Faisal Zubair Qureshi
Assistant Professor
Faculty of Science
University of Ontario Institute of Technology
Oshawa, Ontario, Canada

Contact Information

Faculty of Science, UOIT
Rm. UA4000, Science Building
2000 Simcoe St. N.
Oshawa, ON L1H 7K4, Canada

Voice: (905) 721-8668 x 3626
Fax: (905) 721-3304
E-mail: faisal.qureshi@utoronto.ca
Web: `http://faculty.uoit.ca/qureshi`

Research Interests

Computer graphics, computer vision, sensor networks, robotics and AI;
Behavior-based computer animation, autonomous characters for computer animation and games, autonomous agent architectures, cognitive vision, visual surveillance.

Education

University of Toronto, Toronto, Ontario, Canada

Ph.D., Computer Science, January, 2007.

- Thesis Title: "Intelligent Perception in Virtual Sensor Networks and Space Robotics"
- Thesis Advisor: Prof. Demetri Terzopoulos (Adjunct Prof., UofT, and Chancellor's Professor of Computer Science, University of California, Los Angeles, CA, USA).
- Thesis Committee: Prof. Sven Dickinson, Prof. Allan Jepson, and Prof. Hector Levesque.

M.Sc., Computer Science, January, 2000.

- Thesis Title: "Constructing Anatomically Accurate Face Models using Computed Tomography and Cyberware Data."
- Thesis Advisor: Prof. Demetri Terzopoulos.

Quaid-e-Azam University, Islamabad, Punjab, Pakistan

M.Sc., Electronics, January, 1995.

- Thesis Title: "TACS: A Tone Actuated Computer Control System."
- Thesis Advisor: Prof. Ijaz M. Qureshi (Associate Dean, Mohammad Ali Jinnah University, Islamabad, Punjab, Pakistan).

Punjab University, Lahore, Punjab, Pakistan

B.Sc., Mathematics with minor in Physics, June, 1992.

Honors and Awards

Academic Achievements

President's Gold Medal, Quaid-e-Azam University, Islamabad, Pakistan, 1995.

First Position, M.Sc. Electronics, Quaid-e-Azam University, Islamabad, Pakistan, 1995.

Distinction, Post Graduate Diploma, Computer Training Center, Islamabad, Pakistan, 1996.

Scholarships

Connaught Scholarship, University of Toronto, 2001 (1 Year).

Commonwealth Scholarship, 1997 (4 Years). (Declined for the last two years.)

Pakistan Government Servants' Benevolent Fund Scholarship, 1991 (4 Years).

Paper Awards and Citations

ICDSC 2007 Outstanding Paper for "Virtual Vision and Smart Cameras," selected by the program committee as one of the best papers of the First ACM/IEEE International Conference on Distributed Smart Cameras, Vienna, Austria, September 2007. A refereed journal-length version was published in the Proceedings of the IEEE, 2008, Special Issue on "Distributed Smart Cameras."

VSSN 2005 Outstanding Paper for article "Surveillance Camera Scheduling: A Virtual Vision Approach," selected by the program committee as one of the best papers of the Third ACM International Workshop on Video Surveillance and Sensor Networks (VSSN 05), Singapore, November 2005. An extended version was published in the ACM SIGMM journal Multimedia Systems, 2006, Special Issue on "Multimedia Surveillance Systems."

Research Grants

Individual

Feb 2011, "Theory and Applications of Smart Camera Networks," renewable up to three years ($20,000/year), Xerox Corporation University Affairs Committee.

May 2009–Apr 2014, "Virtual Vision and Smart Camera Networks," 5-year Grant ($95,000), NSERC Discovery Grant.

May 2009–Aug 2009, "Simulating Reality for Camera Networks Research," 4-month Grant ($7,000), Shared Hierarchical Academic Research Computing Network Undergraduate Student Fellowship Award.

Group

May 2011–May 2013, "Improved Physical Models and Software for Bloodstain Pattern Analysis," 3-year grant ($434,766) with F. Gaspari (PI), B. Allen, S. Forbes, and D. Aruliah, Canadian Police Research Centre Grant. (case and in-kind)

Dec 2008–Aug 2009, "Handling Occlusions in Visual Monitoring Systems," 6-month Grant ($37,500) with K. El-Khatib (Co-PI), Ontario Centres of Excellence, Centre of Communications and Information Technologies.

Teaching Grants

May 2009–Aug 2009, "An Online Testing and Evaluation Environment for Computer Programming Courses," 4-month Grant ($7,000) with J.S. Bradbury (Co-PI), Teaching Innovation Fund, UOIT.

Memberships

Member, The Institute of Electrical and Electronics Engineers (IEEE) (www.ieee.org)

Member, Association for Computing Machinery (ACM) (www.acm.org)

Professional Experience

University of Ontario Institute of Technology (UOIT), Oshawa, Ontario, Canada

Assistant Professor **July 2008 – present**
Research, teaching, student supervision, and university service.

Autodesk Canada Co., Toronto, Ontario, Canada

Software Developer **April, 2007 – June, 2008**
Member of the Autodesk AliasStudio modeling team. Autodesk AliasStudio is a leading industrial design system.

University of Toronto, Toronto, Ontario, Canada

Graduate Student **August, 1997 – Jan 2007**
Ph.D. and M.Sc. research, coursework, and consulting projects.

MDRobotics, Ltd., Brampton, Ontario, Canada

Contract Engineer **January, 2001 – April, 2002**
Developed a vision-based autonomous satellite rendezvous and docking controller, which supported Boeing's successful bid for DARPA's $12M Orbital Express project. The work led to a new autonomous agent control architecture named "CoCo", which is suitable for intelligent vision-based robotic agents.

AT&T Research Labs, Red Bank, New Jersey, USA

Computer Graphics Intern **May, 2000 – September, 2000**
Worked with Dr. J. Osterman (currently Prof. Dr.-Ing., Institut für Informationsverarbeitung, Universität Hannover, Hannover, Germany), director of AT&T's Image Processing and Technology Research Group, on an Internet Chat prototype in which participants were represented by expressive graphical faces capable of synthesizing speech from text.

Advanced Telecommunications Research Institute International, Kyoto, Japan

Computer Graphics Intern **Jun, 1999 – August, 1999**
Worked in ATR's Media Integration & Communications Research Laboratories with Dr. J. Ohya (currently Professor of GITI, Waseda University, Saitama, Japan). Developed an algorithm for estimating facial soft-tissue thickness from computer tomography data.

Informatics Complex (Robotics Division), Islamabad, Punjab, Pakistan

Scientific Officer **June, 1996 – February, 1997**
Member of the Robotics Group. Developed a virtual 3D graphical environment for designing and testing dynamic and kinematic controllers for 6 DOF serial link robotic manipulators.

Computer Training Centre, Islamabad, Punjab, Pakistan

Computer Trainee Officer **May, 1995 – May 1996**
Included graduate level course work in computer architecture, mathematical modeling, and control systems.

Teaching Experience

University of Ontario Institute of Technology, Oshawa, Ontario, Canada

Courses Taught **July, 2008 – present**

- Advanced Computer Graphics, CSCI 4110U, Fall 2011.
- Advanced Topics in Digital Media, CSCI 6520G, Fall 2011, 2010.
- Topics in Digital Media, CSCI 5550G, Fall 2009, reading course co-taught with Dr. Mark Green.
- Computer Architecture 2, CSCI 3050U, Winter 2010, 2009.
- Ethics, Law, and Social Impact of Computers, CSCI 4040U, Winter 2010, 2009.
- Analysis and Design of Algorithms, CSCI 3070U/ENGR 3770U, Fall 2010, 2009.
- Simulation and Modeling, CSCI 3010U, Fall 2011, 2010, 2009.
- Computer Architecture 1, CSCI 2050U, Fall 2008.

Guest Lectures **July, 2008 – present**

- Introduction to Computer Science, CSCI 1030U, , Fall 2011, Winter 2010, 2009.
- Science in Context, SCIE 1910U, Fall 2009.
- Survey of Computer Science, CSCI 5010G, Fall 2011, 2010, 2009.

Teaching Improvement Activities **July, 2008 – present**

- Participant, Teaching Squares, Fall 2009.
- Participant, Teaching Squares, Fall 2008.

University of Toronto, Toronto, Ontario, Canada

Courses Taught **September, 2004 – August, 2007**

Taught undergraduate and graduate courses in the Department of Computer Science. Responsible for lectures, exams, homework assignments, course projects, and grading.

- Computer Graphics, CSC2504/418, Fall 2004.
- Introduction to Visual Computing, CSC320, Summer 2007, 2006.

Guest Lectures **January, 2004 – April, 2004**

- Computer Graphics, CSC2504/418, Winter 2004.
- Introduction to Scientific, Symbolic & Graphical Computation, CSC260, Winter 2004.

Teaching Assistant **September, 1997 – August, 2004**

Duties included delivering tutorial lectures, leading weekly computer lab exercises, holding office hours, and grading assignments and exams.

- Computer Graphics, CSC2504/418, Summer 2004.
- The Why and How of Computing, CSC104, Summer 2004.
- Introduction to Scientific, Symbolic, & Graphical Computation, CSC260, Winter 2004.
- Computer Graphics, CSC2504/418, Fall 2003.
- Software Engineering, CSC2105/408, Winter 2003.
- Software Engineering, CSC2105/408, Fall 2002.
- Software Engineering 1, CSC444, Fall 2002.
- Introduction to Computer Science, CSC108, Summer 2002.
- Introduction to Computer Science, CSC108, Fall 2000.
- Introduction to Computer Programming, CSC148, Winter 2000.
- Computer Networks, CSC2209/CSC458, Winter 1999.
- Software Engineering 1, CSC442, Fall 1998.
- Software Engineering, CSC2105/408, Winter 1998.
- Computer Networks, CSC2209/CSC458, Fall 1997.

Refereed Journal Publications

[3] "Smart Camera Networks in Virtual Reality," F.Z. Qureshi, D. Terzopoulos, *Proceedings of the IEEE*, **96**(10), October, 2008, 1640–1656, (Special Issue on "Smart Cameras").

[2] "Intelligent Perception and Control for Space Robotics: Autonomous Satellite Rendezvous and Docking," F.Z. Qureshi, D. Terzopoulos, *Journal of Machine Vision Applications*, **19**(3), February, 2008, 141–161.

[1] "Surveillance Camera Scheduling: A Virtual Vision Approach," F.Z. Qureshi, D. Terzopoulos, *ACM Multimedia Systems Journal*, **12**(3), December, 2006,

269–283 (Special Issue on "Multimedia Surveillance Systems").

Refereed Conference Publications

[21] "Extraction of Blood Droplet Flight Trajectories from Videos for Forensic Analysis," L.A. Zarrabeitia, D.A. Aruliah, F.Z. Qureshi, *Proc. 1st International Conference on Pattern Recognition Applications and Methods (ICPRAM 12)*, Algarve, Purtugal, February, 2012, 1–12, to appear.

[20] "Learning Proactive Control Strategies for PTZ Cameras," F.Z. Qureshi, W. Starzyk, *Proc. 5th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 11)*, Ghent, Belgium, August, 2011, 1–6.

[19] "Multitasking Smart Cameras for Intelligent Video Surveillance Systems," W. Starzyk, F.Z. Qureshi, *Proc. 8th IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS 11)*, Klagenfurt, Austria, August, 2011, 1–6.

[18] "Negotiating Privacy Preferences in Video Surveillance Systems," Mukhtaj S. Barhm, Nidal Qwasmi, F.Z. Qureshi, Khalil El-Khatib, *Proc. 24th International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems (IEA-AIE 2011)*, Syracuse, NY, June, 2011, 2:511–521.

[17] "Collaborative Sensing via Local Negotiations in *Ad Hoc* Networks of Smart Cameras," F.Z. Qureshi, *Proc. 4th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 10)*, Atlanta, GA, September, 2009, 1–8.

[16] "Object-Video Streams for Preserving Privacy in Video Surveillance," F.Z. Qureshi, *Proc. 6th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS 09)*, Genovo, Italy, Septebmer, 2009, 1–6.

[15] "Planning Ahead for PTZ Camera Assignment and Control," F.Z. Qureshi, D. Terzopoulos, *Proc. Third ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 09)*, Como, Italy, August, 2009, 1–8.

[14] "Multi-Camera Control Through Constraint Satisfaction for Persistent Surveillance," F.Z. Qureshi, D. Terzopoulos, *Proc. 5th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS 08)*, Santa Fe, NM, Septebmer, 2008, 1–8.

[13] "A Simulation Framework for Camera Sensor Networks Research," F.Z. Qureshi, D. Terzopoulos, *Proc. 11th Communications and Networking Simulation Symposium (CNS 2008)*, Ottawa, Canada, April, 2008, 41–48.

[12] "Virtual Vision: Visual Sensor Networks in Virtual Reality," F.Z. Qureshi, D. Terzopoulos, *Proc. ACM Symposium on Virtual Reality Software and Technology (VRST 2007)*, Newport Beach, CA, November, 2007, 247–248.

[11] "Smart Camera Networks in Virtual Reality," F.Z. Qureshi, D. Terzopoulos, *Proc. First ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 07)*, Vienna, Austria, September, 2007, 1–8.

[10] "Distributed Coalition Formation in Visual Sensor Networks: A Virtual Vision Approach," F.Z. Qureshi, D. Terzopoulos, *Proc. Third IEEE International*

Conference on Distributed Computing in Sensor Systems (DCOSS 07), Santa Fe, NM, June, 2007, 1–21.

[9] "Surveillance in Virtual Reality: System Design and Multicamera Control," F.Z. Qureshi, D. Terzopoulos, *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR 07)*, Minneapolis, MN, June, 2007, 1–8.

[8] "Virtual Vision and Smart Cameras Networks," F.Z. Qureshi, D. Terzopoulos, *Working Notes of the International Workshop on Distributed Smart Cameras (DSC 2006)*, Boulder, CO, USA, October, 2006, 62–66. (Held in conjunction with the *4th ACM Conference on Embedded Networked Sensor Systems (SenSys 2006).*)

[7] "Surveillance Camera Scheduling: A Virtual Vision Approach," F.Z. Qureshi, D. Terzopoulos, *Proc. Third ACM Workshop on Video Surveillance and Sensor Networks (VSSN 05)*, Singapore, November, 2005, 131–139.
Selected as a **best paper** *and invited for submission to a special issue of the ACM Multimedia Systems Journal.*

[6] "Towards Intelligent Camera Networks: A Virtual Vision Approach," F.Z. Qureshi, D. Terzopoulos, *Proc. Second Joint IEEE International Workshop on Visual Surveillance and Performance Evaluation of Tracking and Surveillance (VS-PETS 05)*, Beijing, China, October, 2005, 177–184.

[5] "A Computer Vision System for Space-bourne Safety Monitoring," F.Z. Qureshi, D. Macrini, D. Chung, J. Maclean, S. Dickinson, P. Jasiobedzki, *Proc. Eighth International Symposium on Artificial Intelligence, Robotics and Automation in Space (i-SAIRAS 2005)*, Munich, Germany, September, 2005, 1–8 (Electronic Format).

[4] "Cognitive Vision for Autonomous Satellite Rendezvous and Docking," F.Z. Qureshi, D. Terzopoulos, P. Jasiobedzki, *Proc. Ninth IAPR Conf. on Machine Vision Applications (MVA 2005)*, Tsukuba Science City, Japan, May, 2005, 314–319.

[3] "A Cognitive Vision System for Space Robotics," F.Z. Qureshi, D. Terzopoulos, P. Jasiobedzki, *Proc. ECCV 2004 Workshop on Applications of Computer Vision*, Prague, Czech Republic, May, 2004, 120–128.

[2] "The Cognitive Controller: A Hybrid, Deliberative/Reactive Control Architecture for Autonomous Robots," F.Z. Qureshi, D. Terzopoulos, R. Gillette, *Proc. 17th International Conference on Industrial & Engineering Applications of Artificial Intelligence & Expert Systems (IEA/AIE 2004)*, Ottawa, Canada, May, 2004, 1102–1111.

[1] "Development of an Off-line Programming (OLP) System for a Serial Link Robot Manipulator," F.Z. Qureshi, M. Asif, M. Ahmed, A. Rauf, *Proc. IEEE (Pakistan Section)*, Islamabad, Pakistan, 1997, 1–4.

Refereed Posters and Short Papers

[3] "Demo: A Distributed Virtual Vision Simulator," W. Starzyk, A. Domurad, F.Z. Qureshi, *5th ACM/IEEE International Conference on Distributed Smart Camerass (ICDSC 11)*, Ghent, Belgium, August, 2011, 1–2.

[2] "Activity Aware Video Collection to Minimize Resource Usage in Smart Camera Nodes (Extended Abstract)," F.Z. Qureshi, *Workshop on Resource Aware Sensor and Surveillance Networks (RAWSNET 11)*, Klagenfurt, Austria, August, 2011, 1–2.

[1] "On the Role of Negotiations in *Ad Hoc* Networks of Smart Cameras," F.Z. Qureshi, *IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 10)*, Santa Barbara, CA, June, 2010, 1–2.

Book Chapters

[2] "Virtual Vision," D. Terzopoulos, F.Z. Qureshi, in Distributed Video Sensor Networks, B. Bhanu, C.V. Ravishankar, A.K. Roy-Chowdhury, H. Aghajan, D. Terzopoulos (eds.). Springer, New York, 2011, Ch. 11, 163–177.

[1] "Proactive PTZ Camera Control," F.Z. Qureshi, D. Terzopoulos, in Distributed Video Sensor Networks, B. Bhanu, C.V. Ravishankar, A.K. Roy-Chowdhury, H. Aghajan, D. Terzopoulos (eds.). Springer, New York, 2011, Ch. 19, 273–287.

Dissertations

[3] "Intelligent Perception in Virtual Sensor Networks and Space Robotics," Ph.D. Thesis, Department of Computer Science, University of Toronto, Toronto, Canada, January, 2007.

[2] "Constructing Anatomically Accurate Face Models using Computed Tomography and Cyberware Data," M.Sc. Thesis, Department of Computer Science, University of Toronto, Toronto, Canada, January, 2000.

[1] "TACS: A Tone Actuated Computer Control System," M.Sc. Thesis, Department of Electronics, Quaid-e-Azam University, Islamabad, Pakistan, January, 1995.

Unpublished Reports

[1] "Construction of Facial Tissue using Cyberware and Computer Tomography Data," Technical Report, Advanced Telecommunications Research Institute, Kyoto, Japan, August, 1999.

Creative Works: Cover Illustrations

[1] "Pedestrian Segmentation and Tracking," color image on the cover of the proceedings of the *Second Joint IEEE International Workshop on Visual Surveillance and Performance Evaluation of Tracking and Surveillance (VS-PETS 05)*, R. Chellappa, J. Ferryman, T. Tan (eds.), IEEE Computer Society Press, Beijing, China, October, 2005.

Invited Talks

[12] "Virtual Vision: Smart Cameras in Virtual Reality," Xerox Research Centre, Webster, NY, June, 2011.

[11] "Proactive Camera Control for Collaborative Sensing," Distributed Video Sensor Networks (An Interdisciplinary workshop sponsored by NSF, ARO and ONR), University of California at Riverside, May, 2009.

[10] "Virtual Vision for Smart Camera Sensor Network Research," Mitacs Seminar Series, McGill University, Montreal, Canada, February, 2009.

[9] "3D Virtual Environments for Camera Network Research," Virtual Researcher on Call Program between the University of Ontario Institute of Technology and the Peel Region District School Board, Oshawa, Canada, November, 2008.

[8] "Intelligent Perception in Virtual Sensor Networks and Space Robotics," Faculty of Science Colloquium, UOIT, Oshawa, Canada, March, 2008.

[7] "Virtual Vision: A New Paradigm for Camera Sensor Network Research," University of Windsor Seminar Series, Windsor, Canada, February, 2007.

[6] "Applications of Computers & AI: Intelligent Perception in Camera Networks and Space Robotics," Sunnybrook & Women's Hospital Life Long Journey Lecture Series, Toronto, Canada, June, 2006.

[5] "Towards Intelligence Camera Networks: A Virtual Vision Approach," Space Vision and Advanced Robotics Workshop, MDRobotics Ltd., Brampton, Canada, May, 2006.

[4] "Tracking Objects with a Network of Steerable Cameras," Space Vision and Advanced Robotics Workshop, MDRobotics Ltd., Brampton, Canada, May, 2004.

[3] "CoCo – A Hybrid Architecture for Designing High-Level Controllers," Montreal-Toronto Computer Vision Workshop, McGill University, Montreal, May, 2003.

[2] "Cognitive Controller," Space Vision and Advanced Robotics Workshop, MDRobotics Ltd., Brampton, Canada, April, 2002.

[1] "Behavior and Cognitive Modeling for Autonomous Agents," Space Vision and Advanced Robotics Workshop, MDRobotics Ltd., Brampton, Canada, April, 2001.

Contributed Presentations

[12] "Activity Aware Video Collection to Minimize Resource Usage in Smart Camera Nodes (Extended Abstract)," *Workshop on Resource Aware Sensor and Surveillance Networks (RAWSNET 11)*, Klagenfurt, Austria, August, 2011.

[11] "Learning Proactive Control Strategies for PTZ Cameras," *5th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 11)*, Ghent, Belgium, August, 2011.

[10] "Negotiating Privacy Preferences in Video Surveillance Systems," *24th International Conference on Industrial Engineering and Other Applications of Applied Intelligent Systems (IEA-AIE 2011)*, Syracuse, NY, June, 2011.

[9] "Collaborative Sensing via Local Negotiations in *Ad Hoc* Networks of Smart Cameras," *4th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 10)*, Atlanta, GA, September, 2010.

[8] "Planning Ahead for PTZ Camera Assignment and Control," *Third ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 09)*, Como, Italy, September, 2009.

[7] "Multi-Camera Control Through Constraint Satisfaction for Persistent Surveillance," 5th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS 08), Santa Fe, NM, September, 2008.

[6] "A Simulation Framework for Camera Sensor Networks Research," 11th Communications and Networking Simulation Symposium (CNS 2008), Ottawa, Canada, April, 2008.

[5] "Distributed Coalition Formation in Visual Sensor Networks: A Virtual Vision Approach," Third IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 07) Santa Fe, NM, USA, June, 2007.

[4] "Virtual Vision and Smart Cameras Networks," International Workshop on Distributed Smart Cameras (DSC 2006), Boulder, CO, USA, October, 2006.

[3] "Surveillance Camera Scheduling: A Virtual Vision Approach," Third ACM Workshop on Video Surveillance and Sensor Networks (VSSN 05), Singapore, November, 2005.

[2] "The Cognitive Controller: A Hybrid, Deliberative/Reactive Control Architecture for Autonomous Robots," 17th International Conference on Industrial & Engineering Applications of Artificial Intelligence & Expert Systems (IEA/AIE 2004), Ottawa, Canada, May, 2004.

[1] "A Cognitive Vision System for Space Robotics," Workshop on Applications of Computer Vision, European Conference on Computer Vision (ECCV 04), Prague, Czech Republic, May, 2004.

Professional Activity

Conferences and Journals' Reviewing

Reviewer, *Transactions on Sensor Networks*, 2011.

Reviewer, *Journal Aerospace Engineering*, 2011.

Reviewer, International Program Committee, *International Conference on Informatics, Electronics & Vision (ICIEV12)*, 2012.

Reviewer, *Computer Animation and Virtual Worlds*, 2011.

Reviewer, *Multimedia Systems Journal*, 2011.

Reviewer, *Image Communication Journal*, 2011.

Reviewer, *Acta Astronautica*, 2011.

Reviewer, *IEEE International Conference on Computer Vision (ICCV 11)*, 2011.

Reviewer, *1st IEEE International Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS'11)*, 2011.

Reviewer, *IEEE Transactions on Circuits and Systems for Video Technology*, 2011.

Reviewer, *IEEE Transactions on Automation Science and Engineering*, 2011.

Reviewer, *Machine Vision and Applications*, 2011.

Reviewer, *IEEE Transactions on Multimedia*, 2011.

Reviewer, *IEEE Transactions on Circuits and Systems for Video Technology*, 2010.

Reviewer, *International Conference on Robotics and Automation (ICRA 11)*, 2011.

Reviewer, *Acta Astronautica*, 2010.

Reviewer, *IEEE Transactions on Circuit and Systems for Video Technology*, 2010.

Reviewer, *Canadian Young Scientist Journal*, 2010.

Reviewer, *7th IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS 10)*, 2010.

Reviewer, *First IEEE Workshop on Camera Networks (co-located with CVPR 10)*, 2010.

Reviewer, *International Journal of Optomechatronics*, 2010.

Reviewer, *Transactions on Sensor Networks (TOSN)*, 2010.

Reviewer, *Computer Graphics International (CGI 10)*, 2010.

Reviewer, *IPSJ Transactions on Computer Vision and Applications (CVA)*, 2010.

Reviewer, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 10)*, 2010.

Reviewer, *IEEE Virtual Reality 2010*, 2009.

Reviewer, *Second Annual Conference on What Really Works in Technology-Enhanced Health Education: Effective Use of Simulations and e-Education Strategies to Improve Teaching and Learning*, 2009.

Reviewer, *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 09)*, 2009.

Reviewer, *IEEE Toronto International Conference–Science and Technology for Humanity (TIC-STH09)*, 2009.

Reviewer, *IEEE International Conference on Computer Vision (ICCV 09)*, 2009.

Reviewer, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 09)*, 2009.

Reviewer, *IEEE Transactions on Automation Science and Engineering*, 2008.

Reviewer, *International Journal of Computer Mathematics*, 2008.

Reviewer, *Second International Conference on Distributed Computing Systems (ICDCS 08)*, 2008.

Reviewer, *Transactions on Sensor Networks*, 2007.

Reviewer, *IEEE Journal of Selected Topics in Signal Processing*, 2008.

Reviewer, *European Conference on Computer Vision (ECCV 08)*, 2008.

Reviewer, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 07)*, 2007.

Reviewer, *Pattern Recognition Letters*, 2006.

Reviewer, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 06)*, 2006.

Reviewer, *SIGGRAPH Sketches*, 2006.

Grants' Reviewing

Reviewer, *NSERC Strategic Projects*, 2011.

Reviewer, *Qatar National Research Fund (National Priorities Research Program)*, 2011.

Reviewer, *NSERC Strategic Projects*, 2010.

Reviewer, *NSERC Collaborative Research and Development Grants*, 2009.

Reviewer, *NSERC Strategic Projects*, 2009.

Committee Work

Program Committee Member, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR12)*, 2012.

Program Chair, *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 11)*, 2012.

Member, International Program Committee, *International Conference on Informatics, Electronics & Vision (ICIEV12)*, 2012.

Co-Chair, *IBM CASCON Workshop on Software Modeling for Embedded and Mobile Sensor Systems*, November, 2011.

Organizer, *IEEE Workshop on Camera Networks and Wide Area Scene Analysis*, 2011. (Co-located with CVPR11.)

Publicity Chair, *1st IEEE International Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS'11)*, 2011. (Co-located with ICME11.)

Program Committee Member, *First IEEE Workshop on Camera Networks*, 2010. (Co-located with CVPR10.)

Member, HETRU/MHR Conference Organizing Committee, *Second Annual Conference on What Really Works in Technology-Enhanced Health Education: Effective Use of Simulations and e-Education Strategies to Improve Teaching and Learning*, 2009.

Program Committee Member, *IEEE International Conference on Computer Vision (ICCV 07)*, 2007.

Other Conference Related Activities

Session Chair, Emerging Applications: Multi-camera Tracking , *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 11)*, 2011.

Ph.D. Forum Judge, *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 11)*, 2011.

Penalist, *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 10)*, 2010.

Session Chair, Architecture and Protocols for Camera Networks, *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 10)*, 2010.

Session Chair, Camera Network Topology, *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 09)*, 2009.

Student Advising

Current Graduate Students

L. Zarrabeita, Ph.D. Computer Science, In progress. (Co-supervised with Prof. D. Aruliah)

Z. Wang, M.Sc. Computer Science, In progress.

W. Starzyk, M.Sc. Computer Science, In progress.

N. Parvin, M.Sc. Computer Science, In progress. (Co-supervised with Prof. K.Q. Pu)

M. Helala, M.Sc. Computer Science, In progress. (Co-supervised with Prof. K.Q. Pu)

Past Graduate Students

C. Little, M.Sc. Computer Science, Completed, December, 2011. (Co-supervised with Prof. M. Green)
Title: *Ray Tracing Large Distributed Datasets using Ray Caches*

G. Lobo, M.Sc. Modeling and Computational Science, Completed, August, 2011. (Co-supervised with Prof. D. Aruliah)
Thesis: *Investigation into Smoothed Particle Hydrodynamics for Non-Newtonian Droplet Modelling*

M.S. Barhm, Master's in Information Technology Security Thesis, Compeleted, August, 2009. (Co-supervised with Prof. K. El-Khatib)

Undergraduate Summer Research

W. Starzyk, Summer Research Student, Completed, August, 2011.

A. Domurad, NSERC Undergraduate Research Award, Completed, August, 2011.
Best Poster, Faculty of Science, Student Research Showcase.

W. Starzyk, Summer Research Student, Completed, August, 2010.

M.T. Kaykobad, Summer Research Student, Completed, August, 2010.

A. Domurad, Summer Research Student, Completed, August, 2010.

K. Ajorli, Summer Research Student, Completed, July, 2009.

C. Little, SHARCNET Research Fellow, Completed, August, 2009.

Undergraduate Thesis Students

J. Stadler, Undergraduate Thesis, September 2011–

T. Chaung, Undergraduate Thesis, September 2011–.

J. Elliot, Undergraduate Thesis, September 2011–. (Co-supervised with Prof. K.Q. Pu)

A. Kidd, Directed Studies, Completed, December, 2011. (Co-supervised with Prof. J.S. Bradbury)

W. Starzyk, Summer Research Student, Completed, April, 2011.

M.T. Kaykobad, Summer Research Student, Completed, April, 2011.

A. Wijtowich, Undergraduate Thesis, Completed, April, 2010. (Co-supervised with Prof. K.Q. Pu)

B. Chicoine, Undergraduate Thesis, Completed, April, 2010. (Co-supervised with Prof. J.S. Bradbury and Prof. C. Collins)

Student Examination Committees

Chair, M.Sc. Examination Committee, Martin Mwebesa, December, 2011.

University Service

University-Wide

Member, Dean of Education Search Committee, 2011.

Judge, Student Research Showcase, August, 2011.

Coach, ACM Competition, October, 2011.

Name Reader, Eighth UOIT Convocation, June, 2011.

Coach, ACM Competition, October, 2010.

Member, UOIT Presidential Search Committee, 2010–2011.

Member (Faculty of Science), Academic Council, 2010–2013.

Faculty of Science Representative, Undergraduate Student Research Award Program, 2010.

Member, University-Community Link Unit, 2010.

Coach, ACM Competition, October, 2009.

Judge, Student Research Day, August, 2009.

Coach, ACM Competition, November, 2008.

Judge, Student Research Day, August, 2008.

Faculty of Science

Organizer, Science Undergraduate Research Day, August, 2011.

Member, NSERC/OGS Review Committee (Computer Science), 2010.

Organizer, Science Undergraduate Research Day, August, 2010. (Co-organized with L. Trevani)

Member, Science Honours and Awards Committee, 2010, 2011.

Organizer, Computer Science Seminar, Winter 2010–Fall 2011.

Member, NSERC/OGS Review Committee, 2009.

Organizer, Science Undergraduate Research Day, August 2009. (Co-organized with J.S. Bradbury)

Community Outreach

Participant, International Science Fair Team Canada Visit, 2011.

Participant, Spring Open House, November, 2010.

Participant, Ontario University Fair, September, 2010.

Participant, Science Rendezvous Demo (with K.Q. Pu) titled, "Light, Action and Overcoming Color Blindness for Computers," May, 2010.

Participant, Winter Open House, February, 2010.

Attendee, Science Scholars' Dinner, March, 2010.

Penalist, School Career Fair, Lester B. Pearson Collegiate, October, 2009.

Participant, Ontario University Fair Booth, September, 2009.

Participant, Winter Open House, February, 2009.

Participant, Computer Science Booth, Graduate Student Fair, January, 2009.

Participant, Ontario University Fair Booth, September, 2008.

Attendee, Science Teachers' Event, September, 2008.