.D.)
2. 26:198:732 Multimedia Information Systems (Ph.D.) (first to offer)
3. 26:198:685 Information Systems Security (Ph.D.) (first to offer)
4. 22:198:649 Introduction to Electronic Commerce (M.B.A.) (first to offer)
5. 22:198:611 Security for Electronic Commerce (M.B.A.) (first to offer)
6. EC2: Security for Electronic Commerce (Certificate Program in Electronic Commerce) (first to offer)
7. 22:198:603 Database Systems (M.B.A.)
8. 22:198:604 Computers & Information Systems (M.B.A.)
9. 22:198:605 Computer Technology (M.B.A.)
10. 29:623:220 Management Information Systems (Undergraduate, Newark)
11. 29:623:319 Database Management (Undergraduate, Newark)

### **Independent Study**

1. M.B.A.: Yue Wang, Barton Karboz, Johnathan Sloan
2. Ph.D.: Soon Ae Chun, Li Qin, Songmei Yu, Vandana Janeja, Dihua Guo, Ahmed Gomaa, Mahamoud Youseff Mohamed

**Courses Taught at Other Schools:** Several graduate and undergraduate courses in Computer Science and Engineering including Database Management Systems, Computers & Information Systems, Operating Systems, Programming Languages, Management Information Systems, Microprocessors and Applications, Logical design of digital computers, Computer Architecture, Integrated Circuits and Applications, Basic Electronics, Analog and Digital Circuits, Circuit Theory, Networks and Transmission Lines, Control Systems, Communication Systems, Power Electronics.

### **NEW COURSES DEVELOPED:**

1. 26:198:685 Information Systems Security (Ph.D.)
2. 26:198:732 Multimedia Information Systems (Ph.D.)
3. 22:198:649 Introduction to Electronic Commerce (M.B.A.) (jointly with Nabil R. Adam)
4. 22:198:611 Security for Electronic Commerce (M.B.A.) (jointly with Nabil R. Adam)
5. EC2: Security for Electronic Commerce (Certificate Program in Electronic Commerce)
6. 29:623:375 Computer Network Applications (Undergraduate, Newark) (jointly with Nabil R. Adam)
7. 29:623:325 Computer Information Systems: Technology and Applications (Undergraduate, Newark) (jointly with Nabil R. Adam)

## **UNIVERSITY SERVICE:**

### **Department:**

1. Faculty Search Committee, 1997-98, 1996-97, 2001-02, 2003-04
2. Member, Department's Hiring Needs Assessment Committee, 2001
3. Coordinator, For the course "Management Information Systems" (29:623:220) (1997-2000)
4. Member, MIS Course Study Team, 1996-97
5. Member, MIS Programs Study Team, 1996-97

### **School:**

1. Member, Technology Policy Committee, 2008-2010
2. Member, Research Resources Committee, 2009-2010
3. Member, Search committee for the Director of Information Technology, 2008
4. Member, Ph.D. Executive Committee (elected, 2003 - 2010)
5. Chair and Coordinator, Master of Information Technology Governing Committee (2006-)
6. Member, RBS junior faculty research awards evaluation committee (2005,2006,2008,2009)
7. Member, MBA policy committee (2006)
8. Member, Provost's Committee for Strengthening the Ph.D. program, 2004
9. Member, Teaching Innovations Committee (2002-2003)
10. Member, Courses of Study Committee (2002)
11. Member, Information Systems Committee (2001)
12. Member, Courses of Study Committee, Graduate School-Newark, 1998-1999
13. Member, Ph.D. Admissions Committee, 1996-97
14. Member, Ph.D. Program Committee, 1997-98
15. Member, Affirmative Action Committee, 1997-98, 1996-97, 1995-96
16. Member, Computer Policy Committee, 1995-96
17. Member, Library Committee, 1994-95

### **Campus:**

1. Newark Faculty Council, 2006-2009
2. Research Computing Advisory Committee, 2009 -

## **SERVICE TO THE SOCIETY:**

1. Volunteer, Summer Camp for the inner city school (middle and high) children of Newark, NJ, organized by CIMIC, 1998 - 2004.
2. Volunteer, The MUSIC (Making Healthy Multi User Sessions In Community) Computer Camp in the Summer of 1996.
3. Offered seminar "The Internet: Resources in Medical Education, Research and Practice," along with the members of CIMIC for the American Association for Clinical Chemistry, Inc., held on April 28, 1995.
4. Offered the seminar "The Internet: An Introduction with Resources in Medicine and Medical Education," by members of CIMIC. Held at the Faculty of Management, Newark, February 10, 1995. Over 20 physicians, surgeons, nursing and library staff attended the seminar.