

# JAMES BIKRAM DHOJ JOSHI

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## 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/Applications Security, Role Based Access Control, Secure Interoperability, Security and Privacy of Distribute, Multimedia Systems, Intrusion Detection Systems, Security and Privacy in Social Networks and Cloud Computing

## PROFESSIONAL EXPERIENCE

- Professor, University of Pittsburgh (2016 – current)
  - Department of Informatics and Networking Systems, part of new School in Computing & Information (started in 2017)
  - Graduate program in Information Science and Technology, and Telecommunications and Networking (in SIS till 2017)
  - Department of Health Information Management (Secondary appointment; since 2010)
- Associate Professor, University of Pittsburgh (September, 2008 – 2015)
  - Graduate program in Information Science and Technology, and Telecommunications and Networking
  - Department of Computer Science (Secondary appointment; Feb, 2006 - 2009)
  - Department of Health Information Management (Secondary appointment; since 2010)
- Assistant Professor, University of Pittsburgh, (August, 2003 – August 2008)
- Graduate program in Information Science and Technology, and Telecommunications and Networking
- 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-CICI

*SAC-PA: Towards Security Assured Cyberinfrastructure in Pennsylvania*

(With Brian Stengel, Michael Spring, Prashant Krishnamurthy, Balaji Palanisamy)

Amount: \$499,951.00; Period: 2016 – 2018

2. NSA CAE Cybersecurity Grant  
*Towards Insider Threat Assessment and Mitigation, 2014 - 2015*  
 (With P. Krishnamurthy, and D. Tipper)  
 Amount: \$264,553
3. NSF-DGE Award (SFS - Capacity)  
*A Curriculum for Security Assured Health Informatics, NSF-DGE Award (2014 - 2017);*  
 (With K. Pelechrinis, B. Palanisamy, B. Parmanto, P. Krishnamurthy)  
 Amount: \$897,055.00; Period: 2014-2017
4. CISCO Grant  
*DiCoTraM: Towards a Distributed Collaborative Traffic Monitoring System*  
 Amount: \$54,034; Period: 2012-2013
5. NSF Federal Cyber Service  
*A Scholarship Program for Security Assured Information Systems Track*  
 (With M. B. Spring , P. Krishnamurthy, D. Tipper)  
 Amount: \$ \$1,326,071.00; Period: 2011-2014
6. 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: 2006-2011
7. 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: 2006-2011
8. 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
9. 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
10. CISCO CIAG Equipment Grant  
*A Proposal for Cisco CIAG Equipment Grant*  
 Amount: -\$130,000; Spring 2005.

*External Grants with Co-PI role*

11. NSF CyberTraining: CDL:  
*Security-Assured Data Science Workforce Development in Pennsylvania*  
 (With: Balaji Palanisamy (PI), Konstantino Pelechrinis, Brian Stengel)  
 Amount: \$499,952.00; Period: 2017 - 2020
12. NSF CMMI – RAPID  
*RAPID: Scalability and Sustainability in Uncertain Environments: Recovery from the Nepal Earthquakes of April 25 and May 12, 2015*

(PI: Louise Comfort)  
Amount: \$46,327

13. NIST

*Standards: People, Process, Products and Productivity Focus on Information Technology Standards*  
(With M. B. Spring (PI), P. Krishnamurthy, D. Tipper)  
Amount: \$99,535, Period: 2013-20014

14. NSF-IIS (CPATH Program)

*CPATH-1: Health Computing: Integrating Computational Thinking into Health Science Education*  
(with Leming Zhao (PI), Bambang Parmanto, Qi Mi, Mervat Abdelhak)  
Amount: \$104,537.00, Period: 2007-2009.

15. NSF CNS Division

*CSR: SGER: Dynamic Data Driven Defense Mechanisms for Cybersecurity*  
(with David Tipper (PI), Prashant Krishnamurthy)  
Amount: \$104,537.00, Period: 2007-2009.

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

*A Curriculum in Security Assured Information Systems*  
(With M. B. Spring (PI), P. Krishnamurthy, D. Tipper)  
Amount: \$ 283640; Period: 2004-2006

*Internal Grants – all with PI role*

17. University of Pittsburgh CRDF

*An Adaptive Framework for Security-Assured Survivable Information Systems;*  
Amount: \$19,988; Year: 2004-2006

18. 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

19. Dean's Entrepreneurial Initiatives

*LERSAIS Seminar and Student Research Groups*  
(with P. Krishnamurthy, D. W. Tipper, M. B. Spring)  
Amount: \$15,000; Year: 2005-06

20. 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)

## AWARDS/HONORS

1. Best Paper Award in BigData Congress 2017
2. ACM Distinguished Member, Elected in Nov, 2017
3. Fellow of Society of Information Reuse and Integration – Elected in Aug, 2013
4. Elected to ACM Senior Membership in Oct, 2013
5. Elevated to IEEE Senior Membership in July, 2013

6. Best Student Paper Award in ACM SPRINGL, 2011
7. Best Paper Award in ACM CODASPY 2011
8. NSF-CAREER Award, 2006
9. Service Award, IEEE Conference on Information Reuse and Integration, 2006, 2007, 2011, 2012
10. Certificate of Appreciation, International Conference on Collaborative Computing (CollaborateCom06)
11. Listed in “Who’s Who of Emerging Leaders,” 2007
12. Listed in “Who’s Who in Science and Engineering,” 2005.
13. Honored for faculty accomplishments in 2004, & 2006 Honors Convocation of the University of Pittsburgh.
14. Listed in “Who’s Who in America” since 2003.
15. Student Author Travel Award, International Conference on Multimedia and Expo, August 2000, New York
16. Colombo Plan Scholarship for pursuing BE Computer Science & Engineering degree at MNNIT, India
17. Gold medal for standing 7th in Nepal in School Leaving Certificate Examination (10th Grade)
18. Academic Scholarship Awards for the last three years in high school for standing first in class

#### **PhD Committees:**

##### *Committee Chair*

1. Yue Zhang, (Graduated in 2010), Google, Inc
2. Hassan Takabi (Graduated in Summer 2013), Assistant Prof., CSE, University of North Texas (Interned at Cisco)
3. Amirreza Masoumzadeh (Graduated in Summer, 2014) – Assistant Professor, SUNY, Albany
4. Saman Taghavi (Graduated in Summer, 2014)- Cisco Inc. (Interned at Cisco twice)
5. Xuelian Long (Graduated in Summer, 2015), Facebook, Inc (Interned at TripAdvisor)
6. Nathalie Baracaldo (Graduated in Spring, 2016), IBM Almaden Research (Interned at IBM Almaden Research two times),
7. Leila Karimi (started in Fall, 2015), Prelim done
8. Runhua Xu (started in Fall, 2015), Prelim done
9. Nuray Baltaci (started in Spring, 2016), Prelim done
10. Maryam Aldair (started in Fall, 2017)

##### *Committee Member*

1. Tanapat Anusas-Amornkul (Tel, University of Pittsburgh), “On detection mechanisms and their performance for packet dropping attack in ad hoc networks” (Status: Graduated)
2. Saowaphak Sasanus (Tel, University of Pittsburgh), “Adaptive Multi-class Signaling Overload Control for Cellular Networks,” (Status: Dissertation Proposal)
3. Haidong Xia (CS, University of Pittsburgh), “Using Secure CoProcessor to Enforce Network Access Policies in Enterprise and Ad Hoc Networks. (Graduated)
4. Phongsak Kiratiwintakorn (Tel, University of Pittsburgh), “Energy Efficient Security Framework For Wireless Local Area Networks, (Status: graduated)
5. Siqing Du (IS, University of Pittsburgh), 2007
6. Jiang Zheng (CS, University of Pittsburgh), 2008

7. Ricardo Villamarin-Salomon (CS, University of Pittsburgh), 2008

#### ***External Reviewer***

1. Cuneyt Gurcan Akcora, "Profiling User Interactions on Online Social Networks," (Advisor: Elena Ferrari and Barbara Carminati), Università degli Studi dell'Insubria – Varese (2013)
2. Igor Nai Fovino, "Privacy Preserving Data Mining - Concepts, Techniques and evaluation Methodologies," Università degli Studi di Milano (Main Advisor: Elisa Bertino; graduated.
3. Giovanni Mella, "Disitributed and Cooperative Updates of XML Documents," Università degli Studi di Milano (Main Advisor: Elisa Bertino; graduated).
4. Stefano Franzoni (CS, PhD Candidate), University of Milan, graduating in 2007.

#### **Post-Doctoral Students**

1. Dr. Youna Jung PhD from Ajou University, South Korea (Topics: Security in Ubiquitous Environments & Multi-agent Systems) (2008, 2 Years)
2. Dr. Minsoo Kim PhD from Ajou University in South Korea (Topics: Security in Ubiquitous Environments & Multi-agent Systems) (2008, 2 Years)
3. Dr. Jun-Hyung Park, PhD from South Korea, (Topic: Grid Security and Survivability, Computer Forensics), (2006, 1 Year)
4. Zhaohui, PhD Student in China, (Topic: Access Control in OS and embedded systems), 2007

#### **Visiting Researchers Hosted**

1. Jianfeng Lu, Associate Professor, School of Mathematics-Physical & Information Engineering, Zhejiang Normal University, (Topic: Advanced Role Based Access Control Models – theory) (2013, 1 Year)
2. Dr. HyungHyo Lee, Associate Professor, Wonkwang University, Rep. of Korea (2011, 1 Year)
3. Dr. Guo Yanhui, Associate Professor, BUPT (Topic: Recommendation Systems) (2009, 1 Year)

#### **PUBLICATIONS & PRESENTATION**

##### ***Book***

1. James B. D. Joshi et al. "Network Security: Know It All," May, 2008 (Contributor).
2. Co-Editor of Book titled: "Information Assurance: Survivability and Security in Networked Systems," Published in 2007 by Elsevier, Inc. Editors: Yi Qian, James Joshi, David Tipper, Prashant Krishnamurthy.
3. 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. Xuelian Long, Lei Jin, James Joshi, "Information Privacy in Online Social Networks," Innovation in Information Security (Vol 4), 2017.
2. H. Takabi, S.T. Zargar, and J. Joshi, "Mobile Cloud Computing and Its Security, Privacy and Trust Management Challenges," in *Security, Privacy, Trust, and Resource Management in Mobile and Wireless Communications*, D. B. Rawat, B.B. Bista, and G. Yan Ed. IGI Global, 2014. doi:10.4018/978-1-4666-4691-9, 2014
3. Hassan Takabi and James B. D. Joshi. Policy Management in Cloud Computing Environment: Challenges and Approaches. in *Security Engineering for Cloud Computing: Approaches and Tools*, Editors: D. G. Rosado, D. Mellado, E. Fernandez-Medina, and M. Piattini, IGI Global, September 2012.
4. Hassan Takabi and James B. D. Joshi, Gail-Joon Ahn, Security and Privacy in Cloud Computing: Towards a Comprehensive Framework Service-Oriented Methodology and Technologies for Cloud Computing", in *Principles, Methods and Service-oriented Approaches for Cloud Computing*, Editors: X. Yang and L. Liu, IGI Global, January 2013.

5. Mohd Anwar Amirreza Masoumzadeh and James Joshi, "Security and Privacy in Location Based Services," *Location Based Services; Advanced Location-Based Technologies and Services*, H. A. Karimi, Ed. CRC Press, 2013, pp. 235–264.
6. Yue Zhang, 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 2009.
7. Yue Zhang, James Joshi, "Temporal Access Control," *Encyclopedia of Database Systems*, Editors-in-Chief: Ling Liu, M. Tamer Özsu, Springer, 2009.
8. Yue Zhang, James Joshi, "Role based Access Control", *Encyclopedia of Database Systems*, Editors-in-Chief: Ling Liu, M. Tamer Özsu Springer, 2009.
9. Yue Zhang, James B. D. Joshi, "ANSI/INCITS RBAC Standard." *Encyclopedia of Database Systems*, Editors-in-Chief: Ling Liu, M. Tamer Özsu, Springer, 2009
10. Yue Zhang, James B. D. Joshi, "GEO-RBAC Model," *Encyclopedia of Database Systems*, Editors-in-Chief: Ling Liu, M. Tamer Özsu, Springer, 2009
11. Yue Zhang, James B. D. Joshi, "Administration Model for RBAC," *Encyclopedia of Database Systems*, Editors-in-Chief: Ling Liu, M. Tamer Özsu, Springer, 2009
12. James B. D. Joshi, Mei-Ling Shyu, Shu-Ching Chen, Walid Aref, Arif Ghafoor, "A Multimedia-Based Threat Management and Information Security Framework," in *Multimedia Technologies: Concepts, Methodologies, Tools, and Applications* (3 Volumes) Edited By: Mahbubur Rahman Syed, Minnesota State University, Mankato, USA, June, 2008
13. 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.
14. James B. D. Joshi, S. R. Joshi, and S. M. Chandran, "Information Security Issues and Challenges," in *Encyclopedia of Digital Government*, 2006.
15. James B. D. Joshi, S. R. Joshi, and S. M. Chandran, "Identity Management and Privacy Issues," in *Encyclopedia of Digital Government*, 2006.
16. James B. D. Joshi, S. M. Chandran, A. Ghafoor, and W. G. Aref, "Survivability Issues and Challenges," in *Encyclopedia of Digital Government*, 2006.
17. 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.
18. 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.

### **Special Issue Guest Editor**

1. Mei-Ling Shyu, James Joshi, Qiong Liu: Guest Editors'. *Int. J. Semantic Computing* 9(2): 139-142 (2015)
2. Chengcui Zhang, Elisa Bertino, Bhavani M. Thuraisingham, James B. D. Joshi: Guest editorial: Information reuse, integration, and reusable systems. *Information Systems Frontiers* 16(5): November 2014, Volume 16, Issue 5, pp 749-752
3. Lakshmish Ramaswamy, Barbara Carminati, James B. D. Joshi, Calton Pu: Editorial: Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2012). *MONET* 19(5): October 2014, Volume 19, Issue 5, p 634
4. Barbara Carminati, Lakshmish Ramaswamy, Anna Cinzia Squicciarini, James Joshi, Calton Pu: Preface. *Int. J. Cooperative Inf. Syst.* 23(2) (2014)
5. Lakshmish Ramaswamy, Barbara Carminati, Lujo Bauer, Dongwan Shin, James Joshi, Calton Pu, Dimitris Gritzalis: Editorial. *Computers & Security* 41: 1-2 (June, 2014)

6. James Caverlee, Calton Pu, Dimitrios Georgakopoulos, James Joshi: Editorial for CollaborateCom 2011 Special Issue. *MONET* 18 (2): 235-236 (2013)
7. Weisong Shi, James Joshi, Tao Zhang, Eun K. Park, Juan Quemada: ACM/Springer Mobile Networks and Applications (MONET) Special Issue on "Collaborative Computing: Networking, Applications and Worksharing". *MONET* 17(3): 376-377 (2012)
8. James Joshi, Elisa Bertino, Calton Pu, Heri Ramampiaro: ACM/Springer Mobile Networks and Applications (MONET) Special Issue on "Collaborative Computing: Networking, Applications and Worksharing". *MONET* 17(3): 325-326 (2012)
9. Songqing Chen, Le Gruenwald, James Joshi, Karl Aberer: ACM/Springer Mobile Networks and Applications (MONET) Special Issue on "Collaborative Computing: Networking, Applications and Worksharing". *Mobile Networks and Applications*, 17 (4). pp. 506-507; (2012)
10. James Joshi, Barbara Carminati: Guest Editorial SACMAT 2009 and 2010. *ACM Transactions on Information Systems Security*, 14(3): 22 (2011).
11. Dimitris Gritzalis and James Joshi (Editors); Special Issue on Access Control Methods and Technologies, *Computer and Security*, Volume 30, Issues 2-3, Pages 89-170 (March-May 2011)
12. Mehmet Kaya, James B. D. Joshi, Mei-Ling Shyu: Guest Editorial - Introduction to the *Special Issue on Information Reuse and Integration*. *JIKM* 10(3): (2011)

### **Refereed Journal /Articles**

1. L.K. Comfort and J. Joshi, Scalability and Sustainability in Uncertain Environments: Recovery from the Nepal Earthquakes, April 25 and May 12, 2015, presents study results, submitted to *Earthquake Spectra* for a special issue on the 2015 Nepal Earthquakes, (Accepted; online available).
2. Nathalie Baracaldo, Balaji Palanisamy, James Joshi, G-SIR: An Insider Attack Resilient Geo-Social Access Control Framework, *IEEE Transactions on Dependable and Secure Computing* (Accepted; online available at IEEE)
3. Mohd Anwar, James Joshi, Joseph Tan, "Anytime, anywhere access to secure, Privacy-aware Healthcare Services: Issues, Approaches & Challenges," *Elsevier Health Policy and Technology journal*.
4. Rose E. Constantino, Betty Braxter, Dianxu Ren, Joseph David Burroughs, Willa Marlene Doswell, Linden Wu, Juhae Grace Hwang, Mary Lou Klem, James B D Joshi, W. Brian Greene "Comparing Online with Face-to-Face HELPP Intervention in Women Experiencing Intimate Partner Violence," *Issues in Mental Health Nursing* 00:1-9, 2015
5. Jianfeng Lu, James B. D. Joshi, Lei Jin, Yiding Liu, "Towards Complexity Analysis of User Authorization Query Problem in RBAC" *Elsevier Computer & Security*, Volume 48, February 2015, Pages 116-130.
6. Lei Jin, Xuelian Long, Ke Zhang, Yu-Ru Lin, James B.D. Joshi, "Characterizing Users' Check-in Activities Using Their Scores in a Location-based Social Network," *Springer Multimedia Systems*, 2014.
7. Youna Jung, James B. D. Joshi: CPBAC: Property-based access control model for secure cooperation in online social networks. *Computers & Security* 41: 19-39 (2014)
8. Nathalie Baracaldo, James Joshi: An adaptive risk management and access control framework to mitigate insider threats. *Computers & Security* 39: 237-254 (2013)
9. S.T. Zargar, J. Joshi, and D. Tipper, "A Survey of Defense Mechanisms Against Distributed Denial of Service (DDoS) Flooding Attacks," *IEEE Communications Surveys & Tutorials*, vol. PP, no. 99, pp. 1-24. (Published Nov 12, 2013) (Early Access-online Mar. 28, 2013)
10. Lei Jin, James B. D. Joshi, Mohd Anwar, "Mutual-friend based attacks in social network systems," *Computers & Security* 37: 15-30 (2013) (Publication date: September 2013)
11. Amirreza Masoumzadeh and James Joshi, "Top Location Anonymization for Geosocial Network Datasets," *Transactions on Data Privacy*, vol. 6, no. 1, pp. 107-126, 2013.
12. Hassan Takabi, James B. D. Joshi, "Semantic-based Policy Management for Cloud Computing Environments," *International Journal of Cloud Computing* 1(2/3): 119-144 (2012)

13. Amirreza Masoumzadeh and James Joshi, "Preserving Structural Properties in Edge-Perturbing Anonymization Techniques for Social Networks," *IEEE Transactions on Secure and Dependable Computing* 9(6): 877-889 (2012) [Amirreza received *Catherine Ofiesh Orner Award* for this paper at School of Information Sciences, University of Pittsburgh]
14. Youna Jung and James B.D. Joshi, "CRiBAC: Community based Role interaction Access Control Model", *Computers & Security*, Elsevier, 31(4): 497-523 (2012)
15. Youna Jung, Minsoo Kim, Amirreza Masoumzadeh, James B.D Joshi, "A Survey of Security for Multiagent Systems", *Artificial Intelligence Review*, Springer Netherlands, Doi: 10.1007/s10462-011-9228-8
16. Lei Jin, Hassan Takabi, James B. D. Joshi, "Analyzing Security and Privacy Issues of Using E-mail Address as Identity" *International Journal Information Privacy, Security and Integrity*, Vol. 1, No. 1, 2011
17. Amirreza Masoumzadeh and James Joshi, "Ontology-Based Access Control for Social Network Systems," , *International Journal Information Privacy, Security and Integrity*, Vol. 1, No. 1, 2011
18. Xuelian Long, James Joshi, "BaRMS: A Bayesian Reputation Management Approach for P2P Systems, *Journal of Information & Knowledge Management*, Vol: 10, No: 3, pp 273-283 (2011)
19. Hassan Takabi, James Joshi, Gail-Joon Ahn, "Security and Privacy Challenges in Cloud Computing Environments," *IEEE Security and Privacy*, Jan-Feb, 2011.
20. Carlos E. Caicedo, James Joshi, Sumit Tuladhar, "IPv6 Security Challenges," Vol(42), Issue(2), (Feb, 2009), *IEEE Computer*, Page(s): 36-42.
21. Yue Zhang, James Joshi, "SRBAC07: A Scoped Administration Model for RBAC with Hybrid Hierarchy," *Journal of Information Assurance and Security* 2007 (Volume 2, issue 4)
22. James, B.D. Joshi, Elisa Bertino, Arif Ghafoor and Yue Zhang, "Formal Foundations for hybrid hierarchies in GTRBAC", *ACM Transactions on Information and System Security (TISSEC)*, Vol. 10, No. 4, Jan, 2008, pp. 1-39.
23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
29. 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.
30. 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.
31. 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.
32. 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 Articles Accepted/Submitted/Under Preparation**

1. Lei Jin, Balaji Palanisamy, James Joshi, "Location Injection Attack-resilient Anonymization for Location Privacy" to ACM Transactions on Internet Technology, Submitted to ACM Transactions on Internet Technology (under review)
2. Runhua Xu, James Joshi, Prashant Krishnamurthy, David Tipper, "An Integrated Privacy Preserving Attribute Based Access Control Framework Supporting Secure Deduplication," IEEE TDSC (being submitted)

### **Refereed Symposium/Conferences/Workshop**

1. Leila Karimi, James Joshi, "Multi-Owner Multi-Stakeholder Access Control Model for a Healthcare Environment," 3rd International Conference on Collaboration and Internet Computing (IEEE CIC 2018), Oct 15-17, San Jose, CA (*Application paper*)
2. Nuray Baltaci Akhuseyinoglu, James Joshi, "A Risk-Aware Access Control Framework for Cyber-Physical Systems," 3rd International Conference on Collaboration and Internet Computing (IEEE CIC 2018), Oct 15-17, San Jose, CA (*Application paper*)
3. Chao Li, Balaji Palanisamy, James Joshi, "Differentially Private Trajectory Analysis for Points-of-Interest Recommendation, IEEE BigData Congress," 2017 (June) **BEST PAPER AWARD**
4. Runhua Xu, James Joshi, Prashant Krishnamurthy, David Tipper, "Insider Threat Mitigation in Attribute Based Encryption", National Cyber Summit 2017.
5. Runhua Xu, James B. D. Joshi: Enabling Attribute Based Encryption as an Internet Service. IEEE CIC 2016: 417-425 (Nov, 2016)
6. Leila Karimi, Balaji Palanisamy, James Joshi: A Dynamic Privacy Aware Access Control Model for Location Based Services. PicSoc Workshop at IEEE CIC 2016: 554-557.
7. Yue Su, Ziyi Lan, Yu-Ru Lin, Louise K. Comfort, James Joshi: Tracking Disaster Response and Relief Following the 2015 Nepal Earthquake. CBig Workshop, IEEE CIC 2016: 495-499
8. Chao Li, Balaji Palanisamy, James Joshi, SocialMix: Supporting Privacy-Aware Trusted Social Networking Services. IEEE ICWS 2016: San Francisco, CA: 115-122
9. Runhua Xu, James B. D. Joshi: An Integrated Privacy Preserving Attribute Based Access Control Framework. IEEE CLOUD 2016, San Francisco, CA: 68-76.
10. Runhua Xu, James B. D. Joshi: Enabling Attribute Based Encryption as an Internet Service. IEEE CIC 2016: 417-425, Pittsburgh, USA (Invited), November 2-4, 2016.
11. Y. Su, Z. Lan, Y-R Lin, L.K. Comfort and J. Joshi, Tracking Disaster Response and Relief Efforts following the 2015 Nepal Earthquake International Workshop on Collaborative Internet Computing for Disaster Management (CIC-DM), Pittsburgh, PA, November 2-4, 2016.
12. Leila Karimi, Balaji Palanisamy, James Joshi: A Dynamic Privacy Aware Access Control Model for Location Based Services. Workshop in IEEE CIC 2016: 554-557, Pittsburgh, PA, November 2-4, 2016.
13. L. K. Comfort, J. B. D. Joshi, F. Yuldashev, Scalability and Sustainability in Uncertain Environments: Recovery from the Nepal Earthquakes, April 25 and May 12, 2015, presented by L.K. Comfort at the 2015 American Geophysical Union (AGU) conference in San Francisco, CA December 14-18, 2015. [Poster]
14. Nathalie Baracaldo, Balaji Palanisamy, James Joshi "Geo-Social-RBAC: A Location-based Socially Aware Access Control Framework" The 8th International Conference on Network and System Security (NSS 2014). Lecture Notes in Computer Science Volume 8792, 2014, pp 501-509
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19. Xuelian Long, Lei Jin and James Joshi, "Towards Understanding Traveler Behavior in Location-Based Social Networks," IEEE GlobeCom 2013, Dec, Atlanta, USA
20. Xuelian Long and James Joshi, "A HITS-based POI Recommendation Algorithm in Location-Based Social Networks," (Short Paper) The 2013 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2013) Niagara Falls, Canada, August 25-28, 2013
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22. Nathalie Baracaldo, James Joshi, "Beyond Accountability: Using Obligations to Reduce Risk Exposure and Deter Insider Attacks. ACM SACMAT 2013: June, 2013, 213-224
23. A. Masoumzadeh and J. Joshi, "Privacy Settings in Social Networking Systems: What You Cannot Control," in Proc. 8th ACM Symposium on Information, Computer and Communications Security (ASIACCS 2013), May, 2013
24. A. Masoumzadeh, L. Jin, J. Joshi, and R. Constantino, "HELPP Zone: Towards Protecting College Students from Dating Violence," in iConference 2013 Proceedings, 2013, pp. 925-928.
25. S.T. Zargar, and J. Joshi, "DiCoDefense: Distributed Collaborative Defense against DDoS flooding attacks," the 34th IEEE Symposium on Security & Privacy (S&P'13)(Poster), May 19-22, 2013, San Francisco, CA.
26. Rose Constantino, Amirreza Masoumzadeh, Lei Jin, James Joshi, Joseph Burroughs, Dominique de la Cruz, "HELPP Zone App and TMI: Disrupting Intimate Partner Violence in College Students" 2013 International Nursing High-end Forum (INHF), China, 22nd - 23rd June, 2013.
27. Youna Jung, Minsoo Kim, James B. D. Joshi: Towards secure cooperation in online social networks. CollaborateCom 2012: October, 2012, 80-88
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31. Nathalie Baracaldo, James Joshi, "A Trust-and-Risk Aware RBAC Framework: Tackling Insider Threat," ACM SACMAT 2012: 167-176
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37. Amirreza Masoumzadeh, James Joshi, "Anonymizing Geo-Social Network Datasets, *4th ACM SIGSPATIAL International Workshop on Security and Privacy in GIS and LBS*, November 1st, 2011, Chicago, IL, USA (**Best Student Paper Award**)
38. Hassan Takabi and James Joshi, "An Approach to manage Policy Heterogeneity in Cloud Computing Environment," Poster,*The 27th Annual Computer Security Applications Conference (ACSAC 2011)*, Orlando, FL, USA, December 5-9, 2011.
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55. Yue Zhang and James B.D. Joshi, "Understanding Access Control Challenges in Loosely-Coupled Multidomain Environment", *12th International Conference on Enterprise Information Systems (ICEIS-10)*, Jun. 2010, Funchal, Madeira, Portugal
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70. 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.
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74. Michael Chuang, Suronapee Phoomvuthisarn, James B. D. Joshi, "An Integrated Framework for Trust-Based Access Control for Open Systems," *CollaborateCom 2006*, GA, USA.
75. 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.
76. Siqing Du, James B. D. Joshi, "Supporting Authorization Query and Inter-domain Role Mapping in Presence of Hybrid Role Hierarchy," *The 11<sup>th</sup> ACM Symposium on Access Control Models and Technologies*, USA, June 2006.
77. James B. D. Joshi, Elisa Bertino, "Fine-grained Role-based Delegation in Presence of Hybrid Role Hierarchy," *The 11<sup>th</sup> ACM Symposium on Access Control Models and Technologies*, USA, June 2006.
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82. 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.
83. Rafee Bhatti, James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "X-GTRBAC Admin: A Decentralized Administration Model for Enterprise Wide Access Control", *The 9<sup>th</sup> ACM Symposium on Access Control Models and Technologies*, New York, June 2004.

84. James B. D. Joshi, Elisa Bertino, Basit Shafiq, Arif Ghafoor, "Dependencies and Separation of Duty Constraints in GTRBAC", *The 8<sup>th</sup> ACM Symposium on Access Control Models and Technologies*, Como, Italy, June 2003.
85. 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.
86. James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "Hybrid Role Hierarchy for Generalized Temporal Role Based Access Control Model," *26<sup>th</sup> Annual International Computer Software and Applications Conference Workshop, (COMPSAC 2002 Workshop)*, Oxford, England, 26-29th August, 2002, pp. 951-956.
87. James B. D. Joshi, Elisa Bertino, Arif Ghafoor, "Temporal Hierarchy and Inheritance Semantics for GTRBAC," *The 7<sup>th</sup> ACM Symposium on Access Control Models and Technologies*, June 3-4, 2002, Moterey, CA, pp 74-83.
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### **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
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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

## **PROFESSIONAL ACTIVITIES**

### ***Invited Talks***

1. "Security and Privacy in Mobile and Web-based Health Interventions/Applications," Panel on IA for Behavioral Health at 3<sup>rd</sup> Integrative Conference on Technology, Social Media, and Behavioral Health, Nov 3, 2017 (University of Pittsburgh)
2. "Insider Threats: Challenges and Mitigation Approaches," Indiana University of Pennsylvania – Cybersecurity/IA Day, Oct 26, 2017

### ***Editor-in-Chief***

3. IEEE Transactions on Services Computing (Jan, 2017 onwards)
4. EAI Endorsed Transactions on Collaborative Computing (Founding co-EiC): 2014 - 2015

### ***Guest Editor***

1. ACM SACMAT09 Special issue in ACM TISSEC
2. ACM SACMAT09 Special issue in Computer & Security journal
3. CollaborateCom12 Special Issue in Computer & Security Journal
4. Springer MONET special issues from CollaborateCom2008, CollaborateCom2009, CollaborateCom2010, CollaborateCom2011, CollaborateCom2012,

### ***Associate Editor / Editorial Review Board***

5. Associate Editor of IEEE Transactions on Services Computing (Since Jan 2013)
6. EB Member of Springer's Journal of BigData (Since Feb, 2013)

7. EB Member of International Journal of Multimedia and Ubiquitous Engineering (Since 2007)
8. EB Member of International Journal of E-Business Research (Since Jan, 2005 till 2011)
9. EB Member of International Journal of Network Security (June, 2005 – June, 2007)

### **Steering Committees**

1. Founding Chair of Steering Committee of IEEE International Conference on Collaboration and Internet Computing (IEEE CIC) (2015 – current)
2. Co-Chair of CollaborateCom Steering Committee (Nov 2012 - 2014)
3. Member of IEEE IRI Steering committee (2014 – current)
4. Member of ACM SACMAT Steering Committee (2011 – current )
5. Member of Steering Committee of IEEE International Conference on Multimedia & Expo (IEEE ICME) – IEEE CS representative (Since 2013 - 2015)

### **IEEE Committees**

1. EIC Search Committee for IEEE Transactions on Secure and Dependable Computing (2017)
2. EIC Search Committee for IEEE Transactions on Multimedia (2017)
3. IEEE CS Technical Achievement Award Committee

### **General (Co) Chair**

4. The 9<sup>th</sup> International Workshop on Trusted Collaboration (*Aug, TrustCol 2014*)
5. The 8<sup>th</sup> International Workshop on Trusted Collaboration (TrustCol 2013)
6. The 8<sup>th</sup> International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2011*), USA, 2012
7. The 7<sup>th</sup> International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2011*), USA, 2011
8. The 15<sup>th</sup> ACM Symposium on Access Control Models and Technologies, SACMAT10, USA, 2010.
9. The 6<sup>th</sup> International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2010*), USA, 2010
10. The 7<sup>th</sup> International Workshop on Trusted Collaboration (TrustCol 2012)
11. The 6<sup>th</sup> International Workshop on Trusted Collaboration (TrustCol 2011)
12. The 5<sup>th</sup> International Workshop on Trusted Collaboration (TrustCol 2010)
13. The 5<sup>th</sup> International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2009*), USA, 2009

### **Program Chair or Track Chair**

1. IEEE Big Data 2016, Washington D.C., USA
2. The IEEE International Conference on Information Reuse and Integration, USA, 2016 (IRI2016), Pittsburgh, USA



3. The First International Conference on Collaboration and Internet Computing (IEEE CIC 2015), Hangzhao, China, 2015
4. The IEEE International Conference on Information Reuse and Integration, USA, 20145 (IRI2015), San Francisco, USA
5. Area Lead of Cloud Security at IEEE CLOUD 2015
6. C-Big: Workshop on Collaborative BigData (Oct, 2014)
7. IEEE ISM 2014: IEEE International Symposium on Multimedia (Dec, 2014)
8. The IEEE International Conference on Information Reuse and Integration, USA, 2014 (IRI2014)
9. The IEEE International Conference on Information Reuse and Integration, USA, 2013 (IRI2013)
10. SafeConfig 2013 : IEEE 6th Symposium on Security Analytics and Automation (Collocated with IEEE Conference on Communications and Network Security)
11. The IEEE International Conference on Information Reuse and Integration, Las Vegas, 2012 (IRI2012)
12. The IEEE International Conference on Information Reuse and Integration, Las Vegas, 2011 (IRI2011)
13. IEEE COMPSAC 2010 (Track: Security)
14. The IEEE International Conference on Information Reuse and Integration, Las Vegas, 2010 (IRI2010)
15. The 14<sup>th</sup> ACM Symposium on Access Control Models and Technologies, SACMAT09, Italy, 2009.
16. 2009 International Workshop on Network Assurance and Security Services in Ubiquitous Environments (NASSUE-2009)
17. The 4<sup>th</sup> International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2008*), Florida, USA, 2008
18. IEEE COMPSAC 2009 (Track: Social and Collaborative Networks)
19. The IEEE International Conference on Information Reuse and Integration, Las Vegas, 2007
20. The IEEE International Conference on Information Reuse and Integration, Hawaii, 2006
21. Program vice co-chair of Multimedia Security Track at 2007 IEEE International Symposium on Multimedia (ISM'07), Taiwan, December, 2007.
22. International Workshop on Trusted Collaboration (TrustCol-07), New York, 2007.
23. International Workshop on Trusted Collaboration (TrustCol-06), Georgia, 2006.
24. International Workshop on Information Assurance, (with IPCCC-07), New Orleans, 2007.
25. International Workshop on Information Assurance, (with IPCCC-06), Phoenix, 2006.
26. International Workshop on Information Assurance, (with IPCCC-04), Phoenix, 2004.

#### **Finance Chair**

1. The 3<sup>rd</sup> International Conference on Collaboration and Internet Computing (IEEE CIC 2016), San Jose, USA, 2016.
2. The 2<sup>nd</sup> International Conference on Collaboration and Internet Computing (IEEE CIC 2015), Pittsburgh, USA, 2015.

#### **Panels Chair**

3. The 6<sup>th</sup> International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2010*), USA, 2010
4. The 13<sup>th</sup> ACM Symposium on Access Control Models and Technologies, SACMAT08, USA, 2008.

#### **Workshop Chair**

1. Very Large Databases 2012 (VLDB2012), Turkey, 2012

2. Workshop on Cooperative Autonomous Resilient Defenses in Cyberspace (*CyberCARD 2011*), DC. USA, Jan 2011
3. The 3<sup>rd</sup> International Conference on Collaborative Computing: Networking, Applications and Worksharing (*CollaborateCom-2007*), New York, USA, 2007
4. The 2<sup>nd</sup> 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/Panel Moderator**

1. IEEE BigData 2016 “Big Data Security and Privacy” panelist.
2. CollaborateCom 2014 (Panel Moderator): BigData – Challenges and Opportunities
3. The 9<sup>th</sup> 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. SACMAT2013, NSS2013
2. SACMAT2012, SoCInfo2012, NSS2012, CollaborateCom2012, PASSAT2012, LBSN2012
3. SACMAT 2011, COMPSAC 2011, SoCInfo2011, SPRING11, PST2011, MobiWIS2011, CollaborateCom2011, WSRAS2012
4. SACMAT2008, IFIPTM2009, SSC09, IFIPTM2010, SPRINGL09, SPRINGL10, CollaborateCom2010, IFIPTM2009, IFIPTM2010, SSC09, WWW2009Posters, WWW2011Posters
5. ICC'08 - Wireless Networking Symposium, Beijing, China, 2008.
6. The 14th International MultiMedia Modeling (MMM), Kyoto, Japan, Jan, 2008.
7. ICIW 2007 committee, Peter Kiewit Institute, University of Nebraska Omaha, USA on the 24-25 April 2008
8. The 12th ACM Symposium on Access Control Models and Technologies, SACMAT07, USA, 2007.
9. The 2nd International Conference on Collaborative Computing: Networking, Applications and Worksharing, New York, USA, 2007
10. 2nd International Conference on Information Warfare and Security, Naval Postgraduate School, Monterey, California, USA, 8-9 March 2007

11. The 8th IFIP Working Conference on Virtual Enterprises (PRO-VE'07), Guimaraes, Portugal, 10-12 Sept, 2007
12. 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.
13. 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.
14. 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.
15. 3rd IEEE Workshop on Situation Management (SIMA 2007) at MILCOM 2007, Orlando, Florida, Oct 29-31, 2007
16. 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
17. The Second IEEE LCN Workshop on Network Security (WNS 2006) Tampa, Florida, U.S.A. 14 November 2006
18. The 2007 International Conference on Genetic and Evolutionary Methods (GEM'07) (*Honorary*)
19. The 2007 International Conference on Bioinformatics and Computational Biology (BIOCOMP'07) (*Honorary*)
20. The 2007 International Conference on Scientific Computing (CSC'07) (*Honorary*)
21. The 2007 International Conference on Artificial Intelligence (ICAI'07) (*Honorary*)
22. The 12<sup>th</sup> ACM Symposium on Access Control Models and Technologies, SACMAT06, Prance, 2006.
23. The 8<sup>th</sup> IFIP Working Conference on Virtual Enterprises (PRO-VE'07), Guimaraes, Portugal, 10-12 Sept, 2007
24. 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.
25. Database and Data Mining track of 2007 ACS/IEEE International Conference on Computer Systems and Applications, AICCSA '2007, May 13-16, 2007, Amman, Jordan.
26. International Conference on E-business (ICE-B), 28-31 July, Barcelona, Spain.
27. 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.
28. 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.
29. 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.
30. 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.
31. The 2nd International Conference on Collaborative Computing: Networking, Applications and Worksharing, Georgia, USA, 2006
32. 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)

33. 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.
34. International Conference on e-Business (ICE-B) (Sponsored by IEEE and ACM-SIGMIS), 2006,
35. The 10th Colloquium for Information Systems Security Education, MD, June, 2006.
36. 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.
37. International MultiMedia Modeling Conference (MMM) 2007, Singapore, January 9-12, 2007.
38. 2007 International Conference on Multimedia and Ubiquitous Engineering (MUE 07), April 26<sup>th</sup> - 28<sup>th</sup>, 2007, Seoul Olympic Parktel, Seoul, Korea.
39. The 2<sup>nd</sup> IEEE LCN Workshop on Network Security, (WNS 206), Tampa, Florida, U.S.A. 14 November 2006.
40. 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
41. The IEEE GLOBECOM 2006 Computer and Network Security Systems Symposium, San Francisco, CA, USA, 27 November - 1 December 2006 (reviewer)
42. 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)
43. 10th Colloquium for Information Systems Security Education (CISSE), Maryland, June, 2006
44. The 4<sup>th</sup> European Conference on Information Warfare and Security (ECIW 2006), University Of Glamorgan, UK, 2006
45. 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.
46. The 5<sup>th</sup> European Conference on Information Warfare and Security (ECIW 2006), University Of Glamorgan,
47. 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.
48. The 8th IEEE International Symposium on Object-oriented Real-time distributed Computing, May 18-20, 2005, Seattle, Washington
49. The 2005 IEEE International Conference on Information Reuse and Integration, Las Vegas, 2005
50. The 10<sup>th</sup> ACM Symposium on Access Control Models and Technologies, SACMAT, Sweden, 2005
51. The International Workshop on Frontiers of Information Technology (FIT), being held on Dec. 20-21, 2004 in Islamabad, Pakistan.
52. The 4<sup>th</sup> European Conference on Information Warfare and Security (ECIW 2005), University Of Glamorgan, UK, 11-12 July 2004
53. The 1<sup>st</sup> 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)
54. The 9<sup>th</sup> ACM Symposium on Access Control Models and Technologies, SACMAT 2004, New York - *Session Chair and Panelist*
55. The 8<sup>th</sup> ACM Symposium on Access Control Models and Technologies, SACMAT, Como, Italy, 2003 - *Session Chair*
56. Workshop on Information Assurance, 2004, April 14-17, Phoenix, *Session Chair and Program Co-Chair*,

57. The 6th International Symposium on Multimedia Software Engineering (IEEE MSE'04), Florida International University, Miami, FL, USA December 13-15, 2004.
58. 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).
59. The First Annual International Conference on Mobile and Ubiquitous Systems: Networking and Services, August 22-26, 2004 - Boston, Massachusetts, USA

## UNIVERSITY & EDUCATIONAL SERVICES

### *University of Pittsburgh, USA (since Fall, 2003)*

1. SIS Council (elected)
  - i. Chair (Elected 2014 – 2017)
  - ii. Member (2012 – 2014)
2. *Faculty Search Committee* (2013, two faculty members recruited)
3. *Curriculum Committee*, Graduate program in Information Science and Technology
  - i. Chair in 2013 academic year
  - ii. Member since 2004
4. *Chair of the Departmental Colloquium Committee*
  - Organizer for the Departmental Colloquium (2005 – 2006).
5. *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.
    - i. Oversaw the entire application process for original as well as the redesignation
  - 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)
6. Developed Security Curriculum and formalized Security Track
  - Developed the first Certificate of Advanced Studies in SAIS Track
    - i. Post-bac as well as Post-grad CAS
    - ii. Preparation of online course offering in security track – starting in Spring, 2015
  - 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 about a dozen institutions with all the five certifications.
  - Established and currently manage the prestigious NSF-Cyber Corp SFS Scholarship Program
    - i. Since 2006: two rounds of funding
    - ii. Director of the SFS program
      - Oversee all aspect of SFS program management including: recruitment, student evaluation, student mentoring, and students activity planning
  - *Leader of the Information Assurance Research Interest Group* (currently nine members) in the School of Information Sciences (SIS) (Summer, 2006-2007).
  - Developed and taught three new security courses for the security track and revised over the years

- 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*
- 7. 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)
- 8. 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 (Several times)*

1. TRUST Site visit panel
2. IIS Program
3. SaTC and CyberTrust
4. Smart Health and Well-Being
5. NSF-CAREER
6. External reviewer for IDM
7. NSF Service For Scholarship Program (both Scholarship and Capacity building tracks)

*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 (2)
8. IEEE Transactions on Software Engineering (1)
9. IEEE Transactions on Systems, Man, and Cybernetics--Part A: Systems and Humans (1)
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)

#### **PROFESSIONAL AFFILIATION**

- SIRI Fellow (Society of Information Reuse and Integration)
- IEEE (Senior Member)
- ACM (Distinguished Member)
- AAAS