

**DR. PRADEEP KUMAR ATREY****Assistant Professor**

Department of Computer Science  
College of Computing and Information  
University at Albany – State University of New York  
LI 096C, 1400 Washington Avenue  
Albany, NY, 12222 USA  
Tel: (518) 442-4281  
Email: [patrey@albany.edu](mailto:patrey@albany.edu)  
URL: <http://www.cs.albany.edu/~patrey/>

**GENERAL INFORMATION****CURRENT POSITIONS**

- Assistant Professor, University at Albany – SUNY (UAlbany)
- Associate Professor, University of Winnipeg (UWinnipeg) (On leave)
- Adjunct Professor, University of Ottawa (UOttawa)

**CURRENT RESEARCH INTERESTS**

- **Security and Privacy Issues in**
  - **Multimedia Surveillance** Multimedia surveillance: suspicious event detection for public safety, Privacy protection in video surveillance systems
  - **Social Media and Networks** Privacy-aware cloud-based social networking, Cyber bullying detection and personality prediction using social media data
  - **Cloud-based Computing** Encrypted domain multimedia data processing over cloud: in surveillance, social media and medical imaging applications
- **Multimedia Security and Forensics** Digital evidence authentication, Protection of multimedia data (text documents, image and video) using secret sharing
- **Multimedia Data Mining** Multimedia data on web: concept detection in videos

**EDUCATION**

- **Ph.D. (Computer Science)** School of Computing, National University of Singapore, Republic of Singapore (Feb. 2007) (*ranked 25th as per the Times Higher Education World University Rankings 2014-15*)
- **Master of Science (Software Systems)** Birla Institute of Technology and Sciences, Pilani, India (1999)
- **Bachelor of Technology (Computer Science and Engineering)** Harcourt Butler Technological Institute, Kanpur, India (1991)

**CAREER HISTORY**

- Sep. 2014 – present **Assistant Professor**  
Department of Computer Science  
University at Albany – SUNY, NY, USA
- Jul. 2012 – present **Associate Professor (On leave)**  
Department of Applied Computer Science (ACS)  
The University of Winnipeg, MB, Canada

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- Nov. 2012 – present      **Adjunct Professor**  
School of Electrical Engineering and Computer Science  
University of Ottawa, ON, Canada
  - Jul. 2008 – Jun. 2012      **Tenure-track Assistant Professor**  
Department of Applied Computer Science  
The University of Winnipeg, MB, Canada
  - Aug. 2006 – Jun. 2008      **Post-Doctoral Research Fellow**  
Multimedia Communications Research Laboratory  
University of Ottawa, Ottawa, ON, Canada
  - Jul. 2002 – Jul. 2006      **Full-time Research Scholar and Part-time Teaching Assistant**  
School of Computing, National University of Singapore  
Republic of Singapore
  - Nov. 1998 – Jul. 2002      **Lecturer (Computer Engineering)**  
Delhi Technological University (Formerly Delhi College of Engineering),  
New Delhi, India
  - Oct. 1992 – Nov. 1998      **Lecturer (Computer Science and Engineering)**  
DCR University of Science and Technology (Formerly C R State College  
of Engineering), Murthal, Haryana, India
  - Jul. 1991 – Oct. 1992      **Engineer (System Design)**  
Avery India Limited  
Faridabad, Haryana, India
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### AWARDS AND RECOGNITIONS

- The Erica and Arnold Rogers **Award for Excellence in Research and Scholarship** (2014)
  - UWinnipeg President's **Merit Award** for Exceptional Performance (2013)
  - UWinnipeg President's **Merit Award** for Exceptional Performance (2012)
  - UWinnipeg President's **Merit Award** for Exceptional Performance (2010)
  - IEEE ICME **Outstanding Organizing Committee Member (as Publicity Chair)** (2013)
  - ETRI Journal **Best Editor Award** (2012)
  - ETRI Journal **Best Reviewer Award** (2009)
  - IEEE ICME **Quality Reviewer** (2011)
  - **Selected to be featured** in the UWinnipeg Research booklet 2011-13
  - **Selected to be featured in** the UWinnipeg brochure "Introducing; The Richardson College for the Environment and Science Complex" as one of 6 key scientists (2011)
  - Postdoctoral Fellowship, University of Ottawa (2006-08)
  - NUS Research Scholarship, National University of Singapore (2002-06)
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## RESEARCH

### RESEARCH FUNDING

#### **Past and Current Grants (Total: \$728,773)**

##### **External (\$587,873)**

- **Sole Principal Investigator (PI)** - Natural Sciences and Engineering Research Council (NSERC) of Canada - Discovery Grant (Individual): \$135,000 (2009-15, \$24,000 per year for five years + \$15,000 supplement in 2011-12, 2012-13 and 2014-15)
- **Sole PI** – Department of Foreign Affairs and International Trade (DFAIT), Canada (Canadian Commonwealth Exchange Program): \$10,000 (2009-10) (for exchange student – Mukesh Saini)

- **Sole PI** – DFAIT, Canada (Canadian Commonwealth Exchange Program): \$10,000 (2010-11) (for exchange student – Chidansh Bhatt)
- **Sole PI** – DFAIT, Canada (Canadian Commonwealth Exchange Program): \$10,000 (2012-13) (for exchange student – Manoranjan Mohanty)
- **Sole PI** – DFAIT, Canada (Canadian Commonwealth Exchange Program): \$20,000 (2013-14) (for two exchange students – Himanshu Agrawal and Nishant Joshi)
- **Co-PI** - Govt. of Saudi Arabia: 1.5 Million Saudi Riyal ( $\approx$  \$400,000) (2011-13)
- Shastri Indo-Canadian Institute Scholar Travel Grant: \$1,250 (2012-13)
- IEEE ICME Travel Subsidy Grant (\$1,623)

**Internal (\$140,900)**University at Albany – SUNY Grants (**\$128,000**)

- Start-up Research Grant (**\$128,000**) (2014-17)

UWinnipeg Grants (**\$12,900**)

- **Sole PI** - Major Research Grant (\$4,500) (2012-13)
- **Sole PI** - Discretionary Grant (\$1,000) (2012)
- **Sole PI** - Work-Study Program Grant (\$1,400) (2011)
- **Sole PI** - Major Research Grant (\$1,000) (2008-10)
- Start-up Research Grant (\$4,000) (2008-11)
- Travel Grant (\$1,000) (2008)

**Pending Grants (Total: \$21,332,645)****External (\$21,332,645)**

- **As PI**: National Science Foundation (NSF) – Secure and Trustworthy Computing (SaTC) – TWC:Medium:Collaborative: **Fast and Secure Distributed Multimedia Processing with Secret Sharing: \$1,037,991** (2015-19) – Collaborator (sub-awardee): Sen-ching ‘Samson’ Cheung, University of Kentucky [University at Albany: \$661,914; University of Kentucky: \$376,077]
- **As Co-PI**: National Institute of Standards and Technology (NIST) – **UAlbany’s NIST Forensic Center of Excellence: \$19,794,898** (2015-20) (Other team members - PI: Sanjay Goel, School of Business, UAlbany; Co-PIs: Fabio R. Auffant II, School of Business, UAlbany; Martin V. Hidlebrand, Mathematics and Statistics, UAlbany; Karin B. Reinhold-Larsson, Mathematics and Statistics, UAlbany; Kevin J. Williams, Graduate Studies, UAlbany)
- **As PI**: NSF – SaTC – TWC:Small:Collaborative: **Secure and Privacy Aware Online Social Networking: \$499,756** (2015-18) (Co-PI: Sanjay Goel, School of Business, UAlbany)

**STUDENT ADVISING****2014 – present: At UAlbany**

- PhD Students – Looking to recruit suitable students
- MS Students
  1. Jeel Patel (Sep. – Dec. 2014) [Research topic: Secure surface rendering over cloud]
  2. Laura Stalker (Oct. 2014 – Dec. 2014) [Research topic: Secure cloud-based scaling and cropping of JPEG images]
  3. Odd-Arild Kristensen (Oct. 2014 – **current**) [Research topic: Secure cloud-based video editing]

**2008 – present: At UWinnipeg**

- PhD Students
  4. Mukesh Saini (Sep. 2009 – Jan. 2010) (exchange student from National University of Singapore) [Research topic: Privacy and workload in multimedia surveillance] – **Graduated**

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5. Chidansh Bhatt (Nov. 2010 – Apr. 2011) (exchange student from National University of Singapore)  
[Research topic: Multimedia data mining] – **Graduated**
  6. Manoranjan Mohanty (Jan. 2012 – Jun. 2012) (exchange student from National University of Singapore) [Research topic: Secure medical data visualization over cloud] – **Graduated**
  7. Himanshu (Sep. 2012 – Feb 2013) (exchange student from Indian Institute of Technology, Roorkee) [Research topic: Theoretical analysis of a watermaking system] – **Graduated**
  - MS Students<sup>#</sup>
    8. Saeed Alharthi (**Graduated** – Dec. 2011)  
[Thesis title: Improved methods for secret image/video sharing]
    9. Khaled Amriki (**Graduated** – Feb. 2012)  
[Thesis title: A scientific approach for the placement of surveillance cameras on a bus]
    10. Robert Bisewski (**Graduated** – Aug. 2012)  
[Thesis title: Modeling, simulation and analysis of a weaponry-equipped camera surveillance system]
    11. Ankita Lathey (**Graduated** – Apr. 2014)  
[Thesis topic: Secure image enhancement over cloud]
    12. Shreelatha (**Graduated** – Apr. 2014)  
[Thesis topic: Scalable secret sharing of compressed multimedia]
    13. Nishant Joshi D. (Sep. 2012 – Feb. 2013) (exchange student from National Institute of Technolog, Surathkal, India) [Research topic: Secure routing in wireless sensor networks] – **Graduated**
    14. Kasun Senevirathna (**Graduated** – Aug. 2014)  
[Thesis topic: A secure and privacy aware architecture for online social networking]
    15. Shally Bhardwaj (**Graduated** – Sep. 2014) (Supervised at UOttawa)  
[Thesis topic: Personality assessment using multiple online social networks]
    16. Qianjia Huang (Jan. 2012 – **current**)  
[Thesis topic: Cyber bullying detection using social networks features]
    17. Ashish Tripathi (Sep. 2013 – **current**)  
[Thesis topic: Personality persuasion and human behavior changes]
    18. Bakul Trehan (Sep. 2013 – **current**)  
[Thesis topic: Anonymous video surveillance]
    19. M. Abukari Yakubu (Jan. 2014 – **current**)  
[Thesis topic: Secure audio noise reduction over cloud]

**#Note: At UWinnipeg, in thesis-based masters program, the thesis component weighs 18 credits (out of total 30 credits) and a comprehensive piece of research work is performed over two years. Students are required to take an oral thesis defense examination.**

- Undergraduate Students at UWinnipeg  
Spencer Guest (2009), Weiguo Zhang (2009), Vitali Unke (2009), Laura Horosko (2010), Yizhe Zeng (2010), Michael Saull (2010), Kevin Hildebrand (2011), Taylor Budzan (2012-14), Brenton Fedyk (2012), Adam Rehill (2012), James Colp (2013-14)

**2006 – 2008 at UOttawa (assisted fellow professor in supervision)**

- 1 PhD Student and 2 Masters Students
- Supervised a project “Emergency Preparedness for Securing Homes” to a group of undergraduate students

**1998 – 2002 at Delhi Technological University, India**

- 7 Masters Students
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**LIST OF PUBLICATIONS** (WEB LINK - <http://www.cs.albany.edu/~patrey/pub.htm>)

Journal articles: 31, Conference/workshop proceedings: 56, Letters: 1, Book chapters: 3, Guest-editorials: 2, Edited books: 2

**Peer Reviewed Journal Articles (31)**

- J31 P. Natrajan, P. K. Atrey and M. S. Kankanhalli. Multi-camera coordination and control in surveillance systems: a survey. *ACM Transactions on Multimedia Computing, Communications and Applications*. (Accepted - 2014).
- J30 H. Al Najjar, S. Alharthi and P. K. Atrey. Secure image sharing method over unsecured channels. *Springer Int. J. Multimedia Tools and Applications*. DOI: 10.1007/s11042-014-2404-5 (2014).
- J29 A. Lathey and P. K. Atrey. Image enhancement in encrypted domain over cloud. *ACM Transactions on Multimedia Computing, Communications and Applications*. (Accepted - 2014).
- J28 H. Agarwal, P. K. Atrey and B. Raman. Image watermarking in real oriented wavelet transform domain. *Springer Int. J. Multimedia Tools and Applications*, DOI: 10.1007/s11042-014-2212-y (2014).
- J27 M. Saini, P. K. Atrey and A. El Saddik. From smart camera to smarhub: embracing cloud for video surveillance. *Special issue on "Emerging Sensor-Cloud Technology for Pervasive Services and Applications" at Hindawi International Journal of Distributed Sensor Networks*, Volume 2014, Article ID 757845, 10 pages (2014)
- J26 G. Bhatnagar, A. Saha, Q. M. J. Wu and P. K. Atrey. Analysis and extension of multiresolution singular value decomposition. *Elsevier Journal of Information Sciences*. Volume 277, Pages 247-262 (2014).
- J25 G. Bhatnagar, Q. M. J. Wu and P. K. Atrey. Robust logo watermarking using biometrics inspired key generation. *Elsevier Journal of Expert Systems with Applications*, 41(10), 2014, pp. 4563-4578.
- J24 P. K. Atrey, S. Alharthi, M. A. Hossain, A. AlGhamdi and A. El Saddik. Collective control over sensitive video data using secret sharing. *Springer Int. J. of Multimedia Tools and Applications*, DOI: 10.1007/s11042-013-1644-0, (2013)
- J23 G. Bhatnagar, Q. M. J. Wu and P. K. Atrey. Secure randomized image watermarking based on singular value decomposition. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 10 Issue 1 Article No. 4 (2013)
- J22 R. Bisewski and P. K. Atrey. Modeling, simulation and analysis of a weaponry-equipped camera surveillance system. *Hypersciences Int. J. Modeling and Simulations of Systems*, Vol.3, Iss.1, pp 4-13, (2012).
- J21 D. T. Ahmed, M. A. Hossain, S. Shirmohamadi, A. Alghamdi, P. K. Atrey and A. El Saddik. Utility based decision support engine for camera view selection in multimedia surveillance systems. *Springer Int. J. Multimedia Tools and Applications*. (DOI: 10.1007/s11042-012-1294-7) (2012).
- J20 K. Amriki and P. K. Atrey. Bus surveillance: How many and where cameras should be placed. *Springer Int. J. Multimedia Tools and Applications*. (DOI 10.1007/s11042-012-1247-12012) (2012).
- J19 M. Saini, P. K. Atrey, S. Mehrotra, and M S. Kankanhalli. W3-Privacy: Understanding what, when, and where inference channels in multi-camera surveillance video. *Springer Int. J. of Multimedia Tools and Applications*, 68(1):135-158 (2014)
- J18 C. Bhatt, P. K. Atrey and M. S. Kankanhalli. A reward and punishment based approach for concept detection using adaptive ontology rules. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 9 Issue 2, Article No. 10 (May 2013)
- J17 M. Saini, P. K. Atrey, S. Mehrotra, and M S. Kankanhalli. Privacy aware publication of surveillance video. *Inderscience Int. J. of Trust Management in Computing and Communications*. Vol. 1, No. 1, pp 23-50 (2013).
- J16 M. Saini, P. K. Atrey, S. Mehrotra, and M S. Kankanhalli. Adaptive transformation for robust privacy protection in video surveillance. *Hindawi Int. J. of Advances in Multimedia*, Volume 2012, Article ID 639649 (2012).
- J15 M. Saini, X. Wang, P. K. Atrey, and M S. Kankanhalli. Adaptive workload equalization in multi-camera surveillance systems. *IEEE Trans. on Multimedia*, 14(3):555-562 (2012).
- J14 C. Bhatt, P. K. Atrey, and M S. Kankanhalli. "Concept based near duplicate video clip detection for novelty re-ranking of web video search results". *Springer Multimedia Systems J.*, 18(4):337-358 (2012).
- J13 P. K. Atrey, H. Ibrahim, M. A. Hossain, S. Ramanna and A. El Saddik. Determining trust in media-rich

- websites using semantic similarity. *Springer Int. J. of Multimedia Tools and Applications*, 60(1):69-96 (2012).
- J12 P. K. Atrey, A. El Saddik and M. S. Kankanhalli. Effective Multimedia Surveillance Using a Human-Centric Approach. *Special Issue on "Hot Topics in Multimedia Research" at Springer Int. J. of Multimedia Tools and Applications*. 51(2):697-721 (2011)
- J11 M. A. Hossain, P. K. Atrey and A. El Saddik. Modeling and assessing quality of information in multi-sensor multimedia monitoring systems. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 7 Issue 1 (2011)
- J10 P. K. Atrey, M. A. Hossain, A. El Saddik and M. S. Kankanhalli. Multimodal fusion for multimedia analysis: A survey. *Springer Multimedia Systems J.*, 16(6):345-379 (2010)
- J09 M. A. Hossain, J. Parra, P. K. Atrey and A. El Saddik. A framework for human-centered provisioning of ambient media services. *Springer Int. J. of Multimedia Tools and Applications*, 44(3):407-431 (2009)
- J08 M. A. Hossain, P. K. Atrey and A. El Saddik. Learning multisensor confidence using a reward-and-punishment mechanism. *IEEE Trans. on Instrumentation and Measurement*, 58(5):1525-1534 (2009)
- J07 P. K. Atrey and A. El Saddik. Confidence evolution in multimedia systems. *IEEE Trans. on Multimedia*, 10(7):1288-1298 (2008)
- J06 M. A. Hossain, P. K. Atrey and A. El Saddik. Gain-based selection of ambient media services in pervasive computing environments. *Springer Int. J. of Mobile Networks and Applications*, 13(6): 599-613 (2008)
- J05 P. K. Atrey, M. A. Hossain and A. El Saddik. Association-based dynamic computation of reputation in web services. *Inderscience Int. J. Web and Grid Services*, 4(2):169-188 (2008)
- J04 V. K. Singh, P. K. Atrey and M. S. Kankanhalli. Cooperative multi-camera surveillance using model predictive control. *Springer Int. J. of Machine Vision and Applications*, 19(5-6):375-393 (2008)
- J03 P. K. Atrey, M. S. Kankanhalli and John B. Oommen. Goal-oriented optimal subset selection of correlated multimedia streams. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 3, Issue 1, Article 2 (2007)
- J02 P. K. Atrey, W.-Q. Yan and M. S. Kankanhalli. A scalable signature scheme for video authentication. *Springer Int. J. of Multimedia Tools and Applications*, 34(1): 107-135 (2007)
- J01 P. K. Atrey, M. S. Kankanhalli and R. Jain. Information assimilation framework for event detection in multimedia surveillance systems. *Springer/ACM Multimedia Systems J.*, 12(3): 239-253 (2006)

#### Peer Reviewed Conference/Workshop Proceedings (56)

- C56 A. Yakubu, N. C. Maddage and P. K. Atrey. Secret management scheme using Shamir's secret sharing. *The 21st Int. Conf. on Multimedia Modeling (MMM'15)*, Jan. 2015, Sydney, Australia.
- C55 K. Kansal, M. Mohanty and P. K. Atrey. Scaling and cropping of wavelet-based compressed images in hidden domain. *The 21st Int. Conf. on Multimedia Modeling (MMM'15)*, Jan. 2015, Sydney, Australia.
- C54 M. Mohanty, C. Gehrmann and P. K. Atrey. Avoiding weak parameters in secret image sharing. *IEEE Int. Conf. on Visual Communications and Image Processing (VCIP'14)*, Dec. 2014, Valletta, Malta.
- C53 Q. Huang, V. K. Singh and P. K. Atrey. Cyber bullying detection using social and textual features. *The 3rd ACM MM Workshop on Socially Aware Multimedia (IWSAM14)*, Nov. 2014, Orlando, FL, USA.
- C52 M. Moski and P. K. Atrey. An intuitive touch screen interface for car remote control. *The 1st ACM MM Workshop on Emerging Multimedia Applications and Services for Smart Cities (EMASC14)*, Nov. 2014, Orlando, FL, USA.
- C51 S. Bhardwaj, M. Saini, P. K. Atrey and A. El Saddik. Personalized ambient environments using multiple social networks. *The 2nd IEEE ICME International Workshop on Ambient Multimedia and Sensory Environment (AMUSE'14)*, Jul. 2014, Chengdu, China.
- C50 M. Mohanty, W.-T. Ooi and P. K. Atrey. Secure cloud-based volume ray-casting. *IEEE Int. Conf. on Cloud Computing Technology and Services (CloudCom'13)*, Dec. 2013, Bristol, UK.
- C49 K. Senevirathna and P. K. Atrey. A secure and privacy-aware cloud-based architecture for online social networks. *The 7th Multi-Disciplinary Int. Workshop on Artificial Intelligence (MIWAI'13)*, Dec. 2013, Krabi, Thailand.
- C48 H. Agarwal, B. Raman and P. K. Atrey. Watermarking schemes to secure the face database and test images in a biometric system. *The IEEE Int. Conf. on Signal and Image Processing Applications (ICSIPA'13)*, Oct. 2013, Melaka, Malaysia.
- C47 S. Bhadravati, M. Khabbazian and P. K. Atrey. On the semantic security of secret image sharing methods.

- IEEE Int. Conf. on Semantic Computing (ICSC'13)*, Sep. 2013, Irvine, CA, USA.
- C46 A. Lathey, P. K. Atrey and N. Joshi. Homomorphic low pass filtering on encrypted multimedia over cloud. *IEEE Int. Conf. on Semantic Computing (ICSC'13)*, Sep. 2013, Irvine, CA, USA.
- C45 M. Mohanty, W.-T. Ooi and P. K. Atrey. Scale me, crop me, know me not: Supporting scaling and cropping in secret image sharing. *IEEE Int. Conf. on Multimedia and Expo (ICME'13)*, Jul. 2013, San Jose, CA, USA.
- C44 M. Mohanty, P. K. Atrey and W.-T. Ooi. Secure cloud-based medical data visualization. *The ACM Int. Conf. on Multimedia (ACMMM'12)*, pp 1105-1108, Oct. 29-Nov. 2, 2012, Nara, Japan.
- C43 T. Atrey, P. Gupta and P. K. Atrey. Unobtrusive map navigation using eye tracking. *The 25<sup>th</sup> Canadian Conf. on Electrical and Computer Engineering*, Apr. 29-May 2, 2012, Montreal, Canada.
- C42 R. Bisewski and P. K. Atrey. Toward a remote-controlled weapon-equipped camera surveillance system. *IEEE Int. Symposium on Monitoring & Surveillance Research: Healthcare-Safety-Security*, pp 1087-1092, Nov. 2011, Boca Raton, FL, USA.
- C41 P. K. Atrey. A secret sharing based privacy enforcement mechanism for untrusted social networking operators. *The 3rd ACM Int. Workshop on Multimedia in Forensics and Intelligence*, pp 13-18, Nov. 28 - Dec. 1, 2011, Scottsdale, AZ, USA.
- C40 P. K. Atrey, K. Hildebrand and S. Ramanna. An efficient method for protection of text documents using secret sharing. *Int. Conf. on Frontiers of Computer Science*, Aug. 2011, Bangalore, India.
- C39 M. Saini, P. K. Atrey, S. Mehrotra and M. S. Kankanhalli. Anonymous surveillance. *IEEE Int. Conf. on Multimedia and Expo – Workshop on Advances in Automated Multimedia Surveillance for Public Safety*, Jul. 2011, Barcelona, Spain.
- C38 K. Amriki and P. K. Atrey. Towards optimal placement of surveillance cameras in a bus. *IEEE Int. Conf. on Multimedia and Expo – Workshop on Advances in Automated Multimedia Surveillance for Public Safety*, Jul. 2011, Barcelona, Spain.
- C37 M. Saini, X. Wang, P. K. Atrey and M. S. Kankanhalli. Dynamic workload assignment in video surveillance systems. *IEEE Int. Conf. on Multimedia and Expo*, Jul. 2011, Barcelona, Spain.
- C36 S. Alharthi, P. K. Atrey and M. S. Kankanhalli. Secret video sharing. *APSIPA Annual Summit and Conference*, Dec. 2010, Singapore.
- C35 S. Alharthi and P. K. Atrey. Further improvements on secret image sharing scheme. *ACM Multimedia Workshop on Multimedia in Forensics, Security and Intelligence*, pp 53-58, Oct. 2010, Firenze, Italy.
- C34 M. Saini, P. K. Atrey, S. Emmanuel and M. S. Kankanhalli. Functionality delegation in distributed surveillance systems. *IEEE Int. Conf. on Advanced Video and Signal-Based Surveillance - Workshop on Multimedia Systems for Surveillance*, pp 72-79, Aug. 2010, Boston, MA, USA.
- C33 S. Alharthi and P. K. Atrey. An improved scheme for secret image sharing. *IEEE ICME Workshop on Content Protection and Forensics*, pp 1661-1665, Jul. 2010, Singapore.
- C32 M. Saini, P. K. Atrey, S. Mehrotra, S. Emmanuel and M. S. Kankanhalli. Privacy modeling for video data publication. *IEEE Int. Conf. on Multimedia and Expo*, pp 60-65, Jul. 2010, Singapore.
- C31 B. Barake, P. K. Atrey, M. A. Hossain and A. El Saddik. Human-coordinated camera control for monitoring public spaces. *Int. Conf. on Information Sciences, Signal Processing and their Applications*, May 2010, Kuala Lumpur, Malaysia.
- C30 S. Guest, P. K. Atrey and S. Emmanuel. PEER: An effective and efficient personal website organizer. *IEEE TENCON Conference*, pp 1-6, Nov. 2009, Singapore.
- C29 P. K. Atrey. A hierarchical model for representation of events in multimedia observation systems. *ACM Int. Workshop on Events in Multimedia*, pp 57-64, Oct. 2009, Beijing, China.
- C28 B. Barake, P. K. Atrey, J. Zhao and A. El Saddik. A user friendly mobile device interface to assist security officers in physical monitoring at public places. *ACM Int. Workshop on Ambient Media Computing: Part 1: Sensory Media Systems and Applications*, pp 29-36, Oct. 2009, Beijing, China.
- C27 P. Zhang, S. Emmanuel, P. K. Atrey and M. S. Kankanhalli. Spatio-temporal latent semantic cues for moving people tracking. *The 34th IEEE Int. Conf. on Acoustics, Speech, and Signal Processing*, pp 3533-3536, Apr. 2009, Taipei, Taiwan.
- C26 M. A. Hossain, P. K. Atrey and A. El Saddik. Dynamic gain estimation in ambient media services. *The 1st ACM Int. Workshop on Semantic Ambient Media Experience*, pp 49-56, Oct. 2008, Vancouver, BC, Canada.
- C25 M. A. Hossain, P. K. Atrey and A. El Saddik. Context-aware QoI computation in multisensor systems. *First IEEE Int. Workshop on Quality of Information for Sensor Networks*, Sep-Oct 2008, Atlanta, GA, USA.

- C24 P. K. Atrey, M. A. Hossain and A. El Saddik. Automatic scheduling of CCTV camera views using a human-centric approach. *IEEE Int. Conference on Multimedia and Expo*, Jun. 2008, Honnover, Germany.
- C23 P. K. Atrey and A. El Saddik. Ambient aware authentication of digital evidences. *The 21st Canadian Conf. on Electrical and Computer Engineering*, pp 2037-2040, May 2008, Niagara Falls, ON, Canada.
- C22 M. A. Hossain, P. K. Atrey and A. El Saddik. Managing ambient media preferences in distributed environments for service personalization. *Int. Symposium on Parallel Architectures, Algorithms, and Networks*, pp. 204-209, May 2008, Sydney, Australia.
- C21 M. A. Hossain, P. K. Atrey and A. El Saddik. Learning multi-sensor confidence using difference of opinions. *IEEE Int. Instrumentation and Measurement Technology Conference*, May 2008, Victoria, British Columbia, Canada.
- C20 P. K. Atrey, M. A. Hossain and A. El Saddik. A method for computing the reputation of multimedia services through selection and composition. *Fifteenth Annual IS&T/SPIE Conf. on Multimedia Computing and Networking*, Vol. 6818, pp H1-H8, Jan. 30-31, 2008, San Jose, California, USA
- C19 P. K. Atrey, M. A. Hossain and A. El Saddik. A multimedia-based system for monitoring sleepwalkers. *IEEE Int. Conf. on Signal Processing and Communications*, pp 1459-1462, Nov. 2007, Dubai, UAE.
- C18 P. Sherisha, P. K. Atrey and A. El Saddik. Towards an intelligent GPS-based vehicle navigation system for finding parking lots. *IEEE Int. Conf. on Signal Processing and Communications*, pp 1251-1254, Nov. 2007, Dubai, UAE.
- C17 H. Ibrahim, P. K. Atrey and A. El Saddik. Semantic similarity based trust computation in websites. *First ACM Int. Workshop on The Many Faces of Multimedia Semantics*, pp 65-72, Sep. 2007, Augsburg, Germany.
- C16 M. A. Hossain, P. K. Atrey and A. El Saddik. Smart mirror for ambient home environment. *The 3rd IET Int. Conf. on Intelligent Environments*, pp 589-596, Sep. 2007, Ulm, Germany.
- C15 M. A. Hossain, P. K. Atrey and A. El Saddik. Modeling quality of information in multi-sensor surveillance systems. *Int. Workshop on Ambient Intelligence, Media, and Sensing, (Associated with the Int. Conf. on Data Engineering)*, pp 11-18, Apr. 20, 2007, Istanbul, Turkey.
- C14 P. K. Atrey, M. S. Kankanhalli and A. El Saddik. Confidence building among correlated streams in multimedia surveillance systems. *Int. Conf. on Multimedia Modeling*, pp 155-164, Jan. 2007, Singapore.
- C13 V. K. Singh, P. K. Atrey and M. S. Kankanhalli. Coopetitive multimedia surveillance. *Int. Conf. on Multimedia Modeling*, pp 343-352, Jan. 2007, Singapore.
- C12 K. G. Sivarama, P. K. Atrey, V. K. Singh, K. Ramakrishnan and M. S. Kankanhalli. A design methodology for selection and placement of sensors in multimedia surveillance systems. *The 4<sup>th</sup> ACM Int. Workshop on Video Surveillance and Sensor Networks*, pp 121-130, Oct. 2006, Santa Barbara, California, USA.
- C11 K. Vaiapury, P. K. Atrey, M. S. Kankanhalli and K. Ramakrishnan. Non-identical duplicate detection in video using the SIFT method. *Int. Conf. on Visual Information Engineering*, pp 537-542, Sep. 2006, Bangalore, India.
- C10 P. K. Atrey, V. Kumar, A. Kumar and M. S. Kankanhalli. Experiential sampling based foreground/background segmentation for video surveillance, *IEEE Int. Conf. on Multimedia and Expo*, Jul. 2006, Toronto, Canada.
- C09 P. K. Atrey, N. C. Maddage and M. S. Kankanhalli. Audio based event detection for multimedia surveillance. *IEEE Int. Conf. on Acoustics, Speech, and Signal Processing*, pp V813-816, May 2006, Toulouse, France.
- C08 P. K. Atrey, M. S. Kankanhalli and R. Jain. Timeline-based information assimilation in multimedia surveillance and monitoring systems. *The 3rd ACM Int. Workshop on Video Surveillance and Sensor Networks*, pp 103-112, Nov. 2005, Singapore.
- C07 V. K. Singh and P. K. Atrey. Coopetitive visual surveillance using model predictive control. *The 3rd ACM Int. Workshop on Video Surveillance and Sensor Networks*, pp 149-158, Nov. 2005, Singapore.
- C06 P. K. Atrey and M. S. Kankanhalli. Goal based optimal selection of media streams. *IEEE Int. Conf. on Multimedia and Expo*, pp 305-308, Jul. 2005, Amsterdam, The Netherlands.
- C05 P. K. Atrey and M. S. Kankanhalli. Probability fusion for correlated multimedia streams. *ACM Int. Conf. on Multimedia*, pp 408-411, Oct. 2004, New York City, NY, USA.
- C04 P. K. Atrey, W.-Q. Yan, E.-C. Chang and M. S. Kankanhalli. A hierarchical signature scheme for robust video authentication using secret sharing. *The 10th Int. Multimedia Modeling Conf.*, pp 330-337, Jan. 2004, Brisbane, Australia.



- C03 P. K. Atrey and N. Rajpal. Efficient representation of contours and its applications. *The 7th Int. Workshop on Advanced Image Technology*, pp 353-357, Jan. 2004, Singapore.
- C02 P. K. Atrey, A. De and N. Rajpal. Polynomial representation of 2-D image boundary contours. *IEEE Region 10 Conf. on Computers, Communications, Control and Power Engineering (TENCON '02)*, Vol. 1, pp 257-260, Oct. 2002, Beijing, China.
- C01 P. K. Atrey, S. Dhawan and N. Rajpal. Minimizing the control points and studying the behavior of resulting 2D/3D curves. *All India Seminar on Computer Communication and Networks*, pp 76-79, Nov. 2001, Roorkee, India.

#### Peer Reviewed Letters (1)

- L01 M. Saini, P. K. Atrey, S. Mehrotra and M. S. Kankanhalli Considering implicit channels in privacy analysis of video data. *IEEE COMSOC MMTC E-letter*, Vol. 6, No. 11, pp 27-30, Nov. 2011.

#### Peer Reviewed Book Chapters (3)

- B03 P. K. Atrey. Event representation in multimedia observation systems. In *Effective Surveillance for Homeland Security: Balancing Technology and Social Issues*, Eds. Francesco Flammini, Roberto Setola and Giorgio Franceschetti, (Chapter 7), CRC Press / Taylor & Francis, pp 143-168, (2013).
- B02 M. Saini, P. K. Atrey and M. S. Kankanhalli. Workload modeling for multimedia surveillance systems. In *Emerging Trends in Machine Learning*, Eds. S. Ramanna, L. C. Jain and R. J. Howlett, (Chapter 16), Springer Press, pp 419-440 (2013).
- B01 P. K. Atrey, A. El Saddik and M. S. Kankanhalli. Digital video authentication: System properties, design issues and techniques. In *Handbook of Research on Secure Multimedia Distribution*, (Chapter XVI), IGI publisher, pp 298-314 (2009).

#### Edited Books (2)

- E02 Intelligent Multimedia Surveillance: Current Trends and Research. Publisher Springer. P. K. Atrey; M. Kankanhalli; A. Cavallaro (Eds.) (2013).
- E01 Managing Trust in Cyberspaces. CRC Press. P. K. Atrey; S. M. Thampi; B. Bhargava (Eds.) (2013).

#### Guest Editorials (2)

- G02 P. K. Atrey, M. A. Hossain and M. S. Kankanhalli Advances in multimedia surveillance. *Springer Int. J. Multimedia Tools and Applications*, DOI: 10.1007/s11042-012-1342-3, (2013).
- G01 P. K. Atrey, S. Emmanuel, S. Mehrotra and M. S. Kankanhalli. Privacy-aware multimedia surveillance systems. *Springer Multimedia Systems J.*, 18(2):95-97, (2012).

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### ONGOING WORK

#### Journal articles (Under review)

1. M. Mohanty, W-T. Ooi and P. K. Atrey. Secret sharing approach for securing cloud-based pre-classification volume ray-casting. (Under review at *Springer Int. Journal of Multimedia Tools and Applications*)
2. S. Bhadravati, P. K. Atrey and M. Khabbazian. Scalable secret sharing of compressed multimedia. (Under review at *Elsevier Int. Journal of Information Security and Applications*)
3. S. Bhardwaj, M. Saini, P. K. Atrey and A. El Saddik. Personality assessment using multiple online social networks. (Under review at *Springer Int. Journal of Multimedia Tools and Applications*)

#### Work in progress

4. A. Lathey and P. K. Atrey. Multimedia processing in encrypted domain: a survey.
5. N. Joshi, P. K. Atrey and M. Kulkarni. Range adjustable hybrid multi path (RAHM) routing algorithm for WSNs.
6. M. Saini, P. K. Atrey, S. Mehrotra and M. S. Kankanhalli. A framework for anonymous video surveillance.
7. Q. Huang, V. K. Singh, P. K. Atrey and A. 'Sandy' Pentland. Cyber bullying detection using social and textual features.
8. A. M. Yakubu, P. K. Atrey and N. C. Maddage. Audio quality enhancement in encrypted domain.
9. A. K. Tripathi, V. K. Singh, S. Hossain and P. K. Atrey. Studying role of personality in persuasion using social media data

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10. Odd-Arild Kristensen, M. Mohanty and P. K. Atrey. Secure cloud-based video editing.

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### **RESEARCH COLLABORATIONS**

- Prof. Mohan Kankanhalli, National University of Singapore, Singapore
  - Prof. Abdulmotaleb El Saddik, University of Ottawa, Canada
  - Prof. Wei Tsang Ooi, National University of Singapore, Singapore
  - Prof. Sharad Mehrotra, University of California @ Irvine, USA
  - Prof. Balasubramanian Raman, Indian Institute of Technology @ Roorkee, India
  - Prof. Majid Khabbazian, University of Alberta, Canada
  - Dr. Vivek K Singh, Massachusetts Institute of Technology, USA
  - Dr. Mukesh Saini, University of Ottawa, Canada
  - Dr. Namunu Maddage, NextGMultimedia, Melbourne, Australia
  - Prof. Ramesh Jain, University of California @ Irvine, USA
  - Prof. John Oommen, Carleton University, Ottawa, Canada
  - Prof. K R Ramakrishnan, Indian Institute of Science, Bangalore, India
  - Prof. Sheela Ramanna, University of Winnipeg, Canada
  - Prof. Jonathan Wu, University of Windsor, Canada
  - Prof. Weiqi Yan, Auckland University, New Zealand
  - Prof. Shervin Shirmohamadi, University of Ottawa, Canada
  - Prof. Md. Anwar Hossain, King Saud University, Saudi Arabia
  - Dr. Gaurav Bhatnagar, Indian Institute of Technology @ Jodhpur, India
  - Dr. Xiang Wang, National University of Singapore, Singapore
  - Prof. Andrea Cavallaro, Queens Mary, University of London, UK
- 

### **SCHOLARLY AND PROFESSIONAL ACTIVITIES**

#### **Editorial Boards (7)**

1. Associate Editor for ACM Transactions on Multimedia Computing, Communications and Applications (2012-present)
2. Editor of ETRI Journal (2010-present)
3. Associate Editor for Inderscience Int. Journal of Trust Management in Computing and Communications (IJTMCC) (2011-present)
4. Guest Editor, Special Issue on “Privacy-aware multimedia surveillance systems” at Springer Multimedia Systems Journal (2011)
5. Guest Editor, Special Issue on “Advances in multimedia surveillance” at Springer Int. Journal of Multimedia Tools and Applications (2012)
6. Editor for the Special Interest Group in Multimedia (SIGMM) Education Column (2011-present)
7. Associate Editor for IEEE Communications Society, MMTC R-Letter (2012-present)

#### **Keynote Speeches (2)**

1. A keynote speech at 2013 Int. Conf. on Advances in Computing, Communications and Informatics (ICACCI-2013), Mysore, India (Aug. 2013)
2. A keynote speech at Int. Conf. on Security in Computer Networks and Distributed Systems (SNDS-2012), Trivandrum, India. (Oct. 2012)

#### **Conference Presentations (20)**

1. The 1st ACM Multimedia Workshop on Emerging Multimedia Applications and Services for Smart Cities (EMASC14), Nov. 2014, Orlando, FL, USA.  
*Title: An intuitive touch screen interface for car remote control.*

2. The IEEE Int. Conf. on Multimedia and Expo, Jul. 2013, San Jose, CA, USA.  
*Title: Scale me, crop me, know me not: Supporting scaling and cropping in secret image sharing.*
3. The 3rd ACM Int. Workshop on Multimedia in Forensics and Intelligence, Nov. 28 – Dec. 1, 2011, Scottsdale, AZ, USA.  
*Title: A secret sharing based privacy enforcement mechanism for untrusted social networking operators.*
4. IEEE Int. Conf. on Multimedia and Expo - Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2011, Barcelona, Spain.  
*Title: Towards optimal placement of surveillance cameras in a bus.*
5. Int. Conf. on Frontiers of Computer Science, Aug. 2011, Bangalore, Spain.  
*Title: An efficient method for protection of text documents using secret sharing.*
6. IEEE Int. Conf. on Advanced Video and Signal-Based Surveillance - Workshop on Multimedia Systems for Surveillance, Aug. 2010, Boston, USA.  
*Title: Functionality delegation in distributed surveillance systems.*
7. IEEE Int. Conf. on Multimedia and Expo - Workshop on Content Protection and Forensics, Jul. 2010, Singapore.  
*Title: An improved scheme for secret image sharing.*
8. ACM Int. Workshop on Ambient Media Computing: Part 1: Sensory Media Systems and Applications, Oct. 2009, Beijing, China.  
*Title: A user friendly mobile device interface to assist security officers in physical monitoring at public places.*
9. ACM Int. Workshop on Events in Multimedia, Oct. 2009, Beijing, China,  
*Title: A hierarchical model for representation of events in multimedia observation systems.*
10. The 1st ACM Int. Workshop on Semantic Ambient Media Experience, Oct. 2008, Vancouver, BC, Canada.  
*Title: Dynamic gain estimation in ambient media services.*
11. The 21st Canadian Conference on Electrical and Computer Engineering, May 2008, Niagara Falls, Ontario, Canada.  
*Title: Ambient aware authentication of digital evidences.*
12. Fifteenth Annual IS&T/SPIE Conference on Multimedia Computing and Networking, Jan. 2008, San Jose, California, USA.  
*Title: A method for computing the reputation of multimedia services through selection and composition.*
13. IEEE Int. Conf. on Signal Processing and Communications, Nov. 2007, Dubai, UAE.  
*Title: A multimedia-based system for monitoring sleepwalkers.*
14. IEEE Int. Conf. on Signal Processing and Communications, pp 1251-1254, Nov. 2007, Dubai, UAE.  
*Title: Towards an intelligent GPS-based vehicle navigation system for finding parking lots.*
15. The 13<sup>th</sup> Int. Conf. on Multimedia Modeling, Jan. 2007, Singapore.  
*Title: Confidence building among correlated streams in multimedia surveillance systems.*
16. The 3rd ACM Int. Workshop on Video Surveillance and Sensor Networks, Nov. 2005, Singapore.  
*Title: Timeline-based information assimilation in multimedia surveillance and monitoring systems.*
17. IEEE Int. Conf. on Multimedia and Expo, Jul. 2005, Amsterdam, The Netherlands.  
*Title: Goal based optimal selection of media streams.*
18. ACM Int. Conf. on Multimedia, Oct. 2004, New York City, NY, USA.  
*Title: Probability fusion for correlated multimedia streams.*
19. The 7th Int. Workshop on Advanced Image Technology, Jan. 2004, Singapore.  
*Title: Efficient representation of contours and its applications.*
20. The 10th International Multi-Media Modeling Conference, Jan. 2004, Brisbane, Australia  
*Title: A hierarchical signature scheme for robust video authentication using secret sharing.*

**Session Chaired (8)**

1. Session on “Multimedia Security, Privacy and Forensics” at IEEE Int. Conf. on Multimedia and Expo, Jul. 2013, San Jose, CA, USA.
2. Oral Session 2 at the IEEE ICME Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2011, Barcelona, Spain.
3. Poster Session at the IEEE ICME Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2011, Barcelona, Spain.

4. Session on “Surveillance Applications” at the IEEE AVSS Workshop on Multimedia Systems for Surveillance, Aug. 2010, Boston, USA.
5. Session on “Privacy-aware Multimedia Surveillance”, IEEE Int. Conf. on Multimedia and Expo, Jul. 2010, Singapore.
6. “Context Awareness” Session, ACM Int. Conf. on Multimedia, Oct. 2009, Beijing, China.
7. “Video Browsing” Session, ACM Int. Conf. on Multimedia, Oct. 2008, Vancouver, Canada.
8. Session on “Image Processing”, Canadian Conference on Electrical and Computer Engineering, May 2008, Niagara Falls, Canada.

**Tutorial Delivered (1)**

1. Delivered a 3-hour tutorial on “Advances in Multimedia Surveillance” at Int. Conf. on Frontiers of Computer Science, on 7<sup>th</sup> Aug. 2011, Bangalore, India.

**Special Session Organized (2)**

1. Principal Organizer, Special Session on “Privacy-aware Multimedia Surveillance”, IEEE Int. Conf. on Multimedia and Expo, Jul. 2010, Singapore.
2. Co-Organizer, Special session on “Multimedia Surveillance” at the IEEE Int. Conf. on Acoustics, Speech, and Signal Processing, Apr. 2009, Taipei, Taiwan.

**Workshop Organized (5)**

1. The 3<sup>rd</sup> IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2013, San Jose, CA, USA.
2. The 2<sup>nd</sup> IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2012, Melbourne, Australia.
3. The 1<sup>st</sup> IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2011, Barcelona, Spain.
4. The 2<sup>nd</sup> IEEE Workshop on Multimedia Systems for Surveillance at the Int. Conf. on Advanced Video and Signal-Based Surveillance, Aug. 2011, Klagenfurt, Austria.
5. The 1<sup>st</sup> IEEE Workshop on Multimedia Systems for Surveillance at the Int. Conf. on Advanced Video and Signal-Based Surveillance, Aug. 2010, Boston, USA.

**Research Talks (30)**

1. “Security and privacy issues in large-scale cloud-based multimedia systems”, at CS Dept., College of Computing and Information, State University of New York, Albany (Oct. 2, 2014)
2. “Secure multimedia analytics over cloud”, at MIT Media Lab, USA (Jul. 7, 2014)
3. “How to write a research paper”, at Dept. of Applied Computer Sc., University of Winnipeg, Canada (Mar. 14, 2014)
4. “Secure visual data analytics over cloud”, at University of Alberta, Canada (Jun. 19, 2014)
5. “Secure multimedia data analytics over cloud”, at Informatics Dept., College of Computing and Information, State University of New York, Albany (Mar. 25, 2014)
6. “Secure cloud-based imaging”, at University of Manitoba, Canada (Dec. 12, 2013)
7. “Secure multimedia processing over cloud”, Dept. of Applied Computer Sc., University of Winnipeg, Canada (Dec. 5, 2013)
8. “People’s privacy in the IT age”, at Fred Douglas Seniors Center, Winnipeg, Canada (Oct. 23, 2013)
9. “Secure multimedia processing over cloud”, at D.C.R. University of Science and Technology, Murthal, India (Aug. 26, 2013)
10. “How to write a research paper - my thoughts”, at National Institute of Technology, Surathkal, India (Aug. 24, 2013)
11. “Secure multimedia processing over cloud”, at National Institute of Technology, Surathkal, India (Aug. 24, 2013)
12. “Adaptive workload equalization in multi-camera surveillance systems”, at Indraprastha Institute of Information Technology, Delhi, India (Aug. 21, 2013)
13. “Adaptive workload equalization in multi-camera surveillance systems”, at South Asian University, Delhi, India (Aug. 21, 2013)

14. "Secure multimedia processing over cloud", at Computer Sc. and Eng. Dept., Indian Institute of Technology, Roorkee, India (Aug. 13, 2013)
15. "Adaptive workload equalization in multi-camera surveillance systems", at Math Dept., Indian Institute of Technology, Roorkee, India (Aug. 12, 2013)
16. "How to write a research paper", at Dept. of Applied Computer Sc., University of Winnipeg, Canada (May 2, 2013)
17. "Secure medical data visualization over cloud", at Indian Institute of Technology, Roorkee, India (Feb. 5, 2013)
18. "Secure medical data visualization over cloud", at Graphic Era University, Dehradun, India (Feb. 6, 2013)
19. "Privacy aware publication of surveillance video", at Dept. of Applied Computer Sc., University of Winnipeg, Canada (Sep. 26, 2012)
20. "Secure medical data visualization over cloud", at University of Ottawa, Canada (Aug. 24, 2012)
21. "Secure medical data visualization over cloud", at University of Ontario Institute of Technology, Canada (Aug. 23, 2012)
22. "Secure medical data visualization over cloud", at University of Windsor, Canada (Aug. 21, 2012)
23. "People's privacy in video surveillance systems", Skywalk lecture at Winnipeg Millennium Library, Canada (Feb. 2012)
24. "Advances in multimedia surveillance", a 4-hour technical session at the Faculty Development Program conducted in Ambedkar Institute of Technology, Delhi, India (Jul. 2011)
25. "Privacy-aware publication of surveillance videos", at the Indian Institute of Science, Bangalore, India (Aug. 2011)
26. "Privacy-aware publication of surveillance videos", at the Delhi Technological University, Delhi, India (Aug. 2011)
27. "Privacy-aware publication of surveillance videos", at the College of Engineering, Roorkee, India (Aug. 2011)
28. "Information assimilation in multimedia surveillance systems", at the UWinnipeg, Canada (Mar. 2008)
29. "Information assimilation in multimedia surveillance systems", at Indian Institute of Technology, Roorkee, India (Dec. 2007)
30. "Information assimilation in multimedia surveillance systems", at Laurentian University, Sudbury, Ontario, Canada (Nov. 2007)

### Research Visits

1. Visited MIT Media Lab, USA (Jul. 7-10, 2014).
2. Visited Indian Institute of Technology, Roorkee, India under Shastri Indo-Canadian Institute Scholar Travel Program (Feb. 4-8, 2013).
3. Visited Dhirubhai Ambani Institute of Information and Communication Technology, Gandhi Nagar, India (Jul. 22, 2011).
4. Visited Center for Advanced Technology, Indore, India (Aug. 11, 2011).

### Virtual Lab Tour Coordinator for MMTC Group

- I coordinate the IEEE Multimedia Communication Technical Committee (MMTC) Group virtual lab tour program, in which I act as a moderator during the conference call.

### Thesis Examinations (2008-present) (11 PhD + 7 MS = 18 Total)

1. MS thesis of T. Alusaifeer titled "Maximum Clique Enumeration Approach to Finding Near Neighbourhoods with a GPU Framework", UWinnipeg, Canada (2015).
2. PhD thesis of C. Manike titled "Study and Development of High-Utility Pattern Mining Techniques for Evolving Data Streams", Indian Institute of Mines, Dhanbad, India (2014).
3. PhD thesis of G. P. Gupta titled "Energy Aware Fault Tolerant Data Dissemination Protocols for Wireless Sensor Networks", Indian Institute of Technology, Roorkee, India (2014).
4. PhD thesis of P. Kumar titled "An Energy-efficient Routing Protocol based on Energy Band and Virtual Localization", National Institute of Technology, Patna, India (2014).
5. PhD thesis of R. Gupta titled "Improved Multiple Sequence Alignment by Genetic Algorithm", Sharda

- University, India (2014).
6. MS thesis of M. Himbeault titled “A Novel Approach to Detecting Covert DNS Tunnels Using Throughput Estimation”, University of Manitoba, Canada (2014)
  7. PhD thesis of B. Bahl, titled “Enhanced Data Models for Geographic Information Systems”, G.G.S. Indraprastha University, India (2013).
  8. PhD thesis of M. Kumar, titled “Requirements Modeling and Quality Issues for Development of Data Warehouse”, G.G.S. Indraprastha University, India (2013).
  9. PhD thesis of D. Gangodkar, titled “Addressing Challenges in Video Analytics Applications”, Indian Institute of Technology, Roorkee (2012)
  10. MS thesis of W. Shen titled “Comparison of Inverted Files and Signature Trees for Text Indexing”, UWinnipeg, Canada (2012)
  11. MS thesis of B. Prasanga titled “Image Retrieval”, UWinnipeg, Canada (2011)
  12. MS thesis of S. Leone titled “Evaluation of Reachability Queries and Recursion Computation”, UWinnipeg, Canada (2011)
  13. MS thesis of J. Ren titled “Digital Image Watermarking using Legendre Moments”, UWinnipeg, Canada (2011)
  14. PhD thesis of R. K. Purwar titled “Design of Block Matching Criteria and Motion Estimation Algorithm for Video Encoder”, G.G.S. Indraprastha University, India (2010).
  15. PhD thesis of R. Rama Kishore titled “Quality Simplification and Error Measurement of 3D Polygonal Model using Maya API and MEL”, G.G.S. Indraprastha University, India (2010).
  16. PhD thesis of A. Kumar titled “Information Security”, Sikkim Manipal University, India (2010).
  17. MS thesis of L. Zou titled “Twig Pattern Search in XML Database”, UWinnipeg, Canada (2010)
  18. PhD thesis of R. S. Khela titled “Performance Evaluation of Self-excited Induction Generator using Artificial Neural Networks”, Punjab Technical University, India (2009).

### **Reviewer for**

#### ***Journals***

- ACM Trans. on Multimedia Computing, Communications and Applications
- Elsevier International Journal of Information Security and Applications
- Elsevier International Journal of System Software
- ETRI Journal
- EURASIP Journal of Audio, Speech, and Music Processing
- EURASIP Journal of Image and Video Processing
- IEEE Multimedia Magazine
- IEEE Trans. on Circuits and Systems for Video Technology
- IEEE Trans. on Information Forensics and Security
- IEEE Trans. on Multimedia
- IEEE Trans. on Systems, Man, and Cybernetics
- Inderscience International Journal of Security and Networks
- International Journal of Control and Intelligent Systems
- International Journal of Multimedia
- International Journal of Parallel, Emergent and Distributed Systems
- Springer International Journal of Multimedia Tools and Applications
- Springer Multimedia Systems Journal

#### ***Grants***

- Two NSERC Strategic Project Grant proposals (2010, 2011)
- NSERC Discovery Grant – Individual (2011, 2012, 2014)
- NSERC CRD Grant (2012)
- Mitacs Postdoctoral Fellowship (2013, 2014)

### **Conference Organization**

#### **2015**

- PC Member, The 2015 IEEE Int. Conf. on Multimedia and Expo, Jun.-Jul. 2015, Torino, Italy.

- PC Member, The 11th Int. Conf. on Signal Processing and Multimedia Applications, Jul. 2015, Colmar, Alsace, France.
- PC Member, IEEE Int. Conf. on Image Processing, Oct. 2015, Quebec City, QC, Canada.
- PC Member, IEEE Int. Conf. on Signal and Image Processing Applications, Oct. 2015, Malaysia.
- PC Member, IEEE Int. Conf. on Acoustics, Speech, and Signal Processing, Apr. 2015, Brisbane, Australia.

#### 2014

- Demo Co-Chair, IEEE Int. Conf. on Systems, Man and Cybernetics, Oct. 2014, San Diego, CA, USA.
- PC Member, The Third Int. Conf. on Advances in Computing, Communications and Informatics, Sep. 2014, Greater Noida, India.
- PC Member, The 10th Int. Conf. on Signal Processing and Multimedia Applications, Aug. 2014, Vienna, Austria.
- PC Member, The Eighth Int. Conf. on Complex, Intelligent, and Software Intensive Systems, Jul. 2014, Birmingham, UK.
- PC Member, IEEE Int. Conf. on Multimedia and Expo, Jul. 2014, Chengdu, China.
- PC Member, The Third Int. Conf. on Intelligent Systems and Applications, Jun. 2014, Seville, Spain.
- PC Member, The Second Int. Conf. on Security in Computer Networks and Distributed Systems, Mar. 2014, Thiruvananthapuram, Kerala, India.

#### 2013

- PC Member, Seventh ACM/IEEE Int. Conf. on Distributed Smart Cameras, Nov. 2013, Palm Springs, CA, USA.
- PC Member, The 1st ACM Workshop on Personal Data Meets Distributed Multimedia, Oct. 2013, Barcelona, Spain.
- Publicity Co-chair, IEEE Int. Conf. on Multimedia and Expo, Jul. 2013, San Jose, CA, USA.
- Area Chair – Short Paper Program, IEEE Int. Conf. on Multimedia and Expo, Jul. 2013, San Jose, CA, USA.
- Organizing Co-Chair, The 3<sup>rd</sup> IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2013, San Jose, CA, USA.
- PC Member, The 3<sup>rd</sup> IEEE Int. Workshop on Hot Topics in 3D, Jul. 2013, San Jose, CA, USA.
- PC Member, The 3<sup>rd</sup> IEEE Int. Workshop on Camera Networks and Wide Area Scene Analysis, 2013, Portland, Oregon, USA.
- PC Member, Int. Conf. on Signal Processing and Multimedia Applications, 2013, Iceland.
- PC Member, The Second Int. Conf. on Intelligent Systems and Applications, 2013, Venice, Italy.
- Program Co-Chair, Int. Symp. on Security in Computing and Communications, 2013, Mysore, India.

#### 2012

- General Co-Chair, The 2<sup>nd</sup> IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, 2012, Melbourne, Australia.
- PC Member, The 2<sup>nd</sup> IEEE Int. Workshop on Camera Networks and Wide Area Scene Analysis, 2012, Providence, Rhode Island, USA.
- Steering Committee Member, Int. Conf. on Security in Computer Networks and Distributed Systems, 2012, Trivandrum, India.
- PC Member, The First Int. Conf. on Intelligent Systems and Applications, 2012, Chamonix /Mont Blanc, France.
- PC Member, IEEE Int. Conf. on Multimedia and Expo, 2012, Melbourne, Australia.

#### 2011

- PC Member, The 2<sup>nd</sup> ACM Int. Workshop on Multimedia in Forensics and Intelligence, 2011, Scottsdale, Arizona, USA.
- PC Member, The 5<sup>th</sup> Int. Conf. on Internet Multimedia Systems Architecture and Applications, 2011, Bangalore, India.
- Program Co-Chair, The 2<sup>nd</sup> IEEE Int. Workshop on Multimedia Systems for Surveillance, 2011, Klagenfurt, Austria.
- Publicity Co-Chair and PC Member, IEEE Int. Conf. on Multimedia and Expo, 2011, Barcelona, Spain.

- General Co-Chair, The 1<sup>st</sup> IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, 2011, Barcelona, Spain.
- Publicity Co-Chair, The 1<sup>st</sup> IEEE Int. Workshop on Vision and Graphics Computing for Multimedia Communications, 2011, Barcelona, Spain.
- PC Member, IEEE 2<sup>nd</sup> Int. Workshop on Content Protection and Forensics, 2011, Barcelona, Spain.
- PC Member, The 3<sup>rd</sup> Int. Workshop on Information Quality and Quality of Service for Pervasive Computing, 2011, Seattle, USA.
- PC Member, The 5<sup>th</sup> IEEE/FTRA Int. Conf. on Multimedia and Ubiquitous Engineering, 2011, Crete, Greece.
- PC Member, The 2nd FTRA Int. Workshop on Multimedia and Semantic Technologies, 2011, Crete, Greece.
- PC Member, Int. Conf. on Signal Processing and Multimedia Applications, 2011, Seville, Spain.
- PC Member, Int. Workshop on Camera Networks and Wide Area Scene Analysis, 2011, Colorado, USA.

### 2010

- Program Co-Chair, IEEE Int. Workshop on Multimedia Systems for Surveillance, 2010, Boston, USA.
- PC Member, The 1st ACM Int. Workshop on Multimedia in Forensics and Intelligence, 2010, Firenze, Italy.
- PC Member, Applications Track, ACM Int. Conf. on Multimedia, 2010, Firenze, Italy.
- PC Member, IEEE Int. Workshop on Content Protection and Forensics, 2010, Singapore.
- PC Member, Int. Workshop on Multimedia and Semantic Technologies, 2010, Busan, Korea.
- PC Member, Int. Conf. on Signal Processing and Multimedia Applications, 2010, Athens, Greece.
- PC Member, IEEE conference Multimedia and Ubiquitous Engineering, 2010, San Diego, CA, USA.
- PC Member, Int. Conf. on Active Media Technology, 2010, Toronto, Canada.

### 2009

- PC Member, ACM Int. Conf. on Multimedia, 2009, Beijing, China.
- PC Member, ACM Int. Workshop on Events in Multimedia, 2009, Beijing, China.
- PC Member, ACM Int. Workshop on Ambient Media Computing: Part 1: Sensory Media Systems and Applications, Oct. 2009, Beijing, China
- PC Member, IEEE TENCON 2009, Singapore.
- PC Member, ACM Academic MindTrek 2009, Tampere, Finland.
- PC Member, Int. Conf. on Signal Processing and Multimedia Applications, 2009, Milan, Italy.

### 2008

- Web Co-Chair and PC Member, ACM Int. Conf. on Multimedia, 2008, Vancouver, Canada.
- PC Member, Applications Track, ACM Int. Conf. on Multimedia, 2008, Vancouver, Canada.
- PC Member, ACM Workshop on Visual Networks and Behavior Analysis, 2008, Vancouver, Canada.
- Web Co-Chair and PC Member, ICST Ambi-Sys Conference, 2008, Quebec City, Canada.

### 2007

- PC Member, Int. Conf. on Information Technology 2007, Rourkela, India.
- PC Member, IET Int. Conf. on Visual Information Engineering 2007, London, UK.
- PC Member, IEEE Int. Conf. on Signal Processing and Communications 2007, Dubai, UAE.

### **Association with Professional Bodies/Research Labs**

I continued to be the member of the following professional bodies/research labs:

- Association of Computing Machinery (ACM)
  - Institute of Electrical and Electronics Engineers (IEEE)
  - Special Interest Group in Multimedia (SIGMM)
  - Interest Group (IG) on 3D Rendering, Processing and Communications of IEEE Multimedia Communication Technical Committee (MMTC)
  - Multimedia Communications Research Laboratory, University of Ottawa
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**TEACHING****COURSES TAUGHT**

- **2014-present:** At UAlbany
  - Fall 2014: ICSI-660/445 Theory and Practice of Security and Privacy
  - Spring 2015: ICSI-526/426 Cryptography
  
- **2008-2014:** At UWinnipeg
  - Graduate level**
    - GACS-7104 Theory and Practice of Security and Privacy (Fall 2010, Fall 2012)
    - GACS-7204 Multimedia Computing and Applications (Fall 2009, Fall 2011, Fall 2013)
  - Undergraduate level**
    - ACS-3921/4921 Computer Security and Privacy (Winter 2010, Fall 2010, Fall 2011, Fall 2012, Fall 2013)
    - ACS-3916 Human Computer Interaction (Winter 2009, Winter 2010, Winter 2011, Winter 2012, Winter 2013, Winter 2014)
    - ACS-2947 Data Structures and Algorithms (Winter 2011)
    - ACS-1903 Programming Fundamentals I (Winter 2009, Winter 2012)
    - ACS-2906 Computer Architecture and System Software (Winter 2009, Fall 2009)
    - ACS-2909 Introduction to Internet Programming (Fall 2008)
    - ACS-2014 Relational Database Application Development (Fall 2008)

**Students' comments on teaching**

In general, students enjoyed my class and they found it interesting, demanding and useful. I have received reasonably good comments from the students. Some of them are:

***Academic term 2013-14***

***For ACS-7204 (Fall 2013):*** “Professor Pradeep Atrey leads me understand the world of Multimedia very well”, “There are lots of fun and knowledge in his class”, “I have learnt a lot and thanks to Professor”, “Very polite and explains each topic to the core”, “He manages to cover the whole course into slides very easily”, “Very helpful”, “He is very interactive too”, “Overall I would say I would love to take his course in the future”, “Professor teaching perfectly and what is best can be always send the PPT to use in advance”, “His teaching is organized and providing clear explanations”, “He also showing concerns for students”, “He is very good at whatever he’s doing and he knows the latest trends in multimedia field and actually doing research in this area”, “So the course was fun as we are studying under a superb instructor”, “He made assignments in such a way that everyone can understand and submit them in time”, “So I personally recommend every graduate student to take this course”, “Professor Atrey fulfilled his responsibility very well and gives us a great experience in this course”, “I prefer to say that he is a good professor”, “Prof. Atrey is friendly in and out of class, and knowledgeable in his field”, “1) Very knowledgeable 2) Precise 3) Interactive 4) Helpful 5) Accessible 6) Responsive”, “Course was structured well”, “Professor was friendly and clear in sharing ideas”, “Slides were useful”, “Although assignment and midterm makes this course harder but at the end it was a good learning”, “Very engaging, helpful & flexible with a student-first approach”, “Focused learning with thorough comprehension of subject”.

***For ACS-3921/4921 (Fall 2013):*** “Awesome Prof.! one of my favorites!”, “Excellent notes”, “Excellent class”, “Exams and assignments are very fair, not super easy but fair and at a good level”, “Very well taught course, providing many examples and supporting works”, “Lecture notes were interesting”, “Well balanced course syllabus”, “He is a very good professor that I have met in the university”, “His lectures are interesting”, “He is explaining everything perfectly and clearly”, “I have found this course as an interesting one, also I have learnt a lot through the course”, “Very nice teaching from Prof., but I preferred lab for ACS3921 because it can help for assignment but I very appreciate to professor; he

gives very nice notes in class”.

**For ACS-3916 (Winter 2014):** “Very useful content and presented very well”, “I liked this course very much and would recommend it”, “Notes are posted very quickly and very detailed”, “Very good job”, “He is very helpful when we have questions after class”, “Strengths: organized, prepared, intelligent, friendly”, “More real-world experience”, “He is a good instructor”, “Always willing to explain further and showed demos in class” “He has a deep knowledge of the course”, “Very good power points”, “Clear, concise”, “Told us what is expected of us”, “Lectures did sometimes get long and uninteresting”.

**For ACS-7401 (Winter 2014):** “He is a very good instructor”, “I chose his course because he has excellent knowledge of these concepts and the reading material he provides is also very good and easy to understand”, “Instructor is having a strong knowledge of this course”, “Many times explained by proper examples and research papers”, “Has flexibility to opt for a good project”, “This course is very helpful and useful”, “Prof. Atrey’s teaching style is unique and excellent”, “He is very organized and provides very clear explanations”, “His doors are always open to students”.

### **Academic term 2012-13**

**For ACS-7104 (Fall 2012):** “Being organized, responsible; showing concerns for students’ understanding; being available to and respectful to students; arranging schedule reasonably and fully using class time”, “He is an awesome instructor; highly organized; student friendly; unbiased”. “Teaching quality was good; good amount of syllabus was covered; very cooperative; available always”, “Good depth and breadth in the coverage of topics; exposure to novel topics; strong teaching skills; very punctual”, “The course is quite interesting, and the slides that Pradeep gave us are easy to understand”, “Prof Atrey has showed a great interest in students’ understanding of the material this is most important; he has a good time management”, “Dr. Atrey is very successful in sustaining the attention of the students in the lectures; his teaching skills are very strong; he always makes sure that everything covered is understood by everyone; overall, he is a very good instructor that I consider myself lucky to take a course from him.”

**For ACS-3921/4921 (Fall 2012):** “Good teacher”, “I believe that the lecturer has done a good job in carrying the course; he has provided all necessary material and is excellent in terms of explanation and demonstrations; I would recommend this course to be taught by Mr. Atrey in the future”, “I very much liked the assignments”, “Very nice professor, prepared notes for the class which is helpful to the students; he is available outside class time if you need to talk to him; explains topics further if students are having trouble understanding; shows concerns for students”, “Fun and interesting course; he gives very interesting and hands-on assignments; tests are fair; material well presented and well organized”, “Dr. Pradeep is always prepared and ready to teach; his approach is one of the best I have seen so far; He gave all the support we needed for this course including office hours; he also provided more support for assignments; I really enjoyed this class and am looking forward to taking more courses with him”, “He was good at explaining difficult concepts and provided interesting information and ideas that directly related to the course material”, “Great course”, “Well-prepared lectures; knowledgeable about course material; approachable; helpful; talks about his relevant research in class which is GREAT!”, “Excellent instructor”, “Pradeep is always a fine professor; very generous man; assignments and course project were good choices”.

**For ACS-3916 (Winter 2013):** “Class was very useful; enjoyed the class”, “Third course I take in as many years with you and they have been pretty good; I would recommend this course; the project requires a lot of work, but is satisfying; Tests are always fair (cheat sheets are a good study motivator!, thanks)”, “I enjoyed the course, project was cool”, “Very well taught, however I felt that the course material was somewhat trivial”, “I would say that he is teaching very well; he is covering all course material in the course text book; I would like to thank him; Throughout this course, I have learnt a lot that will help me in future graphical user interface; overall I found this course is very interesting”, “Multiple choices on tests are very difficult since it can be many, none or one”.

### **Course websites**

For each course that I have taught, the course website was created for easy communication and interaction with students.

**Sample course websites are:****At UAlbany:**

ICSI-660/445: <http://www.cs.albany.edu/~patrey/ICSI660-445/660-445index.htm>

**At UWinnipeg:**

GACS-7204: <http://www.acs.uwinnipeg.ca/pkatrey/7204/7204index.htm>

ACS-3921: <http://www.acs.uwinnipeg.ca/pkatrey/3921/3921index.htm>

ACS-3916: <http://www.acs.uwinnipeg.ca/pkatrey/3916/3916index.htm>

ACS-2947: <http://www.acs.uwinnipeg.ca/pkatrey/2947/2947index.htm>

ACS-1903: <http://www.acs.uwinnipeg.ca/pkatrey/1903/1903WTCindex.htm>

**Course outlines**

The course outlines for some of the courses that I have taught can be found on:

<http://www.acs.uwinnipeg.ca/pkatrey/7204/ACS-7204-001-F2013.pdf>

<http://www.acs.uwinnipeg.ca/pkatrey/3921/ACS-3921-001-F2013.pdf>

<http://www.acs.uwinnipeg.ca/pkatrey/2947/ACS-2947-051.pdf>

**Past Teaching Experience** (Prior to and during PhD, 1992-2006)

- 2003-2005: National University of Singapore (As a Teaching Assistant)
  - Cryptography Techniques and Data Security, Introduction to Computer Security, Introduction to Operating Systems
- 1992-2002: Delhi Technical University and at DCR University of Science and Technology, Murthal, Haryana (India) at UG/PG levels (As a Lecturer)
  - Computer Graphics and Multimedia, Data Base Management Systems, Computer Networks, Advanced Computer Architecture and Parallel Processing, Microprocessors and Applications, Data Structures, Design and Analysis of Algorithms, Principle of Operating Systems, Computer Organization, and Human Computer Interface.

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**CURRICULUM DEVELOPMENT****At UAlbany (2014-present)**

- New courses developed
  - ICSI-532/432 Theory and Practice of Multimedia Computing (Graduate and senior undergraduate level)

**At UWinnipeg (2008-2014)**

- New courses developed
  - ACS-7104 Theory and Practice of Security and Privacy (Graduate level)
  - ACS-7204 Multimedia Computing and Applications (Graduate level)
  - ACS-7303 Computer Systems for Society (Graduate level)
  - ACS-3921/4921 Computer Security and Privacy (Undergraduate level)
  - ACS-1809 Website Design and Development (Undergraduate level)
- Revised ACS-3916 Human Computer Interaction (previously Graphical User Interfaces)

**Prior to PhD (1998-2002)**

- Developed Image Processing and Multimedia Lab at Delhi Technical University, Delhi, India (2001)
- Designed the curriculum for B.E. (Information Technology) and M.E. (Computer Engineering) courses at

## SERVICES

### UNIVERSITY SERVICES

#### At UAlbany (2014-present)

- Participated in “Cyber Security Interest Meeting” arranged by Prof. George Berg (Sep. 5, 2014).
- Volunteered to represent the CS department at Grad Fair (SEFCU arena) (Oct. 12, 2014).
- Volunteered to deliver a talk in the Informatics Brownbag Series – looking a get an opportunity this term.
- Volunteered to proctor Prof. Narendran’s exam.
- Participated in the CCI’s Fourth Annual Bunshaft Lecture (Nov. 14, 2014).
- Arranged Dr. B. Raman’s (Associate Professor at Indian Institute of Technology, Roorkee) visit and his research colloquium in CS department at UAlbany (Dec. 4-6, 2014).
- Volunteered to proctor Prof. Judith’s exam (Dec. 12, 2014).

#### At UWinnipeg (2008-2014)

##### **University level**

- Member, UWinnipeg Faculty and Staff Awards Committee (2013-14)
  - The committee was required to deliberate on various award applications through the year.
- Member, UWinnipeg Research Policy Committee (2013-14)
  - The job of this committee was to conduct meetings as needed and deliberate on the research policies of the university.
- Member, UWinnipeg Canada Research Chair (CRC) Tier-I Search Committee (2013-14)
  - The responsibility of this committee was to conduct the search process of CRC Tier-I.
- Member, UWinnipeg Senate Academic Planning Committee (2012-14)
  - This required attending committee meeting every month and participating in the deliberations on academic programs related matters.
- Member, UWinnipeg Senate (2010-12)
  - This required attending Senate meeting every month and participating in the Senate deliberations.
- Member, UWinnipeg Senate Graduate Studies Committee (2011-12)
  - This required attending committee meeting (for around 2 hours each) every month and participating in the deliberations on various graduate studies matters including the graduate studies policy document, new program proposals and the curriculum matters.
- Member, UWinnipeg Student Scholarship and Awards Committee (2010-12)
  - This required evaluation of various award applications of students including for NSERC, Manitoba Graduate Scholarships, and SSERC scholarships. In the whole year, total 7 to 8 meetings (approximately 2 hours each) were held to discuss around more than 40 applications. A significant time was spent to assess the applications before the meeting.
- Served as a Senate Graduate Studies Committee representative on the UWinnipeg Senate Student Appeals Committee (2011-12)
  - This required 3-4 meetings (of around 2 hour each) to discuss the grade appeal of graduate students.
- Member, UWinnipeg Faculty Tenure and Promotion Committee (2009-11)
  - This required 10-12 meetings (of around 2 hour each) to discuss the tenure and promotion applications of the faculty members of the university.
- Member, UWinnipeg Senate Curriculum Committee (2008-11)
  - This required 10-15 meetings (of around 2 hour each) to review new course proposals, course revisions and discuss other curriculum related issues at the university level.
- Member, UWinnipeg Senate Library Committee (2008-10)
  - This required 3-4 meetings (of around 2 hour each) to discuss library related issues at the university level.

**Department level**

- Chair, Student Recruitment Committee (2012-14)
  - The responsibility of this committee was to outreach high schools and recruit students for the undergraduate program in ACS department at UWinnipeg. Specifically, the committee:
    - contacted more than 70 high schools in Winnipeg via email and phone
    - updated the student recruitment slides
    - sent information brochure of our ACS programs to more than 140 schools in Manitoba
    - conducted presentations at more than 12 schools
    - represented department booth at the Future Students Night in Richardson College, UWinnipeg
    - designed the ACS undergraduate program poster
    - conducted mini-lectures at the university open houses.
  - As committee chair, I also conducted many recruitment seminars during overseas visits which helped publicizing our graduate program and attracting international graduate students.
- Seminar Coordinator (2012-14)
  - As a seminar coordinator for the ACS department, I was responsible for arranging regular research seminars at the department level. We organized 16 talks during 2012-13 and 14 talks during 2013-14. Among speakers, we had three ACS professors, seven graduate students and 15 external experts (from reputed institutions such as MIT Media Lab, Carnegie Mellon University, EPFL Switzerland, Trinity College Dublin, South Asian University Delhi, FxPal Labs, University of Kentucky, Arizona State University, University of Alberta, University of Manitoba and Mozilla Corporation). The complete schedule is available at:  
2012-13: [http://www.acs.uwinnipeg.ca/pkatrey/ACSseminarSeries2012\\_13.htm](http://www.acs.uwinnipeg.ca/pkatrey/ACSseminarSeries2012_13.htm)  
2013-14: [http://www.acs.uwinnipeg.ca/site\\_media/files/ACSseminarSeries34.htm](http://www.acs.uwinnipeg.ca/site_media/files/ACSseminarSeries34.htm)
- ACS Graduate Program Committee (Member: 2010-12, Feb. 2013 – Aug. 2014; Chair: Sep. 2012–Feb. 2013). As chair/member of ACS Graduate Program Committee I performed the following duties:
  - prepared ACS graduate program policy document
  - responded to the queries of potential applicants
  - prepared “thank you” letters for external speakers in the ACS research seminar series
  - updated the fact sheet and calendar
  - provided information to Senate Graduate Studies Committee and Student Services as and when required
  - prepared the strategic funding proposal from the UWinnipeg Graduate Studies office for research talks and website development
  - worked with Dr. Henry to prepare a poster for ACS graduate program
  - other duties included evaluating graduate studies applications and discussing various ACS graduate program related issues.
- ACS Department Personnel Committee (Member: 2010-11, 2012-13, Chair: 2011-12)
  - This required evaluating annual activity reports of all department members, preparing their evaluation reports and for evaluating adjunct professor applications.
- Member, ACS Department Curriculum Committee (Member: 2008-10, 2012-14)
  - This required reviewing the ACS curriculum, new course proposals and course revisions.
- ACS Department Review Committee (Member: 2008-10), Chair (2010-12)
  - This required conducting DRC meetings to review the Cumulative Course Index, course outlines and the grades and making sure that all the grades are submitted in time.
- 3-Year ACS Advisor (2009-10)
  - This required advising students regarding the ACS 3-year undergraduate program.
- Acting Department Chair (16-25 Aug. 2010, May 26 – Jun. 4 2011)

**Other activities include:**

- Served on the committee for the enhancement of the department website.
- Participated as Department Representative in the Rotary Career Symposium 2010, 2011, 2012, 2013 and 2014 at the Winnipeg Exhibition Centre.

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- Participated as Department Representative in the University Open Houses in 2010, 2012, 2013 and 2014.
  - Administered the PASS (online assignment submission system).
  - Assisted chair in preparation of ACS information brochure.
  - Reviewed course equivalency applications
  - Performed general advising in summer
  - Provided reference letters to students
  - Prepared a research poster for science building inaugural show
  - Served as Faculty Marshall in Jun 2009 UWinnipeg convocation
  - Represented the Platform Party in Jun 2014 UWinnipeg convocation.
  - Represented department in the Sky Lecture Series

**Prior to UWinnipeg (1992-2006)**

- Graduate Admission Coordinator for the Computer Technology and Applications program, Delhi Technical University, Delhi, India (2000-2001).
- Deputy Superintendent (Exams) and In-charge (Timetable) at the Delhi Technical University, Delhi, India (2000-2001).
- Deputy Superintendent (Exams), D. C. R. University of Science and Technology, Murthal, Haryana, India (1996-1997).
- Member, Timetable Committee, D. C. R. University of Science and Technology, Murthal, Haryana, India (1993-1997).

**COMMUNITY SERVICES**

- Volunteered as Area Coordinator for Heart and Stroke Foundation of Manitoba canvassing (2011-12)
  - Served as a judge at the Manitoba Schools Science Symposium 2010.
  - Volunteered to do canvassing for the Canadian Cancer Society.
  - Volunteered to do canvassing for Canadian Diabetes Association.
  - Delivered a tutorial on “How to play Cricket” at Bairdmore Elementary School, Winnipeg.
  - Volunteered as Kit Captain for Heart and Stroke Foundation of Manitoba canvassing.
-