

JAMES BIKRAM DHOJ JOSHI

706A IS Building
135 N. Bellefield Avenue, PA 15260
Office: (412) 624-9982

606, 10 Allegheny Center
Pittsburgh, PA 15212
Home: (412) 322-1877

EDUCATION

- PhD, Computer Engineering, Purdue University (August, 2003).
- MS, Computer Science, Purdue University, (May, 1998).
- BE, Computer Science & Engineering, Motilal Nehru NIT, India (1993)
- *Short training*: Certificate in Applied Management Principles; 60 in-class hour mini-MBA for PhD students offered by the Krannert School of Management, Purdue University (May 15- June 2, 2000)

AREAS OF SPECIALIZATION/INTEREST

- Systems Security, Role Based Access Control, Secure Interoperability, Distributed Systems Security, Security and Privacy of Multimedia Systems, Security of XML documents and Semantic Web, Systems Survivability, Privacy and Digital Rights Management

PROFESSIONAL EXPERIENCE

- Assistant Professor, University of Pittsburgh,
 - Graduate program in Information Science and Technology, and Telecommunications and Networking (August, 2003 – current)
 - Department of Computer Science (Secondary appointment; Feb, 2006 - current)
- Research Assistant, Distributed Multimedia Systems Lab, ECE, Purdue University
 - Involved Center of Education and Research in Information Assurance and Security (CERIAS) projects (1998-2003).
- Research Assistant, Purdue University (1997-1999)
 - National Water Quality Database Project, Agricultural/Biological Engineering,
- Research Assistant, Purdue University (1996-97)
 - Crystal Visualization lab, Veterinary Medicine Dept.,
- Lecturer, Computer Science and Engineering, Kathmandu University, Nepal (1993-1996)

GRANTS

External Grants with PI role

1. NSF Federal Cyber Service

A Scholarship Program for Security Assured Information Systems Track
(With M. B. Spring, P. Krishnamurthy, D. Tipper)
Amount: \$1,055,553.00; Period: 2006-2010

2. DoD IASP proposal

Capacity Building (Research + Equipments) and IRMC Partnership
(with P. Krishnamurthy, D. W. Tipper, M. B. Spring)
Amount: -\$55,000 (Capacity Building only), 2006

3. DoD IA Scholarship Program

Program Partnership with the Information Resource Management College (IRMC) of the National Defense University (NDU) (For IRMC Partnership and Capacity Building)
Amount: \$273,660, (approved overall budget); in 2005

4. CISCO CIAG Equipment Grant

A Proposal for Cisco CIAG Equipment Grant

Amount: ~\$130,000; Spring 2005.

5. NSF-CAREER (IIS Program)

A Trust-based Access Control Management Framework for Secure Information Sharing and Multimedia Workflows in Heterogeneous Environments;

Amount: \$416,419.00; Period: 2006-2010

External Grants with Co-PI role

6. NSF CNS Division

CSR: SGER: Dynamic Data Driven Defense Mechanisms for Cybersecurity

(with Taieb Znati (PI), Prashant Krishnamurthy, and David Tipper)

Amount: \$104,537.00, Period: 2007-2009.

7. NSF Federal Cyber Service (as co-PI)

A Curriculum in Security Assured Information Systems

(With M. B. Spring (PI), P. Krishnamurthy, D. Tipper)

Amount: \$286,710; Period: 2004-2006

Internal Grants – all with PI role

8. University of Pittsburgh CRDF

An Adaptive Framework for Security-Assured Survivable Information Systems;

Amount: \$19,988; Year: 2004-2006

9. Research Interest Group (RIG) – Phase I Funding from the Dean (through internal Competitive)

Security Assured Information Systems (SAIS) RIG

(as RIG Leader and its representative to the Research Advisory Committee)

Amount: \$20,000; Year 2006-07

10. Dean's Entrepreneurial Initiatives

LESAIS Seminar and Student Research Groups

(with P. Krishnamurthy, D. W. Tipper, M. B. Spring)

Amount: \$15,000; Year: 2005-06

11. Dean's Entrepreneurial Initiatives

Laboratory of Education and Research on Security Assured Information Systems

(with P. Krishnamurthy, D. W. Tipper, M. B. Spring)

Amount: \$12,000; Year: 2004-05 (1 Year)

ACADEMIC AWARDS/HONORS

1. NSF-CAREER Award – January, 2006

2. Service Award, IEEE Conference on Information Reuse and Integration, 2006, 2007

3. Certificate of Appreciation, International Conference on Collaborative Computing, 2006

4. Listed in “Who's Who of Emerging Leaders” since 2007

5. Listed in “Who's Who in Science and Engineering” since 2005.

6. Honored for faculty accomplishments in 2004, & 2006 Honors Convocation of the University of Pittsburgh.

7. Listed in “Who's Who in America” since 2003.

8. Student Author Travel Award, International Conference on Multimedia and Expo, August 2000, New York

9. Colombo Plan Scholarship for pursuing BE Computer Science & Engineering degree at MNNIT, India
10. Gold medal for standing 7th in Nepal in School Leaving Certificate Examination (10th Grade)
11. Academic Scholarship Awards for the last three years in high school for standing first in class

PUBLICATIONS & PRESENTATION

Book

1. Co-Editor of Book titled: "Information Assurance: Survivability and Security in Networked Systems,," To be Published in 2007 by Elsevier, Inc. Editors: Yi Qian, James Joshi, David Tipper, Prashant Krishnamurthy.
2. James B. D. Joshi, "A Generalized Temporal Role Based Access Control Model for Developing Secure Applications", PhD Thesis, Purdue University, August, 2003.

Book Chapter

1. James Joshi, "Access Control and Trust Management for Emerging Multidomain Environments," in *Annals of Emerging Research in Information Assurance, Security and Privacy Services*, Editors: S. Upadhyaya, R. O. Rao (in progress; invited)
2. James Joshi, Yue Zhang, "Temporal Access Control," *Encyclopedia of Database Systems*, Editors-in-Chief: Ling Liu, M. Tamer Özsu, Springer – in progress, (Invited).
3. James Joshi, Yue Zhang, "Role based Access Control", *Encyclopedia of Database Systems*, Editors-in-Chief: Ling Liu, M. Tamer Özsu Springer – in progress, (Invited).
4. David Tipper, Prashant Krishnamurthy, and James Joshi, "Network architecture and protocols for mobile positioning in cellular wireless systems," *Encyclopedia of Geoinformatics (Accepted)*.
5. Prashant Krishnamurthy, David Tipper, and James Joshi, "Position Location Technologies for Wireless Systems," *Encyclopedia of Geoinformatics (Accepted)*.
6. Prashant Krishnamurthy, James Joshi, "Network Security", a chapter for book *Information Assurance: Survivability and Security in Networked Systems* to be Published in 2007 by Elsevier, Inc.
7. James B. D. Joshi, Siqing Du, Saubhagya R Joshi, "A Trust Based Access Control Management Framework for a Secure Grid Environment" in Book titled: *Security in Distributed, Grid, and Pervasive Computing*, Edited by Dr. Yang Xiao, to be published by Auerbach Publications, CRC Press 2007.
8. James B. D. Joshi, S. R. Joshi, and S. M. Chandran, "Information Security Issues and Challenges," in *Encyclopedia of Digital Government*, 2006.
9. James B. D. Joshi, S. R. Joshi, and S. M. Chandran, "Identity Management and Privacy Issues," in *Encyclopedia of Digital Government*, 2006.
10. James B. D. Joshi, S. M. Chandran, A. Ghafoor, and W. G. Aref, "Survivability Issues and Challenges," in *Encyclopedia of Digital Government*, 2006.
11. James B.D. Joshi, Mei-Ling Shyu, Shu-Ching Chen, Walid Aref, Arif Ghafoor, "A Multimedia-Based Threat Management and Information Security Framework," *Web and Information Security* (editors: Elena Ferrari, Bhavani Thuraisingham), IDEA Group, 2005.
12. James B. D. Joshi, Arif Ghafoor, Walid Aref, Eugene H. Spafford, "Digital Government Security and Privacy Challenges," William J. McIver, Jr. & Ahmed K. Elmagarmid (eds) *Advances in Digital Government: Technology, Human Factors, & Policy*. Boston, Kluwer, 2002, Chapter 7, pp. 121-136.

Refereed Journal /Articles

1. James B. D. Joshi, Elisa Bertino, Arif Ghafoor "Formal Foundations for Hybrid Hierarchies in GTRBAC," *ACM Transactions on Information and System Security (Accepted)*.
2. Basit Shafiq, James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "Secure Interoperation in a Multi-Domain Environment Employing RBAC Policies," *IEEE Transactions on Knowledge and Data Engineering*. Vol. 17, No. 11, Pages 1557 - 1577, Nov. 2005.

3. Rafae Bhatti, James B. D. Joshi, Basit Shafiq, Elisa Bertino, Arif Ghafoor, "X-GTRBAC Admin: A Decentralized Administration Model for Enterprise Wide Access Control," *ACM Transactions on Information and System Security (TISSEC)*, Vol. 8 No. 4, Nov, 2005.
4. James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "Analysis of Expressiveness and Design Issues for a Temporal Role Based Access Control Model," *IEEE Transactions on Dependable and Secure Computing*, April, 2005.
5. James B. D. Joshi, Elisa Bertino, Usman Latif, Arif Ghafoor, "Generalized Temporal Role Based Access Control Model," *IEEE Transactions on Knowledge and Data Engineering*, Vol 17, No. 1 pages 4-23, Jan, 2005.
6. Rafae Bhatti, James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "X-GTRBAC: An XML-based Policy Specification Framework and Architecture for Enterprise-Wide Access Control," *ACM Transactions on Information and System Security* Vol. 8, No. 2, Pages 187-227, May 2005.
7. Rafae Bhatti, James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "XML-based Specification for Web-Services Document Security", *IEEE Computer*, Vol. 37, No. 4, April, 2004.
8. James B. D. Joshi, Rafae Bhatti, Elisa Bertino, Arif Ghafoor, "An Access Control Language for Multidomain Environments," *IEEE Internet Computing*, Nov-Dec 2004, pages 40-50.
9. James B. D. Joshi, Kevin Li, Husni Fahmi, Basit Shafiq, Arif Ghafoor, "A Model for Secure Multimedia Document Database System in a Distributed Environment," *IEEE Transactions on Multimedia: Special Issue on Multimedia Databases*, Vol. 4, No. 2, June, 2002, pp. 215-234.
10. James B. D. Joshi, Arif Ghafoor, Walid Aref, Eugene H. Spafford, "Digital Government Security Infrastructure Design Challenges," *IEEE Computer*, Vol. 34, No. 2, February, 2001, pp 66-72.
11. James B. D. Joshi, Walid G. Aref, Arif Ghafoor and Eugene H. Spafford, "Security Models for Web-Based Applications," *Communications of the ACM*, Vol. 44, No. 2, February, 2001, pp. 38-44.

Journal Papers Under Preparation/Submitted (Title subject to change)

1. Carlos Caicedo, James Joshi, Summit Tuladhar, "IPv6 Security Challenges," submitted to *IEEE Computer*.
2. James Joshi, Elisa Bertino, Yue Zhang, "Advanced Constraints for GTRBAC Model," being submitted to *IEEE Transactions on Dependable and Secure Computing*.
3. Yue Zhang, James Joshi, "Inter-domain Access Control Framework using RBAC," being submitted to *IEEE Transactions in Knowledge and Data Engineering*.
4. James Joshi, Yue Zhang, Craig Schenkler, Suroop M. Chandran, "Employing LoT-RBAC for Securing Mobile Applications," Journal venue to be determined.
5. Yue Zhang, James Joshi, "Administrative Framework for Advanced RBAC Models," Journal venue to be determined.

Refereed Symposium/Conferences/Workshop

1. Yue Zhang, James Joshi, "SRBAC07: A Scoped Administration Model for RBAC with Hybrid Hierarchy," *The Third International Symposium on Information Assurance and Security*, August 29-31, 2007, Manchester, United Kingdom
2. Yue Zhang, James Joshi, "ARBAC07: A Role-based Administration Model for RBAC with Hybrid Hierarchy," *IEEE Proceedings of the International Conference on Information Reuse and Integration*, Las Vegas, Aug13-15, 2007.
3. Kai Ouyang James B. D. Joshi, "CT-RBAC: A Temporal RBAC Model with Conditional Periodic Time," *Third International Workshop on Information Assurance*, New Orleans, April 2007.
4. Michael Chuang, Suronapee Phoomvuthisarn, James B. D. Joshi, "An Integrated Framework for Trust-Based Access Control for Open Systems," *CollaborateCom 2006*, GA, USA.
5. Jun-Hyung Park, Min-Soo Kim, Bong-Nam Noh, James B. D. Joshi, "A Similarity based Technique for Detecting Malicious Executable files," *IEEE Proceedings of the International Conference on Information Reuse and Integration*, Hawaii, 2006.

6. Siqing Du, James B. D. Joshi, "Supporting Authorization Query and Inter-domain Role Mapping in Presence of Hybrid Role Hierarchy," *The 11th ACM Symposium on Access Control Models and Technologies*, USA, June 2006.
7. James B. D. Joshi, Elisa Bertino, "Fine-grained Role-based Delegation in Presence of Hybrid Role Hierarchy," *The 11th ACM Symposium on Access Control Models and Technologies*, USA, June 2006.
8. Suroop M Chandran, Korporn Panyim, James B. D. Joshi, "A Requirements-Driven Trust Framework for Secure Interoperation in Open Environments", *The Fourth International Conference on Trust Management*, (iTrust-06), May 16-19, Italy, 2006.
9. Suroop M Chandran, James B. D. Joshi, "LoT RBAC: A Location and Time-based RBAC Model", *Proceedings of the 6th International Conference on Web Information Systems Engineering (WISE 2005)*, New York, Nov 2005.
10. Suroop M Chandran, James B. D. Joshi, "Towards Administration of a Hybrid Role Hierarchy", *IEEE International Conference on Information Reuse and Integration*, Las Vegas, Aug 15-17, 2005.
11. Smithi Piromruei, James B. D. Joshi, "An RBAC Framework for Time Constrained Secure Interoperation in Multi-domain Environment," *IEEE Workshop on Object-oriented Real-time Databases (WORDS-2005)*, 2005.
12. Basit Shafiq, Ammar Masood, and Arif Ghafoor, James B. D. Joshi, "A Role-Based Access Control Policy Verification Framework for Real-Time Systems", *IEEE Workshop on Object-oriented Real-time Databases (WORDS-2005)*, 2005.
13. Rafae Bhatti, James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "X-GTRBAC Admin: A Decentralized Administration Model for Enterprise Wide Access Control", *The 9th ACM Symposium on Access Control Models and Technologies*, New York, June 2004.
14. James B. D. Joshi, Elisa Bertino, Basit Shafiq, Arif Ghafoor, "Dependencies and Separation of Duty Constraints in GTRBAC", *The 8th ACM Symposium on Access Control Models and Technologies*, Como, Italy, June 2003.
15. Rafae Bhatti, James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "Access Control in Dynamic XML-based Web-Services with X-RBAC", *The First International Conference in Web Services*, June 23-26, Las Vegas, Nevada, 2003.
16. James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "Hybrid Role Hierarchy for Generalized Temporal Role Based Access Control Model," *26th Annual International Computer Software and Applications Conference Workshop*, (COMPSAC 2002 Workshop), Oxford, England, 26-29th August, 2002, pp. 951-956.
17. James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "Temporal Hierarchy and Inheritance Semantics for GTRBAC," *The 7th ACM Symposium on Access Control Models and Technologies*, June 3-4, 2002, Moterey, CA, pp 74-83.
18. J. Joshi, A. Ghafoor, "A Petri-Net Based Multilevel Security Specification Mechanism for Multimedia Documents in a Multidomain Environment," *The Second Annual Systems Security Engineering Conference*, February 28 – March 2, 2001, Orlando, FL.
19. J. Joshi, A. Ghafoor, "A Petri-Net Based Multilevel Security Specification Model for Multimedia Documents," *IEEE International Conference on Multimedia and Expo*, New York, USA, July 30-August 2, 2000, pp 533-536.
20. S. Sedigh, J. Joshi, A. Bashandy, A. Ghafoor, "Quality Based Evaluation of Filtering Mechanisms in MPEG Video Communications," *Proc. of 17th IEEE Symposium on Reliable and Distributed Computing*, West Lafayette, IN, USA, October 20-23, 1998, pp. 449-454.

Technical Reports

1. James Joshi, Rafae Bhatti, Elisa Bertino, Arif Ghafoor, "X-RBAC: An Access Control Language for Multi-domain Environments," CERIAS TR 2004-46.
2. Basit Shafiq, James B. D. Joshi, Arif Ghafoor "A Petri-net Model for Verification of RBAC Policies," *CERIAS Technical Report TR 2002-33*, Purdue University, 2003.

3. Joshi, J., Bhatti, R., Bertino, E., Ghafoor, A., "X- RBAC : An Access Control Language for Multi-domain Environments," CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2004-46
4. Bhatti, R., Bertino, E., Ghafoor, A., Joshi, J., "XML-Based Specification for Web Services Document Security" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2004-65
5. Bhatti, R., Joshi, J., Bertino, E., Ghafoor, A., "X-GTRBAC Admin: A Decentralized Administration Model for Enterprise Wide Access Control," CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2004-04
6. Bhatti, R., Joshi, J., Bertino, E., Ghafoor, A., "Access Control in Dynamic XML-based Web-Services with X-RBAC" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2003-26
7. Joshi, J., "Generalized Temporal Role Based Access Control Model for Developing Secure Systems" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2003-23
8. Shafiq, B., Joshi, J., Bertino, E., Ghafoor, A., "Optimal Secure Interoperation in a Multi-Domain Environment Employing RBAC Policies" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2003-24
9. Joshi, J., Bertino, E., Shafiq, Ghafoor, A., "Dependencies and Separation of Duty Constraints In GTRBAC" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2003-04
10. Joshi, J., Bertino, E., Latif, U., Ghafoor, A., "Generalized Temporal Role Based Access Control Model (GTRBAC) (Part I) - Specification and Modeling" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2001-47
11. Joshi, J., Bertino, E., Shafiq, B., Latif, U., Ghafoor, A., "Generalized Temporal Role Based Access Control Model (GTRBAC) (Part II) - Expressiveness and Design Issues" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2003-01
12. Shafiq, B., Joshi, J. B. D., and Ghafoor, A., "A Petri-Net Model for Verification of RBAC Policies," CERIAS, Purdue University, Technical Report TR 2002-33, 2002.
13. Shafiq, B., Joshi, J., Bertino, E., and Ghafoor, A., "Optimal Secure Interoperation in a Multi-Domain Environment Employing RBAC Policies," CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2003-24, 2003.
14. Joshi, J., Bertino, E., Ghafoor, A., "Temporal Hierarchy and Inheritance Semantics for GTRBAC" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2001-52
15. Joshi, J., Ghafoor, A., Aref, W. G., Spafford, E., "Digital Government Security Infrastructure Design Challenges" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2001-31
16. Joshi, J., Ghafoor, A., "A Petri-net Based Multilevel Security Specification Model for Multimedia Documents" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2000-09
17. Joshi, J., Ghafoor, A., "A Petri-net Based Multilevel Security Specification Model for Multimedia Documents" CERIAS, School of Electrical and Computer Engineering, Purdue University, Technical Report CERIAS TR 2000-09

Invited Talks/Guest Lecture

1. *Carnegie Mellon University*, April, 2007. (Guest Lecture for Robert Seacord, Author of "Secure coding in C/C++").
2. *Department of Electrical and Computer Engineering*, University of Florida, Gainesville, March, 2007
3. *Department Software and Information Systems*, University of North Carolina, Charlotte, March, 2007

4. *School of Computer and Information Sciences*, Florida International University, Miami, Feb, 2007
5. *Department of Electrical and Computer Engineering*, University of Pittsburgh, March 23, 2006
6. *Department of Electrical and Computer Engineering*, CyCare, Virginia Tech, March 14, 2006
7. *Department of Computer Science*, University of Pittsburgh, Nov 2, 2005
8. *Center of Education and Research in Information Assurance and Security (CERIAS)*, Purdue University, Nov 10, 2004
9. *Guest Lecturer, School of Information Science*, University of Pittsburgh, April 5, 2004
10. *Heinz School Public Policy and Management*, Carnegie Mellon University, April 1, 2004
11. *School of Computer and Information Science*, University of California, Irvine, 2003
12. *Department of Computer Science*, University of Texas, Arlington, 2003.

Poster Presentations

1. A Role-based Access Control Framework for Workflow Security. I-Fest, University of Pittsburgh, 2005
2. A Trust-based Access Control Management Framework, I-Fest, University of Pittsburgh, 2005.
3. A Generalized Temporal Role Based Access Control Framework for XML-based applications. Fourth Annual Research Symposium, Center of Education and Research in Information Assurance and Security, April 8-9 2003.
4. Secure Interoperation in a Multidomain Environment. Fourth Annual Research Symposium, Center of Education and Research in Information Assurance and Security, April 8-9 2003.
5. A Pragmatic Approach for Developing Secure Multidomain Environments. Third Annual Research Symposium, Center of Education and Research in Information Assurance and Security, April 2002.
6. Specification & Development of an Automatic and Secure Multimedia Document System. First Annual Research Symposium, Center of Education and Research in Information Assurance and Security, April 2002.

PROFESSIONAL ACTIVITIES

Editorial Review Board

1. International Journal of E-Business Research (Since Jan, 2005)
2. International Journal of Network Security (June, 2005 – June, 2007)
3. International Journal of Multimedia and Ubiquitous Engineering (2007)

Advisory Board

4. Kido Systems Inc., FL, USA (A Disaster Preparedness System) (by invitation), since 2006.

Program (Co) Chair

1. The 4th International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2008*), Florida, USA, 2008
2. The IEEE International Conference on Information Reuse and Integration, Las Vegas, 2007
3. The IEEE International Conference on Information Reuse and Integration, Hawaii, 2006
4. Program vice co-chair of Multimedia Security Track at 2007 IEEE International Symposium on Multimedia (ISM'07), Taiwan, December, 2007.
5. International Workshop on Trusted Collaboration (TrustCol-07), New York, 2007.
6. International Workshop on Trusted Collaboration (TrustCol-06), Georgia, 2006.
7. International Workshop on Information Assurance, (with IPCCC-07), New Orleans, 2007.
8. International Workshop on Information Assurance, (with IPCCC-06), Phoenix, 2006.
9. International Workshop on Information Assurance, (with IPCCC-04), Phoenix, 2004.

Panels Chair

1. The 13th ACM Symposium on Access Control Models and Technologies, SACMAT08, USA, 2008.

Workshop Chair

1. The 3rd International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2007*), New York, USA, 2007
2. The 2nd International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2006*), Georgia, USA, 2006

Publicity Chair

1. The First International Workshop on Research Challenges in Next Generation Networks for First Responders and Critical Infrastructures, in conjunction (with IEEE IPCCC), New Orleans, Louisiana, April 11-13, 2007.
2. The IEEE International Conference on Information Reuse and Integration, Las Vegas, 2005.

Panelist

1. The 9th ACM Symposium on Access Control Models and Technologies, SACMAT 2004, New York; Panel title: Security for Grid-based Computing Systems Issues and Challenges.

Session Chair

1. The 9th ACM Symposium on Access Control Models and Technologies, SACMAT 2004, New York
2. The IEEE International Conference on Information Reuse and Integration, Las Vegas, 2005
3. The IEEE International Conference on Information Reuse and Integration, Hawaii, 2006
4. The IEEE International Conference on Information Reuse and Integration, Las Vegas, 2007
5. The 2nd International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2006*), Georgia, USA, 2006
6. International Workshop on Information Assurance, (with IPCCC-07), New Orleans, 2007.
7. International Workshop on Information Assurance, (with IPCCC-06), Phoenix, 2006.
8. International Workshop on Information Assurance, (with IPCCC-04), Phoenix, 2004.

Technical Program Committee Membership

1. ICC'08 - Wireless Networking Symposium, Beijing, China, 2008.
2. The 14th International MultiMedia Modeling (MMM), Kyoto, Japan, Jan, 2008.
3. ICIW 2007 committee, Peter Kiewit Institute, University of Nebraska Omaha, USA on the 24-25 April 2008
4. The 12th ACM Symposium on Access Control Models and Technologies, SACMAT07, USA, 2007.
5. The 2nd International Conference on Collaborative Computing: Networking, Applications and Worksharing, New York, USA, 2007
6. 2nd International Conference on Information Warfare and Security, Naval Postgraduate School, Monterey, California, USA, 8-9 March 2007
7. The 8th IFIP Working Conference on Virtual Enterprises (PRO-VE'07), Guimaraes, Portugal, 10-12 Sept, 2007
8. The Third IEEE International Workshop on Multimedia Information Processing and Retrieval (IEEE-MIPR 2007) will take place in Taichung, Taiwan, R.O.C. on December 10-12, 2007.
9. 3rd international workshop on security in systems and networks (SSN 2007), to be held in conjunction with 21st IEEE IPDPS March 26-30, 2007, Long Beach, California, USA.
10. The Second IEEE International Workshop on Multimedia Information Processing and Retrieval (MIPR'06), in conjunction with IEEE International Symposium on Multimedia (ISM2006), San Diego, California, USA, December 11-13, 2006.

11. 3rd IEEE Workshop on Situation Management (SIMA 2007) at MILCOM 2007, Orlando, Florida, Oct 29-31, 2007
12. Workshop on Parallel and Distributed Multimedia Computing (ParDMCom-06) held in conjunction with ISPA-06: The International Symposium on Parallel and Distributed Processing and Application, Sorrento, Italy, December 1-4, 2006
13. The Second IEEE LCN Workshop on Network Security (WNS 2006) Tampa, Florida, U.S.A. 14 November 2006
14. The 2007 International Conference on Genetic and Evolutionary Methods (GEM'07) (*Honorary*)
15. The 2007 International Conference on Bioinformatics and Computational Biology (BIOCOMP'07) (*Honorary*)
16. The 2007 International Conference on Scientific Computing (CSC'07) (*Honorary*)
17. The 2007 International Conference on Artificial Intelligence (ICAI'07) (*Honorary*)
18. The 12th ACM Symposium on Access Control Models and Technologies, SACMAT06, Prance, 2006.
19. The 8th IFIP Working Conference on Virtual Enterprises (PRO-VE'07), Guimaraes, Portugal, 10-12 Sept, 2007
20. The First International Workshop on Research Challenges in Next Generation Networks for First Responders and Critical Infrastructures, in conjunction (with IEEE IPCCC), New Orleans, Louisiana, April 11-13, 2007.
21. Database and Data Mining track of 2007 ACS/IEEE International Conference on Computer Systems and Applications, AICCSA '2007, May 13-16, 2007, Amman, Jordan.
22. International Conference on E-business (ICE-B), 28-31 July, Barcelona, Spain.
23. First International Workshop on Trust and Reputation Management in Massively Distributed Computing Systems (TRAM 2007), to be held in conjunction with The 27th International Conference on Distributed Computing Systems (ICDCS 2007), Toronto, Canada, June 25-29, 2007.
24. Second International Workshop "Dependability Aspects on Data Warehousing and Mining applications" DAWAM 2007, in conjunction with The Second International Conference on Availability, Reliability and Security- ARES 2007.
25. The Second IEEE International Workshop on Multimedia Databases and Data Management (MDDM'07), in conjunction with 2007 IEEE 23rd International Conference on Data Engineering (ICDE 2007), April 16-20, 2007, The Marmara Hotel, Istanbul, Turkey.
26. 3rd international workshop on security in systems and networks (SSN 2007), to be held in conjunction with 21st IEEE IPDPS March 26-30, Long Beach, California, USA.
27. The 2nd International Conference on Collaborative Computing: Networking, Applications and Worksharing, Georgia, USA, 2006
28. The 3rd International Workshop on Visualization for Computer Security (VizSec06), held in conjunction with the 13th ACM Conference on Computer and Communications Security (CCS 2006)
29. 2006 IEEE International Workshop on Multimedia Databases and Data Management (MDDM'06), in conjunction with The 22nd IEEE International Conference on Data Engineering (ICDE2006), 4/3/2006 - 4/7/2006, Atlanta, Georgia, USA.
30. International Conference on e-Business (ICE-B) (Sponsored by IEEE and ACM-SIGMIS), 2006,
31. The 10th Colloquium for Information Systems Security Education, MD, June, 2006.
32. Workshop on Parallel and Distributed Multimedia Computing (ParDMCom-06), to be held in conjunction with ISPA-06: The International Symposium on Parallel and Distributed Processing and Application, Sorrento, Italy, December 1-4, 2006.
33. International MultiMedia Modeling Conference (MMM) 2007, Singapore, January 9-12, 2007.

34. 2007 International Conference on Multimedia and Ubiquitous Engineering (MUE 07), April 26th - 28th, 2007, Seoul Olympic Parktel, Seoul, Korea.
35. The 2nd IEEE LCN Workshop on Network Security, (WNS 206), Tampa, Florida, U.S.A. 14 November 2006.
36. International Conference on Privacy, Security and Trust (PST 2006). Theme: Bridge the Gap between PST Technologies and Business Services, Ontario, Canada, Oct 30 - Nov 1, 2006
37. The IEEE GLOBECOM 2006 Computer and Network Security Systems Symposium, San Francisco, CA, USA, 27 November - 1 December 2006 (reviewer)
38. The IEEE International Workshop on Multimedia Technology and Ubiquitous Computing (MTUC 2006) in conjunction with The IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC 2006)
39. 10th Colloquium for Information Systems Security Education (CISSE), Maryland, June, 2006
40. The 4th European Conference on Information Warfare and Security (ECIW 2006), University Of Glamorgan, UK, 2006
41. The 2nd international workshop on Security in systems and Networks (SSN'2006), to be held in conjunction with 20th IEEE IPDPS, April 25-29, Rhode Island, Greece.
42. The 5th European Conference on Information Warfare and Security (ECIW 2006), University Of Glamorgan,
43. 2005 IEEE International Workshop on Multimedia Information Processing and Retrieval (MIPR'05), in conjunction with IEEE International Symposium on Multimedia (ISM2005), Irvine, CA, December 12-14, 2005.
44. The 8th IEEE International Symposium on Object-oriented Real-time distributed Computing, May 18-20, 2005, Seattle, Washington
45. The 2005 IEEE International Conference on Information Reuse and Integration, Las Vegas, 2005
46. The 10th ACM Symposium on Access Control Models and Technologies, SACMAT, Sweden, 2005
47. The International Workshop on Frontiers of Information Technology (FIT), being held on Dec. 20-21, 2004 in Islamabad, Pakistan.
48. The 4th European Conference on Information Warfare and Security (ECIW 2005), University Of Glamorgan, UK, 11-12 July 2004
49. The 1st International Workshop on Systems and Network Security (SNS 2005) Denver, Colorado, USA, April 8, 2005 (to be held in conjunction with in conjunction with the IEEE 19th IPDPS)
50. The 9th ACM Symposium on Access Control Models and Technologies, SACMAT 2004, New York - *Session Chair and Panelist*
51. The 8th ACM Symposium on Access Control Models and Technologies, SACMAT, Como, Italy, 2003 - *Session Chair*
52. Workshop on Information Assurance, 2004, April 14-17, Phoenix, *Session Chair and Program Co-Chair*,
53. The 6th International Symposium on Multimedia Software Engineering (IEEE MSE'04), Florida International University, Miami, FL, USA December 13-15, 2004.
54. The Second ACM Workshop on Multimedia Databases (ACM MMDB'04) to be held in conjunction with the 13th International Conference on Information and Knowledge Management (ACM CIKM 2004).
55. The First Annual International Conference on Mobile and Ubiquitous Systems: Networking and Services, August 22-26, 2004 - Boston, Massachusetts, USA

Phd Committees

Committee Chair

1. Yue Zhang (Status: Prelim Passed in CS department)

2. Amirreza Masoumzadeh (new)
3. Saubhagya Ram Joshi (Status: Prelim Passed in IS program)
4. Michael Chuang (Status: Taking in IS program)
5. Yipeng Wang (Status: discontinued; already had a PhD in medical area)

Committee Member

1. Tanapat Anusas-Amornkul (Telecommunication), "On detection mechanisms and their performance for packet dropping attack in ad hoc networks" (Status: Passed Dissertation Proposal)
2. Saowaphak Sasanus (Telecommunication), "Adaptive Multi-class Signaling Overload Control for Cellular Networks," (Status: Dissertation Proposal)
3. Haidong Xia (CS), "Using Secure CoProcessor to Enforce Network Access Policies in Enterprise and Ad Hoc Networks, (Status: Graduation expected in 2007)
4. Phongsak Kiratiwintakorn (Telecommunication), "Energy Efficient Security Framework For Wireless Local Area Networks, (Status: graduated)
5. Siqing Du (IS) – finished Dissertation proposal in Spring, 2007
6. Jiang Zheng (CS) – taking Comprehensive in Fall, 2007
7. Ricardo Villamarin-Salomon (CS) – taking Comprehensive in Fall, 2007.

External Reviewer

1. Igor Nai Fovino, "Privacy Preserving Data Mining - Concepts, Techniques and evaluation Methodologies," Università degli Studi di Milano (graduated).
2. Giovanni Mella, "Disitributed and Cooperative Updates of XML Documents," Università degli Studi di Milano (graduated).
3. Stefano Franzoni (CS, PhD Candidate), University of Milan, graduating in 2007

UNIVERSITY SERVICES

University of Pittsburgh, USA (Fall, 2003 - current)

1. *Leader of the Information Assurance Research Interest Group* (currently nine members) in the School of Information Sciences (SIS) (since Summer, 2006).
2. *Member of Curriculum Committee*, Graduate program in Information Science and Technology (since 2004)
3. *Chair of the Departmental Colloquium Committee* (2005 – 2006)
 - Organized 8 talks in Spring 2005
 - Organized 11 talks in Fall 2005
 - Organized 5 talks in Spring 2006
4. *Director and co-founder of Laboratory of Education and Research on Security Assured Information Systems (LERSAIS)*
 - Led the faculty team to get the University designated as a *National Center of Academic Excellence in Information Assurance Education (NCAE/IAE)* by the NSA and DHS.
 - Currently the *Point of Contact* for the NCAE/IAE program.
 - Established the state-of-the-art lab facility with CISCO equipment grant and DoD capacity building grant (as PI)
 - Organized LERSAIS Seminar Series
 - Organized 8 talks in Fall 2004
 - Organized 8 talks in Spring 2005
 - Organized 8 talks in Fall 2005

- Organized 7 talks in Spring 2005
 - Organized 2 talks in Fall 2006,
5. Developed Security Curriculum and formalized Security Track
 - Formalized the Security Assured Information Systems (SAIS) Track at SIS – first track that set the example for other tracks.
 - Led the LERSAIS team towards receiving the certification for the SAIS track courses for all the five national IA standards CNSS - 4011, 4012, 4013, 4014 and 4015. Pitt is one of only 13 institutions with all the five certifications.
 - Established and currently manage the prestigious NSF-SFS Scholarship (over \$1M in total funds) that supports 3 cohorts of 4 students each.
 - Developed and taught three new security courses for the security track.
 - i. *Introduction to Security* (Mapped to about 85% of CNSS 4011, 4012 and 4013 standards)
 - ii. *Security Management* (Mapped to CNSS 4014 and 4015)
 - iii. *Developing Secure Systems*
 6. External Partnerships
 - Information Resource Management College partnership for DoD IA Scholarship Program to facilitate transfer of students with IRMC certificates to pursue MSIS/MST degree programs at DIST (passed by the department)
 7. Organizing Workshop/Training
 - Microsoft Onsite Security Training, Dec 2-3, 2004 – attended by 32 (students and some University personnel)
 - Cisco Professors Security Boot Camp, July 6-9, 2005

Kathmandu University, Nepal (1993 - 1996)

- First Computer Science and Engineering faculty in the University (in Nepal)
- Led the development of the first Undergraduate Computer Science and Engineering curriculum for my Nepal in 1993.
- Designed and taught several courses for the first time at KU (*Computer Foundation Course; Introduction to Structured Programming; Data Structures and Algorithms, Communications and Networking, Hardware and System Maintenance, and Software Lab*)
- Managed the procurement, setting-up and maintenance of KU's computer centers in the schools of Engineering and Management

REVIEW TASK

NSF Review Panel

1. CyberTrust panel (Twice)
2. NSF-CAREER (Once)
3. External reviewer for IDM (Once)
4. NSF Service For Scholarship (Once)

JOURNAL

1. ACM: Communications of the ACM
2. ACM Transactions on Information and System Security
3. Distributed and Parallel Databases - An International Journal
4. Encyclopedia of Geoinformatics
5. IEEE Security and Privacy (1)

6. IEEE Distributed Systems (1)
7. IEEE Transactions on Secure and Dependable Computing
8. IEEE Transactions on Software Engineering
9. IEEE Transactions on Systems, Man, and Cybernetics--Part A: Systems and Humans
10. IEEE Distributed Systems Online
11. IEEE Security & Privacy
12. IEEE Computer
13. IEEE Transactions on Multimedia
14. IEEE Transactions on Knowledge and Data Engineering
15. IEEE Transactions on Systems, Man, and Cybernetics
16. International Journal of Information Security
17. Information Systems Journal (Elsevier), special issue on Multimedia Databases
18. International Journal of E-Business Research
19. International Journal of Business Process Integration and Management (IJBPIIM)
20. International Journal of Cooperative Information Systems
21. International Journal on Digital Libraries
22. International Journal of Information and Computer Security (IJICS)
23. Iranian Journal of Electrical and Computer Engineering
24. International Journal of Information and Computer Security
25. Journal of Universal Computer Science
26. Journal of Information and Computer Security (IJICS)
27. Journal of Autonomic and Trusted Computing, Special Issue
28. Journal of System and Software
29. Journal of Autonomic and Trusted Computing
30. Special issue on Multimedia Databases of the Information Systems Journal (Elsevier)
31. Very Large Databases Journal

PROFESSIONAL AFFILIATION

- Member of the ACM and the IEEE

EXTRA CURRICULUM

Sports

- Temporary Coach for Pittmandu Soccer club in Pittsburgh
- Member of school soccer team, Modern School (1987-88): 2 gold medals, 1 silver medal.
- Member of college soccer team; Captain of CS soccer team, MNREC (1990-93): 1 silver medal
- Participation in Volleyball and Badminton, MNREC 1992: 1 silver medal

Cultural

- Represented Nepal in “International Youth Exchange Program”, Japan, July, 1995. Selected among a national pool of applicants.
- Invited to attend the “50th commemoration of the Holocaust” by the Japanese prime minister in December 1995.
- Participated in solo singing (a silver medal), musical band shows and dances in yearly cultural events in MNREC.
- Participation in “House Ballet” and “School Ballet”.
- Represented Nepal in “Children’s Assembly, The Banner of Peace” held in Bulgaria in 1984. Selected by school as a poet and a folk dancer.

Other

- Participated in inter-school poetry competitions, maths quizzes, and science exhibitions.
- Wrote, composed, sang and produced a Nepali solo music album titled “Bhulidiun Ma Afulai” in 1996.

