

**Gregory L. Dudek**

Curriculum Vitae

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# Gregory Dudek

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## Status

- Professor, School of Computer Science, McGill University.
- President and co-founder, Independent Robotics Inc.
- Director, NSERC Canadian Field Robotics Network.
- James McGill Chair.
- Associate Member, Department of Electrical and Computer Engineering, McGill University.

## Work Experience

### **2012-present**

Scientific director, NSERC Canadian Field Robotics Network. A consortium of roughly 20 universities and industrial partners targeted at research on outdoor robotic systems and technologies.

### **2007- present**

Professor, School of Computer Science, Faculty of Science and Associate Member, Department of Electrical Engineering, Faculty of Engineering. McGill University, Montreal, Quebec, Canada. In addition to teaching at all levels and research, roles have included sitting on Senate and many administrative and advisory positions.

### **2015- present**

Co-founder, Smart Mobility Inc. (incorporated 2016).

### **2008-present**

President, Independent Robotics Inc., Montreal, Quebec, Canada. Designs, makes and sells high-performance underwater and amphibious robots. Customers include Wood's Hole Oceanographic Institute, and academic institutions in the USA, Canada and Mexico.

### **2008-present**

Member of the Board of Directors, Bellairs Research Institute. This is a non-profit research institute.

**2016-2017**

Visiting Professor, Stanford University, Department of Computer Science, Stanford, CA.

**2008-2016**

Director, School of Computer Science, McGill University. This academic unit has over 30 tenure-track faculty members, over 200 graduate students, and many hundreds of undergraduates. 3 back-to-back appointments

**2014-2014**

Member of the Board of Directors, Rozynski Center for the Fine Arts.

**2011-2014**

Acting member of the Board of Directors (delegate), Network on Engineering Complex Software Intensive Systems for Automotive Systems.

**2007**

Visiting Professor (on sabbatical leave), MIT Computer Science and Artificial Intelligence Laboratory (CSAIL).

**2004-2007**

Director, McGill Research Center for Intelligent Machines (CIM), (an inter-faculty research unit with roughly 20 faculty and 130 graduate students), McGill University, Montreal, Quebec, Canada.

**2000-2001**

Visiting Associate Professor, Stanford University, Department of Computer Science, Stanford, CA.

**2000-2001**

Full-Time Consultant, Xerox Palo Alto Research Center (PARC), Palo Alto, CA.

**1999-2007**

Associate Professor, School of Computer Science and Associate Member, Department of Electrical Engineering, McGill University, Montreal, Quebec, Canada.

**1994-1999**

Assistant Professor, School of Computer Science and Associate Member, Department of Electrical Engineering, McGill University, Montreal, Quebec, Canada.

**1990-1993**

Research Associate and Adjunct Professor of Electrical Engineering (from January 1991) at the McGill Research Center for Intelligent Machines, McGill University, Montreal, Quebec, Canada. Project coordinator of IRIS project A-4 on multi-sensor fusion.

**1988-1989**

Collaborated on the design and development of a hardware/software transputer-based vision system for X-ray baggage inspection system for airport security use for Transport Canada (through Array Systems Computing). This system is now being marketed.

## Education

- **Doctor of Philosophy**, Computer Science, University of Toronto, 1991.  
**Thesis topic:** “Shape Description Using Curvature.” **Supervisor:** Professor John K. Tsotsos  
**Thesis committee:** Professors G. Hinton, A. Jepson, R. Mathon, A. Pentland (MIT), J. Scherk (Mathematics), D. Terzopoulos.
- **Master of Science**, Computer Science (computer systems), University of Toronto, 1982.  
**Thesis topic:** “The Design of a Microcomputer Based Distributed Processing System with Centralized File Service.”
- **Bachelor of Science (Honours)**, Computer Science and Physics, Queen’s University, 1980.

## Research Interests

Robotics. Learning for robots. Outdoor robotics. Autonomous systems. Mobile robotics. Vision/sensor-based behavior. Human-robot interaction. Multi-robot systems. Automated recommendation systems.

## Selected Honours, Awards, and Distinctions (last 10 years)

- Director of the NSERC Canadian Field Robotics Network, a national program with some 8 participating universities, roughly a dozen participating companies, and a budget of over \$9M.
- ICRA best paper award nominee for the paper “Learning legged swimming gaits from experience.” at the IEEE International Conference on Robotics and Automation (ICRA '15), Seattle, USA, May 2015.
- Recipient of the 2010 prix J. Armand Bombardier for Technological Innovation Robotics from ACFAS, the Association francophone pour le savoir (the French learned society).
- Recipient of the 2010 award for Academic Achievement and also for the 2010 award for Service to the Community at the Conference on Computer and Robot Vision.
- Awarded the 2010 Fessenden Professorship for Science Innovation.
- Elected as one of the “10 IT people of the month for 2010” (November) by ActionTI, a consortium of Information Technology companies and organizations with some 10,000 members.
- IT person of the month, November 2010, elected by ActionTI, a consortium of Information Technology companies and organizations with some 10,000 members.
- Awarded 2009 Fessenden Prize for achievements in innovative research with a commercialization potential.
- Award the 2009 CRV best robotics paper award, for the paper “A Vision-based Control and Interaction Framework for a Legged Underwater Robot,” with my student J. Sattar (now on faculty at the University of Minnesota). Conference on Computer and Robot Vision, Kelowna, BC, Canada.
- James McGill Professor of McGill University, since 2008 (renewed 2016). Award process are based on those for used for CRC Tier 1.
- Recognized as Distinguished Lecturer to represent the research interests of the IEEE Robotics and Automation Society (IEEE RAS) in 2011, 2010, 2009, 2008 (of the 14 IEEE RAS distinguished lecturers that served across the world, 4 were from North America, and lecturers were re-appointed for more than 2 years “only in exceptional circumstances”).
- Co-recipient (with my co-authors) of the 2008 American Publishers Awards award for Excellence in Physical Science and Mathematics for co-authorship of the Springer Handbook of Robotics.
- Named William Dawson Scholar of McGill University, 2003. CRC tier 2 equivalent criteria.

- ICROS best application paper award (runner up) from 972 accepted papers for the paper “ONSUM: A System for Generating Online Navigation Summaries,” with my student Yogesh Girdhar (now on faculty at Wood’s Hole Oceanographic Inst.). IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS2010), Taipei, Taiwan, October 2010.
- Winner of Best Robotics Paper Award at the Conference on Computer and Robot Vision, 2005 with my student co-author D. Marinakis.

### Additional notable recent activities

- Author of over 225 refereed publications on robotics, computer vision and related subjects.
- Elected as General Chair of the IEEE International Conference on Robotics and Automation (ICRA) 2019, the flagship conference of the robotics research community.
- Each year from 2009 to 2013 as one of a small number of non-European experts brought in to serve on the evaluation committee for the European Union FP7 Cognitive Systems and Robotics research theme. This funding program disburses roughly €80 million per year. (I declined the offer to serve in the 2014 “New Horizons” committee.)
- President of the Canadian Image Processing and Pattern Recognition Society 2004-2016, the Canadian branch of the corresponding international body (the IAPR).
- North American regional program co-chair for the IEEE/RSJ International Conference on Robots and Systems (IROS) in both 2008 and 2010. This is one of the top conferences in my area with in the order of 1,000 papers presented annually.
- From 2007-2009, served a term on the Federal National Science and Engineering Research Council (NSERC) grant selection committee (331) for research in Computer Science.
- From 2011-2014 served on the NSERC Computer Science Liaison committee.
- Co-founder of Robotics Science and Systems and served as area chair (until my term expired). Advisory board for this conference and foundation until 2016.
- President of Independent Robotics Inc., a company that makes and sells high-end robotic devices for underwater and amphibious applications.

## Part I: Publications, presentations

### Refereed Publications

Although fully-refereed conferences have become the primary method for research dissemination in my field, journals are listed first. Surnames of my students, my former students, and my supervisees are italicized in publications since 2001.

#### Journals

◀ 2017

1. J. Sattar and G. Dudek, “Visual identification of biological motion for underwater humanrobot interaction,” *Autonomous Robots*, pp. 114, 2017.
2. D. St-Onge, P.-Y. Brèches, I. Sharf, N. Reeves, I. Rekleitis, P. Abouzakhm, Y. Girdhar, A. Harmat, G. Dudek, and P. Giguère, “Control, localization and human interaction with an autonomous lighter-than-air performer,” *Robotics and Autonomous Systems*, vol. 88, pp. 165–186, 2017.
3. A. Xu and G. Dudek, “Towards modeling real-time trust in asymmetric human-robot collaborations,” in *Robotics Research Journal*. Springer International Publishing, 2016, pp. 113–129.
4. Manderson, T., J. Li, D. C. Poza, N. Dudek, D. Meger, and G. Dudek, “Towards autonomous robotic coral reef health assessment,” in *Journal of Field and Service Robotics*. Springer International Publishing, 2016, pp. 95–108.
5. *Girdhar*, Yogesh, and Gregory Dudek, “Modeling curiosity in a mobile robot for long-term autonomous exploration and monitoring,” *Autonomous Robots*, issn 0929-5593, 2015, pp. 1-12, DOI: 10.1007/s10514-015-9500-x, URL: <http://dx.doi.org/10.1007/s10514-015-9500-x>. *Print version to appear*. Related preprint available as arXiv:1509.07975v1.
6. *Girdhar*, Yogesh, *Giguère*, Philippe and Gregory Dudek, “Autonomous adaptive exploration using realtime online spatiotemporal topic modeling,” *International Journal of Robotics Research (IJRR)*, Vol 33, No. 4, April 2014, Digital Object Identifier (DOI): 10.1177/0278364913507325, pp. 645-657.
7. Dudek, Gregory and Dieter Fox, “Special issue on robotics: science and systems” (editorial), *Autonomous Robots*, 37, 2014, DOI: 10.1007/s10514-014-9416-x, pp. 333-334.
8. Desai, Jaydev, Gregory Dudek, Oussama Khatib, Vijay Kumar, “Special Issue of the Thirteenth International Symposium on Experimental Robotics, 2012” (editorial), *The International Journal of Robotics Research*, Vol. 33(4), 2014, av DOI: 10.1177/0278364913518697, pp. 487-488.



9. *Giguère*, Philippe and Gregory Dudek, “A Simple Tactile Probe for Surface Identification by Mobile Robots,” *IEEE Transaction on Robotics*, 27(3) (June 2011, Digital Object Identifier: 10.1109/TRO.2011.2119910), 2011, pp. 534-544.
10. *Marinakīs*, Dimitri and Gregory Dudek, “Pure Topological Mapping In Mobile Robotics,” *IEEE Transactions on Robotics*, 2010, (document 10-0116), Pages 1051-1064.
11. *Giguère*, Philippe and Gregory Dudek, “Clustering sensor data for autonomous terrain identification using time-dependency,” *Autonomous Robots*, March 2009, pp. 171-186.
12. *Sattar*, Junaed, *Giguère*, Philippe and Gregory Dudek, “Sensor-Based Behavior Control for an Autonomous Underwater Vehicle,” *International Journal of Robotics Research (IJRR)*. Volume 28, No. 6, June 2009, pp. 701-713.
13. *Marinakīs*, Dimitri and Gregory Dudek, “Self-calibration of a vision-based sensor network,” *Image and Vision Computing* Volume 27, Issues 1-2, 1 January 2009, Pages 116-130.
14. Chen, Guangyi and Gregory Dudek, “Auto-correlation wavelet support vector machine,” *Image Vision Computing*, Volume 27 (8), 2009, DOI: 10.1016/j.imavis.2008.09.006, pp. 1040-1046.
15. *Mills*, Alec, and Gregory Dudek: “Image stitching with dynamic elements,” *Image Vision Computing*, 27(10), 2009, DOI: 10.1016/j.imavis.2009.03.004, pp. 1593-1602.
16. *Torres-Mendez*, Luz Abril and Gregory Dudek, “Inter-Image Statistics for 3D Environment Modeling,” *International Journal of Computer Vision*, 79(2), Aug. 2008, pp. 137-158.
17. *Marinakīs*, Dimitri and Gregory Dudek, “Occam’s Razor Applied to Network Topology Inference,” *IEEE Transactions on Robotics*, Vol. 24, No. 2, 2008, pp. 293-306.
18. *Rao*, Malvika, Whitesides, Sue and Gregory Dudek, “Randomized Algorithms for Minimum Distance Localization,” *The International Journal of Robotics Research*, Vol. 26, No. 9, 2007, pp. 917-933.
19. *Giguère*, P., *Prahacs*, C., *Saunderson*, S., *Sattar*, J., *Torres-Mendez*, L.-A., *Jenkin*, M., *German*, A., *Hogue*, A., *Ripsman*, A., *Zacher*, J., *Milios*, E., *Liu*, H., *Zhang*, P., *Buehler*, M., *Georgiades*, C. and Gregory Dudek, “Aqua: An Amphibious Autonomous Robot,” *IEEE Computer*, V 40(1), January 2007, pp. 46-53.
20. *Rekleitis*, Ioannis, *Meger*, David and Gregory Dudek, “Simultaneous Planning, Localization, and Mapping in a Camera Sensor Network,” *Robotics and Autonomous Systems Journal*, November 2006, pp. 921–932.
21. *Theberge*, Michelle and Gregory Dudek, “Gone Swimmin’ [seagoing robots],” *IEEE Spectrum*, V 43(6), June 2006, pp. 38- 43.
22. *Chen*, G. Y. and Gregory Dudek, “Auto-Correlation Wavelet Support Vector Machines,” *Machine Vision and Applications*, 2007 (in press).
23. *Daum*, Michael and Gregory Dudek, “On 3D Surface Reconstruction Using Shape from Shadows,” *International Journal of Computer Vision*, to appear.

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24. *Sim*, Robert, and Gregory Dudek, "Learning generative models of scene features," *International Journal of Computer Vision*, 60 (1): October 2004, pp. 45-61.
  25. *Bourque*, Eric and Gregory Dudek, "Procedural Texture Matching and Transformation," *Computer Graphics Forum*, 23(3), 2004.
  26. *Roy*, N. and Gregory Dudek, "Collaborative Exploration and Rendezvous: Algorithms, Performance Bounds and Observations," *Autonomous Robots*, 11(2): 2001, pp. 117-136.
  27. *Sim*, Robert and Gregory Dudek, "Learning environmental features for pose estimation," *Image and Vision Computing*, 19, 11, Elsevier Press, 2001, pp. 733-739.
  28. *Rekleitis*, Ioannis, Milios, Evangelos and Gregory Dudek, "Multi-Robot Collaboration for Robust Exploration," *Annals of Mathematics and Artificial Intelligence*, 1-4, 31, 2001, pp. 7-40.
  29. *Bourque*, Eric and Gregory Dudek, "On the Automated Construction of Image-Based Maps," *Autonomous Robots*, 8,2, April 2000, pp. 103-104
  30. *Sim*, Robert and Gregory Dudek, "Visual Landmarks for Pose Estimation," *Canadian Artificial Intelligence*, 43, 1999, pp. 13-17.
  31. *Badra*, F., *Qumsieh*, Q., and Gregory Dudek, "Image Mosaicking Using Zernike Moments," *International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI)*, 13, 4, August 1999, pp. 685-704.
  32. *Sim*, Robert and Gregory Dudek, "Visual Landmarks for Pose Estimation," *Canadian Artificial Intelligence*, 43, 1999, pp. 13-17.
  33. *Lecours*, S., *Caille*, S., *Fontaine*, S., *Arguin*, M., *Bub*, D. and Gregory Dudek, "A semantic proximity effect on object recognition in visual agnosia for biological kinds," *Brain and Cognition*, 37, 1, June 1998, pp. 138-141.
  34. *Romanik*, Kathleen, Whitesides, Sue and Gregory Dudek, "Localizing a Robot with Minimum Travel," *SIAM Journal on Computing*, 27, 2, April 1998, pp. 583-604.
  35. *Tsotsos*, John K. and Gregory Dudek, "Shape Representation and Recognition from Curvature," *Computer Vision, Graphics and Image Processing: Image Understanding*, 68, 2, 1997, pp. 170-189.
  36. *Jenkin*, M., *Milios*, E., *Wilkes*, D., and Gregory Dudek, "Map Validation and Robot Self-Location in a Graph-Like World," *Robotics and Autonomous Systems*, Vol. 22(2), November 1997, pp. 159-178.
  37. *Oore*, S., *Hinton*, G. E. and Gregory Dudek, "A mobile robot that learns its place," *Neural Computation*, 3, 9, April 1997, pp. 683-699.
  38. *Hadjres*, Souad, *Freedman*, Paul and Gregory Dudek, "Using multiple models for environmental mapping," *Journal of Robotic Systems*, 13, 8, Aug 1996, pp. 539-559.
  39. *Jenkin*, Michael, *Milios*, Evangelos, *Wilkes*, David and Gregory Dudek, "A Taxonomy for Multi-Agent Robotics," *Autonomous Robots*, 3, 4, 1996, pp. 375-397.

< 1999 and before
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40. Dudek, Gregory “Environment mapping using multiple abstraction levels,” Proceedings of the IEEE, 84, 11, Nov. 1996, pp. 1684-1704. (special issue on “Signals and Symbols”).
41. *Arguin*, Martin, Bub, Daniel and Gregory Dudek, “Human Integration of Visual Object Recognition and its Implication in Category Specific Visual Agnosia,” *Visual Cognition*, 3, 3, 1996, pp. 221-277.
42. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, “Robotic Exploration as Graph Construction,” *IEEE Transactions on Robotics and Automation*, 7, 6, 1991, pp. 859-865.

### Refereed Conference Papers

◀ 2017

43. J. Li, D. Meger, and G. Dudek, “Context-coherent scenes of objects for camera pose estimation,” Robots and Systems (IROS), 2017 IEEE/RSJ International Conference on, September 2017.
44. F. Shkurti, W.-D. Chang, P. Henderson, M. J. Islam, J. C. G. Higuera, J. Li, T. Manderson, A. Xu, G. Dudek, and J. Sattar “Underwater multi-robot convoying using visual tracking by detection,” Robots and Systems (IROS), 2017 IEEE/RSJ International Conference on, September 2017 (also available as arXiv preprint arXiv:1709.08292,).
45. F. Shkurti and G. Dudek, “Topologically distinct trajectory predictions for probabilistic pursuit,” Robots and Systems (IROS), 2017 IEEE/RSJ International Conference on, September 2017.
46. S. Manjanna and G. Dudek, “Data-driven selective sampling for marine vehicles using multi-scale paths,” Robots and Systems (IROS), 2017 IEEE/RSJ International Conference on, September 2017.
47. J. C. G. Higuera, D. Meger, and G. Dudek, “From simulation to the field: Learning to swim with the aqua robot,” ROSCon 2017, September 2017.
48. T. Manderson, J. Li, N. Dudek, D. Meger, and G. Dudek, “Robotic coral reef health assessment using automated image analysis,” *Journal of Field Robotics*, vol. 34, no. 1, pp. 170–187, 2017.
49. J. C. G. Higuera, D. Meger, and G. Dudek, “Adapting learned robotics behaviours through policy adjustment,” in *Robotics and Automation (ICRA)*, 2017 IEEE International Conference on. IEEE, 2017, pp. 5837–5843.
50. A. Kalmbach, Y. Girdhar, H. M. Sosik, and G. Dudek, “Phytoplankton hotspot prediction with an unsupervised spatial community model,” arXiv preprint arXiv:1703.07309, 2017 (also appears as referred publication in *Oceans 2017*).
51. P. Henderson, W.-D. Chang, F. Shkurti, J. Hansen, D. Meger, and G. Dudek, “Benchmark environments for multitask learning in continuous domains,” 2017 (also appears as referred publication in *IROS 2017*).

◀ 2016

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52. Quattrini Li, A, I. Rekleitis, S. Manjanna, N. Kakodkar, J. Hansen, G. Dudek, L. Bobadilla, J. Anderson, and R. Smith, “Data correlation and comparison from multiple sensors over a coral reef with a team of heterogeneous aquatic robots,” International Symposium of Experimental Robotics (ISER), 2016.
  53. Girdhar, Y. and G. Dudek, “Modeling curiosity in a mobile robot for long-term autonomous exploration and monitoring,” Autonomous Robots (journal), vol. 40, no. 7, pp. 1267–1278, 2016.
  54. Li, Jimmy, D. Meger, and G. Dudek, “Learning to generalize 3d spatial relationships,” in Robotics and Automation (ICRA), 2016 IEEE International Conference on. IEEE, 2016, pp. 5744–5749.
  55. Manderson, T., F. Shkurti, and G. Dudek, “Texture-aware slam using stereo imagery and inertial information,” in Computer and Robot Vision (CRV), 2016 13th Conference on. IEEE, 2016, pp. 456–463.
  56. Manjanna, S., N. Kakodkar, M. Meghjani, and G. Dudek, “Efficient terrain driven coral coverage using gaussian processes for mosaic synthesis,” in Computer and Robot Vision (CRV), 2016 13th Conference on. IEEE, 2016, pp. 448–455.
  57. Xu, A, and G. Dudek, “Maintaining efficient collaboration with trust-seeking robots,” in Intelligent Robots and Systems (IROS), 2016 IEEE/RSJ International Conference on. IEEE, 2016, pp. 3312–3319. Nominee for best-paper award from over 2000 submitted papers.
  58. Meghjani, M, S. Manjanna, and G. Dudek, “Multi-target search strategies,” in Proc. IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR), IEEE, 2016, pp. 328–333.
  59. Meghjani, M, , “Multi-target rendezvous search,” Proc. International Conference on Intelligent Robots and Systems (IROS). IEEE, 2016, pp. 2596–2603. Nominee for best-paper award in the Search and Rescue category, from over 2000 submitted papers.
  60. Meghjani, M, , “Fast and efficient rendezvous in street networks,” in Intelligent Robots and Systems (IROS), 2016 IEEE/RSJ International Conference on. IEEE, 2016, pp. 1887–1893.
  61. K. Koreitem, Y. Girdhar, W. Cho, H. Singh, J. Pineda, and G. Dudek, “Subsea fauna enumeration using vision-based marine robots,” in Computer and Robot Vision (CRV), 2016 13th Conference on. IEEE, 2016, pp. 101–108.
  62. Rezanejad, Morteza, Samari, Babak, Rekleitis, Ioannis, Siddiqi, Kaleem Dudek, Gregory, “Robust Environment Mapping Using Flux Skeletons,” 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems, Sept 28 - Oct 03, 2015, Hamburg, Germany.
  63. St-Onge, David, Reeves, Nicolas, *Giguère*, Philippe, Sharf, Inna, Dudek, Gregory, Rekleitis, Ioannis, Brèches, Pierre-Yves, Abouzakhm, Patrick and Babin, Philippe, “AEROSTABILES: A new approach to HRI researches,” Proceedings of the Tenth Annual ACM/IEEE International Conference on Human-Robot Interaction Extended Abstracts, 2015, pp. 277–277.

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64. *Manderson, T., Meger, D., Li, J., Cortes Poza, D., Dudek, N. and G. Dudek*, "Towards Autonomous Robotic Coral Reef Health Assessment," Proceedings of Field and Service Robotics (FSR). Toronto, Canada, 24-26 June 2015.
  65. *Manjanna, Sandeep and Gregory Dudek*, "Autonomous gait selection for energy efficient walking," In Proceedings of the IEEE International Conference on Robotics and Automation (ICRA '15), pages 5155-5162, Seattle, USA, May 2015.
  66. *St-Onge, David, Reeves, Nicolas, Giguère, Philippe, Sharf, Inna, Dudek, Gregory, Rekleitis, Ioannis, Brèches, Pierre-Yves, Abouzakhm, Patrick, Babin, Philippe* "AEROSTABLES: A new approach to HRI research," Proceedings of the Tenth Annual ACM/IEEE International Conference on Human-Robot Interaction (Extended Abstracts), March 2015, p. 277-277.
  67. *Meger, D., J. C. Gamboa Higuera, A. Xu, P. Giguere, G. Dudek*, "Learning legged swimming gaits from experience," Proceedings of the IEEE International Conference on Robotics and Automation (ICRA '15), pages 5155-5162, Seattle, USA, May 2015. **(best paper nominee)**
  68. *Q. Zhang, I. Rekleitis, and G. Dudek*, "Uncertainty Reduction via Heuristic Search Planning on Hybrid Metric/Topological Map," Proceedings of Conference on Computer and Robot Vision, Halifax, NS, June 2015.
  69. *Xu, Anqi and Gregory Dudek*, "Towards Efficient Collaborations with Trust-Seeking Adaptive Robots," Proceedings of the 10th Human-Robot Interaction Pioneers Workshop (HRI Pioneers '15), 2 pages, Portland, USA, March 2015.
  70. *Xu, Anqi and Gregory Dudek*, "OPTIMo: Online Probabilistic Trust Inference Model for Asymmetric Human-Robot Collaborations," Proceedings of the 10th ACM/IEEE International Conference on Human-Robot Interactions (HRI '15), 7 pages, Portland, USA, March 2015.
  71. *Girdhar, Yogesh and Gregory Dudek*, "Exploring Underwater Environments with Curiosity," Proc. Conference on Computer and Robot Vision (CRV 2014), 7 pages, Montreal, Canada, June 2014.
  72. *Girdhar, Yogesh, Whitney, David and Gregory Dudek*, "Curiosity Based Exploration for Learning Terrain Models," Proc. IEEE International Conference on Robotics and Automation (ICRA 2014), 7 pages, Hong Kong, May 2014. (also appears as a preprint on arXiv.org, arXiv:1310.6767).
  73. *Meghjani, Malika and Gregory Dudek*, "Multi-agent rendezvous on street networks," Proc. IEEE International Conference on Robotics and Automation (ICRA 2014), 7 pages, Hong Kong, May 2014, pp. 5792-5797.
  74. *Xu, Anqi and Kalmbach, Arnold and Gregory Dudek*, "Adaptive Parameter EXploration (APEX): Adaptation of robot autonomy from human participation," Proc. IEEE International Conference on Robotics and Automation (ICRA 2014), 7 pages, Hong Kong, May 2014, pp. 3315-3322.
  75. *Shkurti, Florian and Gregory Dudek*, "Maximizing visibility in collaborative trajectory planning," Proc. IEEE International Conference on Robotics and Automation (ICRA 2014), 7 pages, Hong Kong, May 2014, pp. 3315-3322.

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76. *Meghjani*, Malika and *Shkurti*, Florian and *Higuera*, Juan Camilo Gamboa and *Kalmbach*, Arnold and *Whitney*, David and Gregory Dudek, “Asymmetric Rendezvous Search at Sea” Proc. Conference on Computer and Robot Vision (CRV 2014), 7 pages, Montreal, Canada, June, 2014.
77. *Meger*, David and *Shkurti*, Florian and *Cortes Poza*, David and Giguere, Philippe and Gregory Dudek, “3D trajectory synthesis and control for a legged swimming robot” Proc IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2014), Chicago, IL, Sept., 2014, pp. 2257-2264.
78. *Dey*, Bir Bikram, *Manjanna*, Sandeep and Gregory Dudek, “Ninja Legs: Amphibious One Degree of Freedom Robotic Legs,” In Proceedings of the 2013 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '13), Tokyo, Japan. November 2013.
79. *Girdhar*, Yogesh and Giguere, Philippe and Gregory Dudek, “Autonomous Adaptive Underwater Exploration using Online Topic Modeling”, *Experimental Robotics*, pp. 789–802, 2013. (This paper was also presented at the International Symposium on Experimental Robotics (ISER).)
80. *Manjanna*, Sandeep, *Giguère*, Philippe and Gregory Dudek, “Using Gait Change for Terrain Sensing by Robots,” In Proceedings of the 10th International Conference on Computer and Robot Vision (CRV '13), 7 pages, Regina, Canada. May 2013.
81. *Giguère*, Philippe, *Girdhar*, Yogesh and Gregory Dudek, “Wide-Speed Autopilot System for a Swimming Hexapod Robot,” In Proceedings of the 10th International Conference on Computer and Robot Vision (CRV '13), 7 pages, Regina, Canada. May 2013.
82. *Shkurti*, Florian and Gregory Dudek, “On the complexity of searching for an evader with a faster pursuer,” In Proceedings of the IEEE International Conference on Robotics and Automation (ICRA2013), 6 pages, Karlsruhe, Germany. May 2013.
83. *Gamboa Higuera*, Juan Camilo and Gregory Dudek, “Fair Subdivision of Multirobot Tasks,” In Proceedings of the IEEE International Conference on Robotics and Automation (ICRA2013), 6 pages, Karlsruhe, Germany. May 2013.
84. *Kalmbach*, Arnold, *Girdhar*, Yogesh and Gregory Dudek, “Unsupervised Environment Recognition and Modeling using Sound Sensing,” In Proceedings of the IEEE International Conference on Robotics and Automation (ICRA2013), 6 pages, Karlsruhe, Germany. May 2013.
85. *Girdhar*, Yogesh, *Xu*, Anqi, *Shkurti*, Florian, *Gamboa Higuera*, Juan Camilo, *Meghjani*, Malika, *Giguère*, Philippe, *Rekleitis*, Ioannis and Gregory Dudek, “Monitoring Marine Environments using a Team of Heterogeneous Robots,” RSS 2012 Workshop on Robotics for Environmental Monitoring (WREM 2012), Sydney, Australia.
86. *Girdhar*, Yogesh, *Giguère*, Philippe and Gregory Dudek, “Autonomous Adaptive Underwater Exploration using Online Topic Modelling,” 13th International Symposium on Experimental Robotics (ISER 2012), Quebec City, Canada.

◁ 2013

◁ 2012

87. *Meghjani*, Malika and Gregory Dudek, “Multi-Robot Exploration and Rendezvous on Graphs,” In Proceedings of the 2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '12), Algarve, Portugal, October 2012.
88. *Shkurti*, Florian, *Xu*, Anqi, *Meghjani*, Malika, *Gamboa Higuera*, Juan Camilo, *Girdhar*, Yogesh, *Giguère*, Philippe, *Dey*, Bir Bikram, *Li*, Jimmy, *Kalmbach*, Arnold, *Prahacs*, Chris, Turgeon, Katrine, *Rekleitis*, Ioannis and Gregory Dudek, “Multi-Domain Monitoring of Marine Environments Using a Heterogeneous Robot Team,” Proceedings of the 2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '12), Algarve, Portugal, October 2012.
89. *Gamboa Higuera*, Juan Camilo, *Xu*, Anqi, *Shkurti*, Florian and Gregory Dudek, “Socially-Driven Collective Path Planning for Robot Missions,” Proceedings of the 9th Canadian Conference on Computer and Robot Vision (CRV '12), Toronto, Canada, May 2012, pages 417 - 424.
90. *Girdhar*, Yogesh and Gregory Dudek, “Efficient on-line data summarization using extremum summaries,” Proceedings of the IEEE International Conference on Robotics and Automation (ICRA 2012), May 2012.
91. *Xu*, Anqi and Gregory Dudek, “Trust-Driven Interactive Visual Navigation for Autonomous Robots,” Proceedings of the IEEE International Conference on Robotics and Automation (ICRA '12), St. Paul, USA, May 2012, pp. 3922 - 3929.
92. *Girdhar*,Yogesh, *Xu*, Anqi, *Dey*, Bir Bikram, *Meghjani*, Malika, *Shkurti*, Florian, *Rekleitis*, Ioannis and Gregory Dudek, “MARE: Marine Autonomous Robotic Explorer,” Proceedings of the 2011 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '11), San Francisco, USA, September 2011, pp. 5048 - 5053, Digital Object Identifier: 10.1109/IROS.2011.6048582.
93. *Li*, Jimmy, *Xu*, Anqi and Gregory Dudek, “Graphical State Space Programming: A Visual Programming Paradigm for Robot Task Specification,” 2011 IEEE International Conference on Robotics and Automation (ICRA '11), Shanghai, China, May 2011, pp. 4846-4853
94. *Virie*, Patrick and Gregory Dudek, “Conformative Filter : A Probabilistic Framework for Localization in Reduced Space,” Proceedings of the 8th Canadian Conference on Computer and Robot Vision (CRV '11), St. John's, Newfoundland, Canada, May 2011, pp. 24-31.
95. *Shkurti*, Florian, *Rekleitis*, Ioannis and Gregory Dudek, “Feature Tracking Evaluation for Pose Estimation in Underwater Environments,” Proceedings of the 8th Canadian Conference on Computer and Robot Vision (CRV '11), St. John's, Newfoundland, Canada, May 2011, pp. 160-167.
96. *Meghjani*, Malika and Gregory Dudek, “Combining Multi-Robot Exploration and Rendezvous,” Proceedings of the 8th Canadian Conference on Computer and Robot Vision (CRV '11), St. John's, Newfoundland, Canada, May 2011, pp. 80-85.
97. *Girdhar*, Yogesh and Gregory Dudek, “Online Visual Vocabularies,” Proceedings of the 8th Canadian Conference on Computer and Robot Vision (CRV '11), St. John's, Newfoundland, Canada, May 2011, pp. 191-196.

98. *Girdhar*, Yogesh and Gregory Dudek, "Offline Navigation Summaries," Proceedings of the IEEE International Conference on Robotics and Automation (ICRA2011), Shanghai, China, May 9-13, 2011, pp. 5769-5775.
99. *Xu*, Anqi and Gregory Dudek, "Fourier Tag: A Smoothly Degradable Fiducial Marker System with Configurable Payload Capacity," Proc.Conference on Computer and Robot Vision (CRV '11), St. John's, Newfoundland, Canada, May 2011, pp. 40-47.
100. *Sattar*, Junaed and Gregory Dudek, "Towards Quantitative Modeling of Task Confirmations in Human-Robot Dialog," Proceedings of the IEEE International Conference on Robotics and Automation (ICRA), Shanghai, China, May 9-13, 2011, pp. 1957-1963.
101. Rabinovich, Misha, *Girdhar*, Yogesh and Gregory Dudek, "SoYummy: real-time temporal semantic compression to further the Synopticon," Subtle Technologies Festival, Toronto, Canada, June 2-5, 2011.
102. *Giguère*, Phillipe and Gregory Dudek, "A Simple Tactile Probe for Surface Identification by Mobile Robots," To appear in the IEEE Transaction on Robotics, 2011, pp. 534-544.
103. *Xu*, Anqi, Viriyasuthee, Chatavut, *Rekleitis*, Ionnis, and Gregory Dudek, "Optimal Complete Terrain Coverage using an Unmanned Aerial Vehicle," In Proceedings of the 2011 IEEE International Conference on Robotics and Automation (ICRA'11), Shanghai, China, May 2011, pp. 2513-2519.
104. *Girdhar*, Yogesh and Gregory Dudek, "A surprising problem in navigation," In Vision in 3D Environments, Cambridge University Press, 2011, pp. 228-252. ISBN-13: 9781107001756
105. *Sattar*, Junaed and Gregory Dudek, "Reducing Uncertainty in Human-Robot Interaction: A Cost Analysis Approach," Proceedings of the Twelfth International Symposium on Experimental Robotics (ISER 2010), New Delhi and Agra, India, December 2010.
106. *Sattar*, Junaed, *Xu*, Anqi, *Charette*, Gabrielle and Gregory Dudek, "Graphical State-Space Programmability as a Natural Interface for Robotic Control," Proceedings of the 2010 IEEE International Conference on Robotics and Automation (ICRA '10), Anchorage, Alaska, USA, May 2010, pp. 4609-4614.
107. *Girdhar*, Yogesh and Gregory Dudek, "ONSUM: A System for Generating Online Navigation Summaries," Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS2010), Taipei, Taiwan, October 2010. (Nominee for ICROS best application paper award from 972 accepted papers.)
108. *Girdhar*, Yogesh and Gregory Dudek, "Online Navigation Summaries," Proceedings of the IEEE International Conference on Robotics and Automation (ICRA2010), Anchorage, Alaska, USA, May 3-8, 2010, Pages 5035-5040.
109. *Rekleitis*, Ioannis, *Schoueri*, Yasmina, *Giguère*, Philippe, *Sattar*, Junaed and Gregory Dudek, "Telepresence Across the Ocean," Proceedings of the Seventh Canadian Conference on Computer and Robot Vision (CRV 2010), Ottawa, Ontario, Canada, May 2010, pp. 261-268.



- 
110. *Xu*, Anqi and Gregory Dudek, “A Vision-Based Boundary Following Framework for Aerial Vehicles,” Proceedings of the 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '10), Taipei, Taiwan, October, 2010, pp. 81-86.
111. *Girdhar* Yogesh and Gregory Dudek, “Optimal Online Data Sampling or How to Hire the Best Secretaries,” Proceedings of the Sixth Canadian Conference on Computer and Robot Vision, 2009, Kelowna, British Columbia, Canada, May 2009.
112. *Giguère*, Philippe, *Prahacs*, Christopher, *Plamondon*, Nicolas, *Turgeon*, Katrine and Gregory Dudek, “Unsupervised Learning of Terrain Appearance for Automated Coral Reef Exploration,” Proceedings of the Sixth Canadian Conference on Computer and Robot Vision, 2009, Kelowna, British Columbia, Canada, May 2009.
113. *Pomerantz*, Daniel and Gregory Dudek, “Context Dependent Movie Recommendations Using a Hierarchical Bayesian Model,” Proceedings of the 22nd Canadian Conference on Artificial Intelligence, Canadian AI 2009, Kelowna, British Columbia, Canada, May 2009.
114. *Giguère*, Philippe and Gregory Dudek, “Surface Identification Using Simple Contact Dynamics for Mobile Robots,” Proc. IEEE International Conference on Robotics and Automation (ICRA2009), Kobe, Japan, May 12-17, 2009.
115. *Sattar*, Junaed and Gregory Dudek, “Underwater Human-Robot Interaction via Biological Motion Identification,” Proc. Robotics:Science and Systems V, Seattle, WA, USA, June-July 2009.
116. *Sattar*, Junaed and Gregory Dudek, “A Vision-based Control and Interaction Framework for a Legged Underwater Robot,” Proc. Sixth Canadian Conference on Robot Vision (CRV), Kelowna, BC, Canada. May 2009, pp. 329-336. (Award for best robotics paper.)
117. *Sattar*, Junaed and Gregory Dudek, “Robust Servo-control for Underwater Robots using Banks of Visual Filters,” Proc. IEEE International Conference on Robotics and Automation (ICRA2009), Kobe, Japan, May 12-17, 2009, Pages 3583-3588.
118. *Meger*, David, *Marinakis*, Dimitri, *Rekleitis*, Ioannis and Gregory Dudek, “Inferring a Probability Distribution Function for the Pose of a Sensor Network using a Mobile Robot,” Proc. IEEE International Conference on Robotics and Automation (ICRA2009), Kobe, Japan, May 12-17, 2009.
119. *Sattar*, Junaed, *Chiu*, Olivia, *Rekleitis*, Ioannis, *Giguère*, Philippe, *Mills*, Alec, *Plamondon*, Nicolas, *Prahacs*, Chris, *Girdhar*, Yogesh, *Nahon*, Meyer, *Lobos*, John-Paul and Gregory Dudek, “Enabling Autonomous Capabilities in Underwater Robotics,” Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS, Nice, France, Sept. 2008.
120. *Giguère*, Philippe and Gregory Dudek, “Clustering Sensor Data for Terrain Identification using a Windowless Algorithm,” Proc. Robotics Science and System (RSS), Zurich, Switzerland, June 2008.

◀ 2009

◀ 2008

- 
121. *Xu*, Anqi, *Sattar*, Junaed and Gregory Dudek, "A Natural Gesture Interface for Operating Robotic Systems," Proceedings of the IEEE International Conference of Robotics and Automation (ICRA), Pasadena, California, USA, May 2008, pp. 3557-3563.
122. *Sattar*, Junaed and Gregory Dudek, "A Boosting Approach to Visual Servo-Control of an Underwater Robot," Proceedings of the 11th International Symposium on Experimental Robotics, ISER, Athens, Greece, July 2008.
123. *Sattar*, Junaed and Gregory Dudek, "Where is your dive buddy: Tracking scuba divers using spatio-temporal features," Proc. of the IEE/RSJ International Conference on Intelligent Robots and Systems, (IROS), San Diego, California, USA, October-November 2007, pp. 3654-3659.
124. *Marinakis*, Dimitri, *Meger*, David, *Rekleitis*, Ioannis and Gregory Dudek, "Hybrid Inference for Sensor Network Localization using a Mobile Robot," Proceedings of the National Conference on Artificial Intelligence (AAAI), Vancouver, Canada, July 2007.
125. *Marinakis*, Dimitri and Gregory Dudek, "Topological Mapping with Weak Sensory Data," In Proceedings of the National Conference on Artificial Intelligence (AAAI), Vancouver, Canada, July 2007.
126. *Sattar*, Junaed, *Xu*, Anqi and Gregory Dudek, "A Visual Language for Robot Control and Programming: A Human-Interface Study," Proceedings of the IEEE International Conference of Robotics and Automation (ICRA) 2007, Rome, Italy, April 2007, pp. 2507-2513.
127. *Marinakis*, Dimitri, *Giguère*, Philippe and Gregory Dudek, "Learning Network Topology from Simple Sensor Data," Presented at the 20th Canadian Conference on Artificial Intelligence, Montreal, Canada, May 2007.
128. *Marinakis*, Dimitri and Gregory Dudek, "Topological Mapping through Distributed, Passive Sensors," Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI07), Hyderabad, India, Jan. 2007, pp 2147-2152.
129. *Sattar*, Junaed, *Bourque*, Eric, *Giguère*, Philippe and Gregory Dudek, "Fourier tags: Smoothly degradable fiducial markers for use in human-robot interaction," In Proceedings of the Canadian Conference on Computer and Robot Vision (CRV06), Quebec City, Quebec, June 2006, pp. 22-29.
130. *Giguère*, Philippe, *Prahacs*, Chris and Gregory Dudek, "Characterization and Modeling of Rotational Responses for an Oscillating Foil Underwater Robot," Proc. IEEE/RSJ/GI International Conference on Intelligent Robots and Systems (IROS), Beijing, China, October 2006.
131. *Giguère*, Philippe, *Prahacs*, Chris, *Saunderson*, Shane and Gregory Dudek, "Environment Identification for a Running Robot Using Inertial and Actuator Cues," Proc. Robotics Science and System (RSS), Philadelphia, U.S.A, August 2006.
132. *Giguère*, Philippe, *Sattar*, Junaed and Gregory Dudek, "Sensor Based Behavior Control for an Autonomous Underwater Vehicle," Proc. of the International Symposium on Experimental Robotics (ISER), Rio de Janeiro, Brazil, July 2006.

◁ 2007

◁ 2006

133. Dimitri *Marinakis*, Dimitri and Gregory Dudek, "Probabilistic Self-Localization for Sensor Networks," Proc. of the AAAI National Conference on Artificial Intelligence, Boston, Massachusetts, USA, July 2006.
134. *Johns*, Derek and Gregory Dudek, "Urban Position Estimation from One Dimensional Visual Cues," In Proceedings of the Canadian Conference on Computer and Robot Vision (CRV06), Quebec City, Quebec, June 2006, pp. 22-29.
135. *Burfoot*, Daniel, Joelle Pineau, and Gregory Dudek, "RRT-Plan: a Randomized Algorithm for STRIPs planning," Proc. of the International Conference on Automated Planning and Scheduling (ICAPS06), Cumbria, UK, June 2006.
136. *Torres-Mendez*, Luz Abril, and Gregory Dudek, "Statistics of Visual and Partial Depth Data for Mobile Robot Environment Modeling," Proc. Mexican International Conference on Artificial Intelligence (MICAI), November 2006.
137. *Meger*, David, *Rekleitis*, Ioannis and Gregory Dudek, "Autonomous Mobile Robot Mapping of a Camera Sensor Network," In The 8th International Symposium on Distributed Autonomous Robotic Systems (DARS).
138. *Marinakis*, Dimitri and Gregory Dudek, "A Practical Algorithm for Network Topology Inference," In Proceedings of the IEEE International Conference on Robotics and Automation (ICRA06), Orlando, Florida, May 2006, pp. 3108 - 3115.
139. *Sattar*, Junaed and Gregory Dudek, "On the Performance of Color Tracking Algorithms for Underwater Robots under Varying Lighting and Visibility," In Proceedings of the IEEE International Conference on Robotics and Automation (ICRA06), Orlando, Florida, May 2006, pp. 3550 - 3555.
140. *Garden*, Mat and Gregory Dudek, "Mixed Collaborative and Content-Based Filtering with User-Contributed Semantic Features," In Proceedings of the National Conference on Artificial Intelligence (AAAI), Boston, MA, July 2006.
141. *Marinakis*, Dimitri and Gregory Dudek, "Topology Inference for a Vision-Based Sensor Network," In Proc. of Canadian Conference on Computer and Robot Vision (CRV 2005), Victoria, Canada, May 2005. (Winner of best paper in Robotics Category.)
142. *Verma*, Siddarth, Inna Sharf and Gregory Dudek. Kinematic Variables Estimation using Eye-in-Hand Robot Camera System. Proc. The 2nd Canadian Conference on Computer and Robot Vision, pp. 550-557, Victoria, BC, May, 2005.
143. *Chen*, Guangyi and Gregory Dudek, "Using Wavelets with Support Vector Machines for Recognition," In Proc. of Canadian Conference on Computer and Robot Vision (CRV 2005), Victoria, Canada, May 2005.
144. *Garden*, Matthew and Gregory Dudek, "Semantic feedback for hybrid recommendations in Recommendz," Proceedings of the IEEE International Conference on e-Technology, e-Commerce, and e-Service (EEE05), Hong Kong, China, March 2005.

145. *Rao*, Malvika, Sue Whitesides and Gregory Dudek, "Randomized Algorithms for Minimum Distance Localization," Proc. IEEE International Conference on Robotics and Automation (ICRA 2005), Barcelona, Spain, April 18-22, 2005, pp. 2438 - 2445.
146. *Marinakis*, Dimitri and Gregory Dudek, "Learning Sensor Network Topology through Monte Carlo Expectation Maximization," Proc. IEEE Intl. Conf. on Robotics and Automation, Barcelona, Spain, April 2005, pp. 4581-4587.
147. *Sattar*, Junaed, *Giguère*, Philippe, *Prahacs*, Chris and Gregory Dudek, "A Visual Servoing System for an Aquatic Swimming Robot," In Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Edmonton, Alberta, Canada, August 2005.
148. *Marinakis*, Dimitri, Fleet, David and Gregory Dudek, "Learning Sensor Network Topology through Monte Carlo Expectation Maximization," In Proceedings of the IEEE International Conference on Robotics and Automation (ICRA05), Barcelona, Spain, April 2005.
149. *Rekleitis*, Ioannis and Gregory Dudek, "Automated Calibration of a Camera Sensor Network," In Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Edmonton, Alberta, Canada, August 2005, pp. 401-406.
150. Jenkin, Michael, *Prahacs*, Chris, Hogue, Andrew, *Sattar*, Junaed, *Giguère*, Philippe, German, Andrew, Liu, Hui, *Saunderson*, Shane, Ripsman, Arlene, *Simhon*, Saul, *Torres-Mendez*, Luz Abril, Milios, Evangelos, Zhang, Pifu, Ioannis Rekleitis, and Gregory Dudek, "A Visually Guided Swimming Robot," In Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Edmonton, Alberta, Canada, August 2005, pp. 1749-1754.
151. *Torres-Mendez*, Luz Abril and Gregory Dudek, "Statistical Inference and Synthesis in the Image Domain for Mobile Robot Environment Modeling," Proceedings of the IEEE/RSJ/GI International Conference on Intelligent Robots and Systems (IROS), Sendai, Japan, 2004.
152. *Torres-Mendez*, Luz Abril and Gregory Dudek, "Statistics in the Image Domain for Mobile Robot Environment Modeling," Proc. 4th International Symposium of Robotics and Automation, Queretaro, Mexico, August 2004.
153. *Simhon*, Saul and Gregory Dudek, "Pen Stroke Extraction and Refinement using Learned Models," Proc. Eurographics Workshop on Sketch-Based Interfaces and Modeling, Grenoble, France, August 2004.
154. *Simhon*, Saul and Gregory Dudek, "Sketch Interpretation and Refinement using Statistical Models," Proc. Eurographics Symposium on Rendering, 2004.
155. *Rao*, Malvika, Sue Whitesides and Gregory Dudek, "Randomized Algorithms for Minimum Distance Localization," Proc. Sixth International Workshop on the Algorithmic Foundations of Robotics (WAFR), 2004.
156. *Georgiades*, C., German, A., Hogue, A., Liu, H., *Prahacs*, C., Ripsman, A., *Sim*, R., *Torres*, L.-A., Zhang, P., Buehler, M., Jenkin, M. and Milios, E. and Gregory Dudek, "AQUA: an aquatic

- walking robot,” Proceedings of the IEEE/RSJ/GI International Conference on Intelligent Robots and Systems (IROS), Sendai, Japan, 2004.
157. *Torres-Mendez*, Luz-Abril, *Marco*, Paul Di and Gregory Dudek, “Inter-image Statistics for Scene Reconstruction,” First Canadian Conference on Computer and Robot Vision, London, ON, May 2004, 6 pages.
  158. *Bourque*, Eric and Gregory Dudek, “Procedural Texture Matching and Transformation,” Proc. Eurographics 2004, Aug. 2004, 8 pages. (Also appears in Computer Graphics Forum.)
  159. *Sim*, Robert, *Roy*, Nicholas and Gregory Dudek, “Online Control Policy Optimization for Minimizing Map Uncertainty During Exploration,” Proceedings of the IEEE International Conference on Robotics and Automation (ICRA), New Orleans, LA, April 2004, 6 pages.
  160. *Sim*, Robert and Gregory Dudek, “Self-Organizing Visual Maps,” Proceedings of the National Conference on Artificial Intelligence (AAAI), San Jose, CA, July 2004, 6 pages.
  161. *Simhon*, Saul and Gregory Dudek, “Analogical Path Planning,” Proceedings of the National Conference on Artificial Intelligence (AAAI), San Jose, CA, July 2004, 6 pages.
  162. *Torres-Mendez*, Luz-Abril and Gregory Dudek, “Reconstruction of 3D Models from Intensity Images and Partial Depth,” Proceedings of the National Conference on Artificial Intelligence (AAAI), San Jose, CA, July 2004, 6 pages.
- ◀ 2003
163. *Sim*, Robert and Gregory Dudek, “Comparing image-based localization methods,” Proc. of the International Joint Conference on Artificial Intelligence (IJCAI), Acapulco, Mexico, Aug. 2003, 3 pages.
  164. *Sim*, Robert and Gregory Dudek, “Examining Exploratory Trajectories for Minimizing Map Uncertainty,” Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI) workshop on Reasoning with Uncertainty in Robotics (RUR), Acapulco, Mexico, Aug. 2003, 8 pages.
  165. *Rekleitis*, Ioannis, Milios, Evangelos and Gregory Dudek, “Experiments in Free-Space Triangulation Using Cooperative Localization,” Proceedings of the IEEE/RSJ Conference on Intelligent Robots and Systems (IROS), Las Vegas, NV, Oct. 2003, 8 pages.
  166. *Torres-Mendez*, Luz-Abril, and Gregory Dudek, “Range Synthesis for 3D Environment Modeling,” Proceedings of the IEEE/RSJ Conference on Intelligent Robots and Systems (IROS), Las Vegas, NV, Oct. 2003, 8 pages.
  167. *Sim*, Robert and Gregory Dudek, “Effective Exploration Strategies for the Construction of Visual Maps,” Proceedings of the IEEE/RSJ Conference on Intelligent Robots and Systems (IROS), Las Vegas, NV, Oct. 2003, 8 pages.
  168. *Garden*, Matthew and Gregory Dudek, “On User Recommendations Based on Multiple Cues,” Proc. IEEE WI/IAT 2003 Workshop on Applications, Products and Services of Web-Based Support Systems (in conjunction with IEEE/WIC International Conference on Web Intelligence), ISBN 0-9734039-1-8, Halifax, NS, Oct. 2003, pp. 139-144.

- 
169. *Sim*, Robert and Gregory Dudek, “RoboDaemon - A device-independent, network-oriented, modular mobile robot controller,” IEEE International Conference on Robotics and Automation, Taipei, Taiwan, May 2003.
170. *Simhon*, Saul and Gregory Dudek, “Path Planning Using Learned Constraints and Preferences,” IEEE International Conference on Robotics and Automation, Taipei, Taiwan, May 2003.
171. *Rekleitis*, Ioannis, *Sim*, Robert, Milios, Evangelos and Gregory Dudek, “Probabilistic Cooperative Localization and Mapping in Practice,” IEEE International Conference on Robotics and Automation, Taipei, Taiwan, May 2003.
172. *Rekleitis*, Ioannis, *Sim*, Robert, Milios, Evangelos and Gregory Dudek, “Multi-Robot Cooperative Localization: A Study of Trade-offs Between Efficiency and Accuracy,” Proc. IEEE/RSJ/ International Conference on Intelligent Robots and Systems, Lausanne, Switzerland, 2002, pp. 2690-2695.
173. *Torres-Mendez*, L.A. and Gregory Dudek, “Automated Enhancement of 3-D Models,” Proc. Eurographics 2002 (Geometric and Physics Based Modeling), Saarbrucken, Germany, Sept. 2002.
174. *Torres-Mendez*, L.A. and Gregory Dudek, “Range synthesis for 3D Environment Modeling,” Proc. IEEE Workshop on Applications of Computer Vision (oral presentation, long paper), Orlando, FL, 2002.
175. *Bourque*, Eric and Gregory Dudek, “Automated Parameter Estimation for Procedural Texturing,” Proc. 13th Eurographics Workshop on Rendering, Pisa, Italy, 2002.
176. *Rekleitis*, Ioannis, *Sim*, Robert, Milios, Evangelos and Gregory Dudek, “On the Positional Uncertainty of Multi-Robot Cooperative Localization,” Proc. Naval Research Labs/NATO Workshop on Multi-Robot Systems, Washington, DC, 2002 (to appear).
177. *Simhon*, S. and Gregory Dudek, “On the Elaboration of Hand-Drawn Sketches,” Active Media Technology, Hong Kong, Dec. 2001.
178. *Sim*, Robert and Gregory Dudek, “Learning Generative Models of Scene Features,” Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Hawaii, 2001, 7 pages.
179. *Rekleitis*, Ioannis, *Sim*, Robert, Milios, Evangelos and Gregory Dudek, “Collaborative Exploration for the Construction of Visual Maps,” Proceedings of IEEE/RSJ Conference on Intelligent Robots and Systems (IROS), Hawaii, 2001, 6 pages.
180. *Rekleitis*, Ioannis, *Sim*, Robert, Milios, Evangelos and Gregory Dudek, “Collaborative Exploration for Map Construction,” Proc. International Symposium on Computational Intelligence in Robotics and Automation (CIRA), Banff, Canada, 2001, 6 pages.
181. *Bourque*, Eric and Gregory Dudek, “Image-Driven Procedural Texture Specification,” Proc. Vision Interface, Ottawa, Canada, June 2001, pp. 1-6.

◁ 2002

◁ 2001

◁ 2000

182. Jenkin, Michael and Gregory Dudek, "The Paparazzi Problem," Proc. IEEE/RSJ IROS 2000, Takamatsu, Japan.
183. Rekleitis, Ioannis, Milios, Evangelos and Gregory Dudek, "Graph-Based Exploration using Multiple Robots," Proc. 5th International Symposium on Distributed Autonomous Robotic Systems (DARS), Knoxville, USA, October 2000, pp. 241-250.
184. Simhon, Saul and Gregory Dudek, "Stochastic Reconstruction from Coarse Data," Proc. Graphics Interface, Montreal, May 2000, pp. 120-126.
185. Jugessur, Deeptiman and Gregory Dudek, "Robust Place Recognition using Local Appearance-Based Methods," *Proc. of IEEE International Conference in Robotics and Automation*, San Francisco, CA, April 2000.
186. Bourque, Eric and Gregory Dudek, "On-line Construction of Iconic Maps," *Proc. of IEEE International Conference in Robotics and Automation*, San Francisco, CA, April 2000.
187. Rekleitis, Ioannis and Gregory Dudek, "Multi-Robot Collaboration for Robust Exploration," *Proc. of IEEE International Conference in Robotics and Automation*, San Francisco, CA, April 2000, pp. 3164-3169.
188. Jugessur, Deeptiman and Gregory Dudek, "Local Appearance for Robust Object Recognition," *Proc. IEEE Computer Vision and Pattern Recognition*, June 2000.
189. Polifroni, Sandra, Ferrie, Frank and Gregory Dudek, "Evaluation of Computation Attention Operators using Human Image Recognition," *Investigative Ophthalmology and Visual Science (Suppl)*, The Association for Research in Vision and Ophthalmology, May 1, 2000, pp. 196-197.
190. Sim, Robert and Gregory Dudek, "Learning and Evaluating Visual Features for Pose Estimation," *Proc. International Conference on Computer Vision*, Kerkyra (Corfu), Greece, Sept. 1999, pp. 32-40.
191. Sim, Robert and Gregory Dudek, "Learning Environmental Features for Position Estimation," *Proc. of the IEEE Workshop on Perception for Mobile Agents*, Fort Collins, Colorado, June 1999, pp. 7-14.
192. Rekleitis, Ioannis, Dujmović, Vida and Gregory Dudek, "Efficient Topological Exploration," *Proc. of IEEE International Conference in Robotics and Automation*, Detroit, MI, May 1999, pp. 676-681.
193. Sim, Robert and Gregory Dudek, "Learning Visual Landmarks for Pose Estimation," *Proc. of the IEEE International Conf. on Robotics and Automation*, Detroit, MI, May 1999, 7 pages.
194. Bourque, Eric and Gregory Dudek, "Viewpoint Selection – An Autonomous Robotic System for Virtual Environment Creation," *Proceedings IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Victoria, BC, October 1998, pp. 526-531.
195. Simhon, Saul and Gregory Dudek, "A global topological map formed by local metric maps," *Proceedings IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Victoria, BC, October 1998, pp. 1708-1714.

- 
196. Sim, Robert and Gregory Dudek, "Mobile robot localization from learned landmarks," *Proceedings IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Victoria, BC, October 1998, pp. 1060-1065.
  197. Jenkin, Michael, Milios, Evangelos and Gregory Dudek, "Topological Exploration of Unknown Environments with Multiple Robots," *Proc. of the World Automation Congress (WAC '98)*, Anchorage, Alaska, May 1998, (8 pages: proceedings on CD-ROM). (Also appears in *Robotic and Manufacturing Systems - Recent Results in Research, Development and Applications*, M. Jamshidi, F. Pierrot and M. Kamel (eds.), Volume 7, TSI Press, Albuquerque, NM, USA, 1998.)
  198. Rekleitis, Ioannis, Milios, Evangelos and Gregory Dudek, "On Multiagent Exploration," *Proc. Vision Interface*, Vancouver, BC, June 1998, pp. 455-461.
  199. Badra, Fady, Qumsieh, Ala and Gregory Dudek, "Image Registration Using Zernike Moments," *Proc. Vision Interface*, Vancouver, BC, June 1998, pp. 149-156.
  200. Dudek, Gregory, "Robotics and Empiricism," *AAAI Spring Symposium* (position paper), Stanford, CA, 1998, pp. 97-98.
  201. Bourque, Eric and Gregory Dudek, "Automated Image-Based Mapping," *Proc. IEEE Workshop on Perception for Mobile Agents*, Santa Barbara, CA, June 1998, pp. 61-70.
  202. Dudek, Gregory, "On the Integration of Mobile Robot Systems," *AAAI Spring Symposium* (long paper), Stanford, CA, 1998, pp. 20-27.
  203. Daum, Michael and Gregory Dudek, "On 3-D Surface Reconstruction Using Shape from Shadows," *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR)*, Los Angeles, CA, June 1998, pp. 461-468.
  204. Daum, Michael and Gregory Dudek, "Out of the Dark: Using Shadows to Reconstruct 3D Surfaces," *Proc. Asian Conference on Computer Vision*, (Also appears as *Springer Lecture Notes in Computer Science 1351*, Eds. G. Goos, J. Hartmanis, J. van Leeuwen), Hong Kong, China, 1998, pp. 72-79.
  205. Bourque, Eric, Ciaravola, Philippe and Gregory Dudek, "Robotic Sightseeing - A Method for Automatically Creating Virtual Environments," *Proc. IEEE International Conference on Robotics and Automation*, IEEE Press, Leuven, Belgium. May 1998, pp. 3186-3191.
  206. Simhon, Saul and Gregory Dudek, "Selecting Targets for Local Reference Frames," *Proc. IEEE International Conference on Robotics and Automation*, IEEE Press, Leuven, Belgium. May 1998, pp. 2840-2845.
  207. Bourque, Eric and Gregory Dudek, "Automated Creation of Image-Based Virtual Reality," *Proc. SPIE Proceedings on Intelligent Systems and Manufacturing*, Pittsburgh, PA, Oct. 1997, pp. 292-303.
  208. Lacroix, Simon and Gregory Dudek, "On the Identification of Sonar Features," *Proceedings IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Grenoble, France, 1997, pp. 586-592.



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209. Roy, Nicholas and Gregory Dudek, "On-line rendez-vous selection for robot exploration," Proc. American Association for Artificial Intelligence (AAAI) Workshop on On-Line Search, Providence, RI, July 1997, pp. 22-29 (also available as AAAI Report WS-97-10).
  210. Roy, Nicholas and Gregory Dudek, "Learning to Rendezvous during Multi-agent Exploration," *Proc. of the Sixth European Workshop on Learning Robots (EWLR-6)*, Brighton, UK., Aug. 1997, pp. 30-45.
  211. Rekleitis, Ioannis, Milios, Evangelos and Gregory Dudek, "Multi-Robot Exploration of an Unknown Environment: Efficiently Reducing the Odometry Error," *Proc. International Joint Conference on Artificial Intelligence (IJCAI)*, Nagoya Japan, Sept. 1997, pp. 1340-1345.
  212. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "On building and navigating with a globally topological but locally metric map," *Proc. 3rd ECPD Int. Conf. on Advanced Robotics, Intelligent Automation and Active Systems*, Bremen, Germany, 1997, pp. 132-144.
  213. Rekleitis, Ioannis, Milios, Evangelos and Gregory Dudek, "Reducing odometry error through cooperating robots during the exploration of an unknown world," *Proc. Fifth IASTED International Conference ROBOTICS AND MANUFACTURING*, June 1997, pp. 200-208.
  214. Roy, Nicholas, Daum, Michael and Gregory Dudek, "Mobile Robot Navigation: A Case Study," *Proc. American Assoc. for Artificial Intelligence National Conf. on Artificial Intelligence (AAAI)*, 1996.
  215. Daum, Michael and Gregory Dudek, "Shape from Darkness in Three Dimensions Using Information from Solar Trajectories," *Proc. US/Japan Student Forum (in affiliation with RSJ/IEEE IROS conference)*, Nagoya, Japan, 1996, 20 pages. (A travel scholarship to Japan was awarded to M. Daum based on this submission.)
  216. Ayoung-Chee, Nigel, Ferrie, Frank and Gregory Dudek, "Enhanced 3D Representation Using a Hybrid Model," *Proc. International Conf. on Pattern Recognition*, Vienna, Austria, August 1996, pp. 575-579.
  217. Dudek, Gregory, Paul Freedman, Yiannis Rekleitis, "Just-in-Time Sensing: Efficiently Combining Sonar and Laser Range Data for Exploring Unknown Worlds," *Proceedings IEEE International Conference on Robotics and Automation*, Minneapolis, MN, April 1996, v. 1, pp. 667-672.
  218. Roy, Nicholas, Freedman, Paul and Gregory Dudek, "Surface Sensing and Classification for Efficient Mobile Robot Navigation," *Proceedings IEEE International Conference on Robotics and Automation*, Minneapolis, MN, April 1996, v. 2, pp. 1224-1228.
  219. Zhang, Chi and Gregory Dudek, "Vision-based Robot Localization Without Explicit Object Models," *Proceedings IEEE International Conference on Robotics and Automation*, Minneapolis, MN, April 1996, v. 1, pp. 76-82.
  220. Ayoung-Chee, Nigel, Ferrie, Frank and Gregory Dudek, "A Hybrid Approach to 3D Representation," *Proceedings of the IEEE International Workshop on Object Representation*, Cambridge England, April 1996, pp. 202-209.

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221. Freedman, Paul, Rekleitis, Ioannis and Gregory Dudek, "Environment Mapping Using "Just-In-Time" Sensor Fusion," *Proceedings of Vision Interface*, Toronto ON, April 1996, pp. 96-103.
222. Ayoung-Chee, Nigel, Ferrie, Frank and Gregory Dudek, "Enhanced 3D Representation Using a Multiple Models," *Proc. Vision Interface*, Toronto ON, April 1996, pp. 104-109.
223. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Multi-robot landmark-based self-location and exploration," *Proc. Third Int. Symposium on Intelligent Robotic Systems (SIRS)*, Pisa, Italy, July 1995, pp. 49-56.
224. Langer, Michael, Zucker, Steven W. and Gregory Dudek, "Space occupancy using multiple shadow-images," *Proceedings IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Pittsburgh, PA, August 1995, v 1, pp. 285-290.
225. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Experiments in sensing and communication for robot convoy navigation," *Proceedings IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Pittsburgh, PA, August 1995, v 2, pp. 268-273.
226. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Exploring Graph-Like World Embedded in a Metric Map," *Proc. Vision Interface*, Quebec City, Que., July 1995, pp. 195-202.
227. Pateras, Claudia, DeMori, Renato and Gregory Dudek, "Understanding Referring Expressions in a Person-Machine Spoken Dialogue," *Proc. of the IEEE Conference of Acoustics, Speech and Signal Processing*, Detroit MI, April 1995, pp. 197-200.
228. Romanik, Kathleen, Whitesides, Sue and Gregory Dudek, "Localizing a Robot with Minimum Travel," *1995 SIAM Symposium on Discrete Algorithms (SODA)*, Jan. 1995, pp. 437-446.
229. Alami, Wassim and Gregory Dudek, "Multi-scale object representation using surface patches," *Proceedings of the International Society for Optical Engineering*, v. 2353, 1994, pp. 108-119.
230. Jenkin, Michael, Tsotsos, J. K. and Gregory Dudek, "Horopter and active cyclotorsion," *Proceedings of the International Conference on Pattern Recognition*, 1994, v. 1, pp. 707-710.
231. Freedman, Paul and Gregory Dudek, "Mapping Unknown Graph-Like Worlds," *Proceedings of the International Advanced Robotics Programme Workshop on Robotics in Space*, Montreal, Canada, July 1994, pp. 1-20.
232. Arguin, Martin, Bub, Daniel and Gregory Dudek, "Human Integration of Shape Primitives," *Proceedings of the International Workshop on Visual Form*, Capri, Italy, May 1994, pp. 130-138.
233. Arguin, Martin, Bub, Daniel and Gregory Dudek, "Dimensional Decomposition of Human Shape Recognition," *Investigative Ophthalmology and Visual Science (Suppl)*, The Association for Research in Vision and Ophthalmology, Sarasota, FL, May 1994.
234. Zhang, Chi and Gregory Dudek, "Pose Estimation From Image Data Without Explicit Object Models," *Proceedings of Vision Interface*, Banff, Alta., May 1994.

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235. MacKenzie, Paul and Gregory Dudek, "Precise Positioning Using Model-Based Maps," *Proceedings 1994 IEEE International Conference on Robotics and Automation*, San Diego, CA, May 1994, pp. 1615-1621.
  236. Hadjres, Souad, Freedman, Paul and Gregory Dudek, "Using local information in a non-local way for mapping graph-like worlds," *Proceedings of the International Joint Conference of Artificial Intelligence (IJCAI-93)*, Chambéry, France, August 1993, pp. 1639-1645.
  237. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Map validation and self-location in a graph-like world," *Proceedings of the International Joint Conference of Artificial Intelligence (IJCAI-93)*, Chambéry, France, August 1993, pp. 1648-1653.
  238. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "On the Utility of Multi-Agent Autonomous Robot Systems," *Proceedings of the International Joint Conference of Artificial Intelligence (IJCAI-93) Workshop on Dynamically Interacting Robots*, Chambéry, France, August 1993, pp. 101-108.
  239. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Robust Positioning with a Multi-Agent Robotic System," *Proceedings of the International Joint Conference of Artificial Intelligence (IJCAI-93) Workshop on Dynamically Interacting Robots*, Chambéry, France, August 1993, pp. 118-123.
  240. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "A Taxonomy for swarm robotics," *Proceedings IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Yokohama, Japan, July 1993, pp. 441-447.
  241. MacKenzie, Paul and Gregory Dudek, "Model Based Map Construction for Mobile Robot Localization," *Proceedings of Vision Interface '93*, Toronto, Ontario, July 1993, pp. 97-102.
  242. Dudek, Gregory, Michael Jenkin, Evangelos Milios, David Wilkes, "Organizational Characteristics for Multi-Agent Robotic Systems," *Proceedings of Vision Interface '93*, Toronto, Ontario, July 1993, pp. 91-96.
  243. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Multi-Transducer Sonar Interpretation," *Proceedings 1993 IEEE International Conference on Robotics and Automation*, Atlanta, GA, May 1993. pp. 392-397.
  244. Jenkin, Michael and Gregory Dudek, "A Multi-Layer Distributed Environment for Mobile Robots," *Proceedings of the International Conference on Intelligent Autonomous Systems: IAS-3*, Pittsburgh, PA, Feb. 1993. pp. 542-550.
  245. Hadjres, Souad, Freedman, Paul and Gregory Dudek, "Algorithms for Active Exploration of Unknown Environments: Using Uncertain Sensing Data to Create a Reliable Map," *Proceedings of the International Society for Optical Engineering Symposium on Advances in Intelligent Robotics Systems: Conference on Mobile Robotics VII*, Boston, MA, November 1992.
  246. Dudek, Gregory, "Shape Description and Classification using Scale-Space Measurement," *Proceedings of the Workshop on Shape in Picture*, (revised manuscript to appear in the book *Shape in Picture* published Springer Verlag), Driebergen, Holland, August 1992.

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247. Dudek, Gregory, "Shape Classification and Scale-Space Texture," *Investigative Ophthalmology and Visual Science (Suppl)*, The Association for Research in Vision and Ophthalmology, Sarasota, FL, May 1992.
248. Dudek, Gregory, "Robot Map-Making Using Weak Sensory Feedback," *Proceedings of the Workshop on Sensor-Based Mobile Robotics*, Nice, France, May 1992.
249. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Modelling Sonar Range Sensors," in *Advances in Machine Vision: Strategies and Applications*, Archibald, C. and Petriu, E. (editors) World Scientific Press, Singapore, 1992, pp. 361-370.
250. Dudek, Gregory, "Shape Metrics From Curvature Scale-Space and Curvature-Tuned Smoothing," *Proceedings of the Conference on Geometric Methods in Computer Vision*, San Diego, CA, July 1991.
251. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "The Simulation of Sonar Mapping in Complex Environments Using Multiple Reflecting Surfaces," *Proceedings of Vision Interface '91*, Calgary, Alta., July 1991, pp. 213-217.
252. Tsotsos, John K. and Gregory Dudek, "Robustly recognizing curves using curvature-tuned smoothing," *1991 IEEE Conference on Computer Vision and Pattern Recognition*, Maui, HI, July 1991, pp 35-41.
253. Dudek, Gregory, "Object Description Using Qualitative Surface Descriptors," *Proceedings the AAAI-90 Workshop on Qualitative Vision*, Boston, MA, July 1990.
254. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "The Robust Simulation of Sonar Mapping from Multiple Viewpoints," *Proceedings of the International Society for Optical Engineering Symposium on Advances in Intelligent Robotics Systems: Conference on Mobile Robotics V*, Boston, MA, November 1990, pp. 536-542.
255. Tsotsos, John K. and Gregory Dudek, "Recognizing Planar Curves Using Curvature-Tuned Smoothing" (long paper), *Proceedings of the 10th International Conference of Pattern Recognition*, Atlantic City, N.J., June 1990, pp. 130-135.
256. Tsotsos, John K. and Gregory Dudek, "Goal-directed Smoothing for the Curvature-based Segmentation of 3-Dimensional Surfaces," *Proceedings of the Canadian Society for the Computational Studies of Intelligence*, Ottawa, Ontario, May 1990, pp. 253-257.
257. Tsotsos, John K. and Gregory Dudek, "The Decomposition and Representation of Planar Curves," *Proceedings of the Conference on Curves and Surfaces in Computer Vision and Graphics*, Santa Clara, CA, February 1990.
258. Tsotsos, John K. and Gregory Dudek, "Using Curvature Information in the Decomposition and Representation of Planar Curves," In, *Active Perception and Robot Vision*, A. Sood, H. Wechsler, Eds., Springer-Verlag, 1992, pp. 527-536.

259. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Using Multiple Markers in Graph Exploration," *Proceedings of the International Society for Optical Engineering Symposium on Advances in Intelligent Robotics Systems: Conference on Mobile Robotics*, Philadelphia, PA, November 1989, pp. 77-87.
260. Jenkin, Michael, Milios, Evangelos, Wilkes, David and Gregory Dudek, "Using a Marker to Map an Unknown Environment," *Proceedings Vision Interface '89*, London, Ontario, June 1989, pp. 143-150.
261. Jenkin, Michael, Marcus, Howard and Gregory Dudek, "How to Make Friends With Number-Crunchers: Adding Single-User Array-Processor Slave environment to VAX UNIX," *Proceedings of 1986 USENIX Conference*, Atlanta, GA, June 1986, pp. 200-208.
262. Hamacher V., Carl and Gregory Dudek, Richard C. Holt, "Design of a Microcomputer-Based Central File Server," *Proceedings of the CIPS congress*, Montreal, Quebec, June 1985, pp. 176-182.
263. Swanston, Edward N., Richardson, David B., Campbell, Hugh and Gregory Dudek, "An Overview of the Metropolitan Toronto Traffic Control Computer System," *Proceedings of the 1983 International Electrical and Electronics Conference*, Toronto, Ontario, March 1983, pp. 202-208.

### Popular articles

264. Dudek, G., "Profile of a Winner: McGill University" (part of an article of the AAAI-97 mobile robotics competition), *American Association for Artificial Intelligence Magazine*, Summer, 1998 (to appear).

## Books

265. Jaydev Desai, Gregory Dudek, Oussama Khatib, Vijay Kumar (editors), "Experimental Robotics: The 13th International Symposium on Experimental Robotics," Springer, DOI 10.1007/978-3-319-00065-7, ISBN 978-3-319-00064-0, ISBN 978-3-319-00065-7 (eBook), ISSN 1610-742X (electronic), 2013.
266. Dudek, Gregory, Michael Jenkin, "Computation Principles of Mobile Robotics 2nd edition," *Cambridge University Press*, ISBN 9780521692120, 2010, 406 pages.
267. Dudek, Gregory, "Digital Television at Home: Satellite, Cable and Over-The-Air," *Y1D Books*, ISBN 978-9809915-0-5, 2008. (Another edition exists as well.)
268. Dudek, Gregory, Jenkin, Michael "Computation Principles of Mobile Robotics," *Cambridge University Press*, ISBN 0521560217, 2000, 250 pages.

## Patents

- P1 AMPHIBIOUS ROBOTIC DEVICE. I am co-inventor for US patent 7,427,220 issued Feb. 2008 and licensed by McGill University in 2010. It is related to our work on underwater vehicles.
- P2 A related Canadian patent CA 2,555,148 Amphibious Robotic Device has been filed and should be issued shortly.
- P3 PROGRESSIVELY DEGRADING SYNTHETIC MARKERS. Sole inventor. US patent application 12/122,078. I am the sole inventor and patent holder for this patent dealing with variable resolution fiducial markers.

## Selected Recent Invited Talks and Presentations (since 2010)

Most ordinary university lectures in the interval ( e.g. normal invited colloquia and seminars at universities) are not shown here except when they had particular significant or notability.

- Invited Presentation, “Learning, sensing and algorithmic problems in robotics: capacities and needs,” NSERC Workshop on building the Canadian Robotics Roadmap, Vancouver, BC, 2017.
- Invited Presentation, “Objectives, outcomes and processing in NCFRN”, IROS Workshop on Vision and learning for field robotics,” Best practices in designing effective roadmaps for robotics innovation, Vancouver, BC, 2017.
- Invited Presentation, “Vision and learning for field robotics,” Stanford University, 2017.
- Invited keynote speaker, “Robotics and machine vision for outdoors,” Callaghan Innovation (Government of New Zealand), Auckland, New Zealand, November 2015. (They also coupled this with a speaking tour to all local universities and some relevant enterprises.)
- Invited keynote speaker, “Who will look at the data: robotics and machine vision.” Beyond the line of sight conference (350 attendees, by invitation only), Auckland, New Zealand, November 2015.
- Keynote speaker, “Emerging Challenges in Field Robotics,” Conference on Computer and Robot Vision (held in conjunction with the conferences AI 2015 and Graphics Interface 2015), Halifax, NS, 2015.
- Invited speaker, “Reducing the distance between “them” and “us”,” objets handicapés – disabled objects (invited workshop on art and robotics), Concordia University/Laval University/University of Paris 8, November 2014.

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- Invited keynote speaker and panelist, “Robotics challenges and robotics in Canada,” Canadian Consulate, Boston MA, October 2014.
  - Invited keynote speaker, “Environmental assessment with robotics,” Robobusiness, Boston MA, October 2014.
  - Keynote speaker, International Conference on Robotics and Systems (IROS 2014) , “Human-guided Video Data Collection in Marine Environments,” Chicago, IL, September, 2014.
  - Invited speaker, “Robot Teams to Assist Humans in Scientific Discovery,” University of Nebraska-Lincoln, Lincoln, NE, February 2014.
  - Invited speaker, “The robots are here!” Bacon and Eggheads lectures for parliamentarians, The Partnership Group for Science and Engineering (PAGSE), Ottawa, November 28, 2013.
  - Invited speaker, “Environmental assessment with robotics,” Canadian Science Writers Association, June 2013.
  - Invited speaker, “Multi-robot and human coordination to monitor coral reef environments,” RSS 2013 Workshop on Robotics for Environmental Monitoring (WREM), June 2013.
  - Invited speaker, “Robot teams to assist humans in scientific discovery,” University of British Columbia, Vancouver, March 2013.
  - Invited colloquium and Forum for Artificial Intelligence speaker, “Robot teams to assist humans in scientific discovery,” University of Texas Austin, Texas, February 2013.
  - Invited speaker, Artificial Intelligence Research at McGill University, Consumer’s Union, Yonkers, New York, December 2012.
  - Invited speaker, “Automated video summarization and the detection of notable events,” Breaking the Surface, The International Interdisciplinary Field Workshop of Marine Robotics and Applications, Office of Naval Research-Global (ONR-Global) and the Republic of Croatia, Croatia, October 2012.
  - Invited keynote speaker, “On the Performance Evaluation of a Vision-based Human-Robot Interaction Framework,” Performance Metrics for Intelligent Systems (PerMIS 2012), University of Maryland, March 2012.
  - Invited speaker, “Data collection using both human-in-the-loop and automated summarization on the Aqua amphibious vehicle,” Monterey Bay Aquarium Research Institute (MBARI), October 2011. MBARI is one of the top three independent marine biology institutes in North America.
  - Invited keynote speaker, “Underwater Data Collection and Summarization,” IEEE 9th International Symposium on Robotics and Sensor Environments (ROSE), Conference on Computer and Robot Vision, September 2011.
  - Invited speaker, “Mission planning and endurance for underwater and harsh-terrain missions,” RSS Workshop on Autonomous long term operation (ALONE), June 2011.

- Invited speaker, “A multi-modal approach to coral reef data collection,” RSS Marine Robotics Workshop, June 2011.
- Invited speaker, “A multi-modal approach to coral reef data collection,” Computer and Robotics Vision workshop on underwater robotics, June 2011.
- Invited speaker, “Why amphibious robots have a hard time with underwater vacations,” TEDxMcGill conference (TED-licensed idea dissemination event), November 2010.
- Invited speaker, “Marine Robotics and McGill,” 2010 Maritime Autonomy Workshop, Sponsored by Defense Research and Development Canada, Sept. 2010.
- Invited keynote speaker (and also invited panelist), “Building Interfaces for Robotic Data Collection and Human-Robot Collaboration Underwater and Outdoors,” Performance Metrics for Intelligent Systems (PerMIS’10), Sponsored by the US National Bureau of Standards and Technology (NIST), August 2010.

## Selected Professional Affiliations and Activities

### National

- Organizer of the first workshop on Robotics for Canadian Industry, 2014. Sponsored by both NSERC and industrial participants (distinct from those in my strategic network), this highly successful workshop addressed issues facing the Canadian research community and it is building towards a permanent Canadian representational group for robotics researchers and developers.
- President of the Canadian Pattern Recognition and Image Processing Society.
- Speaker at the Partnership Group for Science and Engineering (PAGSE) seminar series (2013) that brings together Parliamentarians with experts in science and engineering, PAGSE an umbrella group of over 26 science and engineering organizations operating under the auspices of the Royal Society, and is supported by NSERC.
- Served NSERC as both a member of the Computer Science Grant Selection Committee (2007-2009) and the Computer Science Liaison Committee (2010-2014).
- Chair of the external advisory and assessment committee for the Department of Computer Science at Simon Fraser University, 2013.
- In the report of the review panel for the 2012 cyclic review of the School of Computer Science the reviewers found “... the School benefits from the strong leadership of its Director ...”



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### International

- General Chair of the IEEE International Conference on Robotics and Automation (ICRA) 2019.
- Co-organizer of the International Conference on Experimental Robotics 2013 (with Oussama Khatib, Stanford, Jaydev Desai, Maryland, and Vijay Kumar, U Penn, some of the most influential robotics researchers in the world).
- Member of the evaluation committee for the Computer Science department of the University of Chile (the review team had 4 members), 2015.
- Program co-chair for the International Conference on Robotics and Systems 2015 (North American program co-chair twice in the last 7 years).
- Finalist for general chair for the International Conference on Robotics and Automation 2019 (final selection process still underway with only two alternative remaining).
- Advisory board member for Robotics Science and Systems, arguably the most selective and prestigious robotics conference.
- Past co-chair, program co-chair, area chair or program committee member for essentially every major international conference on computer vision or robotics conference at some time over the last decade.
- Organizer of series of field trials and co-located scientific meetings at the Bellairs Research Institute. This is one of the few events that exploits the facility to the maximum as an experimental facility. Since their inception over 10 years ago the annual marine robotics field trials have expanded to host a range of high-impact attendees, participants, and speakers, and have expanded to a two-week long event. Notably, these events serve bring our students and post-docs into contact with some of the most illustrious figures in the field.
- External expert on Brussels/Luxembourg assessment panels, European FP7 and Horizon 2020 robotics and cognitive systems programs (STREP and IP projects, budgets between €2M and €11M each), 2009 through 2014.
- Member of the evaluation committee for Carnegie-Mellon University Qatar campus (the review team had 6 members: 2 in Business Administration, 2 education specialists, and 2 computer scientists, myself and Eric Grimson who is now Provost of MIT), 2011.

### Other

- Currently serving as elected President of the Canadian Image Processing and Pattern Recognition Society, the Canadian branch of the corresponding international body (the IAPR).
- Robotics Science and Systems, Advisory Board Member, 2011-2016.
- Program Co-Chair, IEEE International Conference on Robots and Systems (IROS), 2015.

- 2010-, elected member of Senate, McGill University.
- External Reviewer, School of Computing Science, Simon Fraser University, March 2013.
- 2010-2014, appointed member of the NSERC Computer Science liaison committee, selected to represent my discipline and endorsed by the association of chairs of computer science.
- Senior program committee member, International Joint Conference on Artificial Intelligence, 2011.
- From 2007-2009, I served a term on the Federal National Science and Engineering Research Council (NSERC) grant selection committee (331) for research in Computer Science. In 2011-2014 I served on the NSERC Computer Science Liaison committee.
- 2009-present, member of the Board of Directors, Bellairs Research Institute (non-profit company).
- Robotics Science and Systems, Program Committee, 2009,2008,2012.
- General and PC Co-chair, 13th International Symposium on Experimental Robotics, ISER 2012, June, 2012.
- External reviewer for the cyclic (7-year) review of Carnegie Mellon University, Qatar Campus, 2011.
- North American Program Co-Chair, IEEE International Conference on Robots and Systems (IROS), 2010.
- Robotics Science and Systems, Area Chair, 2005,2006,2010.
- Program Committee, IEEE International Conference on Robots and Systems (IROS), 2009.
- 2009-present, James McGill Chair of McGill University (based on similar criteria to a Canada Research Chair tier-1). I was a Dawson Scholar of McGill University from 2003-2008 (when I was named a James McGill Chair).
- North American Program Co-Chair, IEEE International Conference on Robots and Systems (IROS), 2008.
- Robotics Science and Systems, Conference Board, 2005-2009.
- 2007-2008, served on the Federal National Science and Engineering Research Council (NSERC) Grant Selection Committee (331) for research in Computer Science.
- Associate Editor for the IEEE Transactions on Robotics (2006-2008), and for the journal Machine Vision and Applications (2004-ongoing).
- Elected member and member of the Research Management Committee for PRECARN, a Federally-funded industry-university research-funding organization until I resigned in 2008 after being named Director of the School of Computer Science.
- I acted as North American regional program co-chair for the IEEE/RSJ International Conference on Robots and Systems (IROS) in both 2008 and again in 2010.

- Co-founder, Robotics Science and Systems, 2005.
- I have acted (and often serve) as a program committee member on a wide selection of major international conferences in vision, artificial intelligence and robotics, including **all major robotics conferences**, including the IEEE Conference of Robotics and Automation, the IEEE Conference of Computer Vision and pattern Recognition, the International Conference of Computer Vision, the International Joint Conference on Artificial Intelligence (IJCAI), and IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), IEEE International Conference on Intelligent Processing Systems, among many others.
- I have been an invited speaker, chairman and organizing committee member on a large selection of national and international conferences including the IFR International Symposium on Robotics (Program co-chair 2000), Vision Interface (General co-chair 2000).
- I continue to be president of the Canadian Image Processing and Pattern Recognition Society, the Canadian branch of the corresponding international body (the IAPR).
- In 2004 a commercial publicist was hired by a quasi-governmental sponsor to gauge the public impact and visibility of our research and estimated that publicity garnered for our work that year had reached over 11.5 million readers and/or television viewers.

## Illustrative Examples of Media Exposure

These are *selected illustrative items only*. **No attempt has been made at complete coverage.** In 2010 alone I was interviewed or am aware of coverage by roughly 40 media outlets. A complete enumeration would probably require an extensive effort to track articles that appear in one source and then subsequently get carried by other outlets.

- Motherboard (Vice Media LLC), Interview on the future of robotics vis-a-vis Terminator, “We Asked a Robotics Expert to Break Down the ”Terminator: Genisys” Trailer,” December, 2014, <http://goo.gl/UgchSR>
- Discovery Channel, Interview for Daily Planet segment on Multi-Terrain robots, February 7, 2014
- Article on Canadian robotics innovation, “Canadian Robotics Turns a New Leaf,” Robotics Business Review, January 18, 2014.
- Article on advances in robotics, “Canadian Polar Commission: A Gateway for Northern Research,” Artic Journal, issue Jan-Feb 2014.
- Interview for Global News, “McGill robotics gets 5 million boost,” February 8, 2013.
- Short interview (5 minutes) on CBC Radio Noon regarding the impact and life of Steve Jobs, October 2011, available at <http://www.cbc.ca>: <http://goo.gl/2CQjkZ>

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- Interview for Global News on IBM's Watson machine learning project, February 15, 2011.
  - Live interview on our robotics field trials with David Bronstetter, CBC All in a Weekend, January 2011.
  - Long interview with Canal Savoir on our robotics research, "Aqua le robot sous-marin de McGill," June 2011 and November 2011. Available on-line at <http://www.canal.qc.ca>: <http://goo.gl/ge59kn>
  - Short research profile in the context our exhibit of our technologies at the G20 summit, described and carried by Sun newspapers: Winnipeg Sun, Toronto Sun, Kingston Whig Standard, Edmonton Sun, Calgary Sun, Journal de Montreal (Coverage in English and French), e.g. <http://www.torontosun.com/news/canada/2010/07/01/14577971.html>
  - Article regarding Aqua underwater robotics technologies, "Aqua2 underwater robot," July 2011, designboom, on-line news site. <http://www.designboom.com/weblog/cat/16/view/10777/aqua2-underwater-robot.html>
  - Article regarding Aqua underwater robotics technologies, July 2011, Green Diary, India. Available on-line at <http://www.greendiary.com>: <http://goo.gl/jAuf7Y>. Based on the article (above) in Designboom.
  - McGill Headway magazine, writeup on robotics activities in my lab, Summer 2009 (part of "33 Ways McGill Research ... [has impact]").
  - Extended interview regarding the future of robotics and artificial intelligence, TV5, Fall 2008 (to air in 2009).
  - Brief interview, CTV National News with Lloyd Roberston (with a report by CTV's Jed Kahane), "Japanese companies rush to get robots into homes," June 21 2008. (Also appears in print form on the CTV.ca web site.)
  - Extended interview regarding underwater robotics, and related field trials, Discovery Channel, Feb. 2007 (rebroadcast at regular intervals).
  - Article on funding for robotics research, "McGill's research funds for robotic studies drying up," Montreal Gazette, Jan. 9, 2007.
  - Featured in article "Canadian robotics project makes waves," Jack Kapica, Globe and Mail, Jan. 23, 2004.
  - Television interview (approx. 15 min.) Discovery.ca program, Discovery Channel, Sept. 2001.
  - Television interview (23 min. air time), Technofollies, March 2000.
  - Live interview, CBC Daybreak with Peter Downey, 2000.
  - Live interview, CBC Quebec AM with Jackie Chernine, 2000.
  - Live interview, CBC As It Happens Jennifer Westoway, 2000.

- Live interview, CBC Daybreak with David Bronsteader, 2000.
- Televised commentary, Canadian Political Affairs Channel (CPAC), March 31, 1999.
- Videotaped interview and demonstration, Alamadon Productions, for use on the Discovery Channel “Lifespace” series. First aired March 1999.
- Live radio interview, WORT-FM, July 1998.
- Radio interview, Madison Public Radio (National public radio affiliate), July 1998.
- Live television interview, Madison, WI channel 3 morning news and public affairs show, July 1998.
- Interview and demonstration aired on CTV “NewsWatch” television news program, July 1998.
- Interview and demonstration aired on CTV National television news, July 1998.
- Interview and citation, Madison WI daily times (newspaper), July 1998.
- Font-page article, Westmount Examiner newspaper, July 1998.
- Interview with New York Times correspondent (Peter Lewis) re. the current state of mobile robotics research (attribution appeared as part of a large article, page E1, Aug. 6, 1998 ), August 1998.
- Live interview, CBC radio “Homerun” show, July 1998.
- Interview for the McGill development office, May 1998.
- Interview and demonstration with “Quebec pix-pro Inc.” for use on the television program “Anima” (and, potentially, other programming), Winter 1997 - Spring 1998.
- Demonstration and screenplay consulting for the syndicated television program “Popular Mechanics for Kids”, first broadcast in 1998.
- Coverage (large page 3 article) in the Montreal Gazette, July 1997.
- Interview with CTV television on mobile robotics for use in story for Nightly News, June 1996.
- Sponsorship, mentoring and assistance to the McGill Mobile Robotics Team taking part on AAAI mobile robotics competition. This event was filmed to be part of a Scientific American Frontiers program on PBS, August 1996.
- Interview (with live demonstrations on video) with Next Step Media Inc. for educational documentary series on Robotics and Artificial Intelligence in Canada, Sept. 1994.
- Subject of a feature article (with a collaborator) in the popular science magazine “Quebec Science”, 1993.
- Interview (with video footage) on CBC National News, 1993.
- Interview (with video footage) on CTV Newswatch, Sept. 1992.



Figure 1: Media and outreach: in addition to speaking at schools and public events, I have appeared in the public media regularly. (a) Global TV in-studio interview 2012, (b) CBC news 2013 (broadcast nationally from McGill), (c) TEDx talk (d) Global TV 2014. (d) Nationally broadcast interview (shot in my own dining room) on the explosive growth of robotics, 2014., (e) Our network in CTV news 2014, (f) Federal science minister Goodyear visiting our lab

## Professional Societies and Meetings

Selected roles on research-related organizing committees (illustrative examples since 2009 only).

- Awards Co-Chair, IEEE International Conference on Robots and Systems (IROS), 2017.
- Program committee member, IEEE International Conference on Robots and Systems (IROS), 2017.
- Area chair, Computer and Robot Vision (CRV), 2017.
- Robotics Science and Systems, Advisory Board Member, 2011-2016.
- Program Co-Chair, IEEE International Conference on Robots and Systems (IROS), 2015.
- Robotics Science and Systems, Program Committee, 2009,2008,2012.
- Guest co-editor, International Journal of Robotics Research, Volume 33 Issue 4, 2014.
- General and PC Co-chair, 13th International Symposium on Experimental Robotics, ISER 2012, June, 2012.
- North American Program Co-Chair, IEEE International Conference on Robots and Systems (IROS), 2010.
- Robotics Science and Systems, Area Chair, 2005,2006,2010.

- Program Committee, IEEE International Conference on Robots and Systems (IROS), 2009.
- North American Program Co-Chair, IEEE International Conference on Robots and Systems (IROS), 2008.
- Robotics Science and Systems, Conference Board, 2005-2009.
- Program Committee, IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2003.
- Member, Board of directors, Association for Computing Machinery Special Interest Group in Computer Graphics (SIGGRAPH) Montreal Chapter, 2001-2002.
- Program Committee, Neural Information Processing Conference (NIPS), 2003.
- Program Committee, IEEE/RSJ Intl. Conference on Intelligent Robots and Systems (IROS), and Automation, 2003.
- Program Committee, IEEE Workshop on Applications of Computer Vision, 2002.
- Member, Board of directors, Association for Computing Machinery Special Interest Group in Computer Graphics (SIGGRAPH) Montreal Chapter, 2002-2003.
- Founding committee, Association for Computing Machinery Special Interest Group in Computer Graphics (SIGGRAPH) Montreal Chapter, 2001-2002.
- Program Committee, IEEE International Conference of Robotics and Automation, 2001.
- Program Committee, 4th INTERNATIONAL WORKSHOP ON VISUAL FORM, Capri, Italy, May 28-30, 2001.
- General Co-chair, Vision Interface, 2000.
- Program committee, International Conference on Intelligent Multimedia and Distance Education, June 2001.
- Program Co-chair, International Symposium on Robotics, Montreal, 2000.
- Program Committee, IEEE International Conference of Robotics and Automation, 2000.
- Program Committee, 2001 IEEE International Symposium on Computational Intelligence in Robotics and Automation (IEEE CIRA 2001).
- Scientific Committee, 4th International Workshop on Visual Form, Capri, Italy, May 28-30, 2001.
- Program Committee, International Conference on Computer Vision, September 1999.
- Co-Chair of the 2nd IEEE workshop on perception for mobile agents, June 1999.
- Program Committee, 3rd European Workshop on Advanced Mobile Robots, 1999.
- Program committee, Vision Interface 1994, 1995, 1996, 1997, 1999.

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- Program Committee, IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM'99), 1999.
  - Program Committee, IEEE International Conference of Robotics and Automation, 1999.
  - Co-chair, American Association for Artificial Intelligence (AAAI) Mobile Robotics Competition (in association the AAAI-98 conference), Aug. 1998.
  - Co-chair, AAAI Workshop on Mobile Robotics, Aug. 1998.
  - General Chair of the 1998 IEEE Workshop on Perception for Mobile Agents (WPMA), June 1998.
  - Member of the Canadian Bid committee to host the International Symposium on Industrial Robotics in Montreal (other members include 6 other academics representing 5 Universities and representatives from major Canadian high-technology concerns), 1997-1998.
  - Chairman of the committee of the Design of a Research Oriented Climbing Robot (Research Climber), PRECARN ACROBAT project, 1995. Involving representatives from AECL, Ontario Hydro, Inuktun Technologies, McGill University (Computer Science, Electrical Engineering, Mechanical Engineering), University of Toronto (Computer Science), York University (Computer Science), University of British Columbia (Computer Science). Charged with proposing a design, strategy and methodology for a large project on new technologies for climbing robots.
  - Co-organized a symposium on Computer Vision in 1992. It was targeted to introducing computer vision technology to industry at both a tutorial and state-of-the-art level. This symposium had over 100 attendees and involved the collaboration of speakers from McGill, CRIM, Laval University and Ecole Polytechnique.
  - Reviewing for the IEEE transactions on Pattern Analysis and Machine Intelligence, Transactions of the IEEE, the Journal of Visual Communication and Image Processing, IEEE Computer Journal, the International Conference on Computer Vision, the Conference on Computer Vision and Pattern Recognition, IEEE Transactions on Robotics and Automation, Neural Information Processing Systems (NIPS), IEEE Conference on Robotics and Automation, the International Joint Conference of Artificial Intelligence, the International Conference on Pattern Recognition, and the IEEE International Conference on Intelligent Robots and Systems (IROS).
  - Program committee, IEEE International Conference on Intelligent Processing Systems, 1997.
  - Faculty participant, CIM "web team" involved in electronic publicity over the internet, 1995.
  - Invited speaker, Conference on Vision and Geometry, Sept. 1995. Leo Guibas (Stanford University), organizer.
  - Official lab open house (tours and demos) for participants at the International Joint Conference on Artificial Intelligence, Aug. 1995.
  - Conducted a half-day tour and seminar (held at CIM) on computer science, robotics and artificial intelligence at McGill, Sept. 1994. Speakers were from Computer Science and Electrical Engineering.
  - Steering committee member, IEEE workshop on human-machine interaction (Ro-Man 94), July 1994.



- Member of the IEEE and ACM.