

Curriculum Vitae

Raymond G. Gosine, B.Eng., Ph.D., FCAE, FEC, P.Eng.

PERSONAL INFORMATION:

Place of Birth: St John's, Newfoundland

Home Address: 6 Long Pond Road, St John's, Newfoundland, A1B 1N7, Canada

Work Address: Faculty of Engineering and Applied Science, Memorial University of Newfoundland, St John's, Newfoundland, A1B 3X5, Canada

POST-SECONDARY EDUCATION:

- Memorial University of Newfoundland, General Arts and Science, 1979-81
- Memorial University of Newfoundland, B.Eng.(Electrical) 1982-86.
- Cambridge University, England, Ph.D. (Robotics) 1986-89.

POST-GRADUATE EMPLOYMENT:

- Research Associate in Engineering, Cambridge University, 1990-91
- Assistant Professor of Mechanical Engineering and NSERC Jr. Chair of Industrial Automation, University of British Columbia, 1991-94
- Assistant Professor of Electrical and Computer Engineering and Director of Intelligent Systems (C-CORE), Memorial University of Newfoundland, 1994-97
- Associate Professor of Electrical and Computer Engineering and Director of Intelligent Systems (C-CORE), Memorial University of Newfoundland, 1997-01
- Interim Associate Dean (Graduate Studies and Research), Faculty of Engineering and Applied Science, Memorial University of Newfoundland, 2002
- Dean and Professor of Electrical and Computer Engineering, Faculty of Engineering and Applied Science, Memorial University of Newfoundland, 2003-08
- Acting Associate Vice-President Research, Memorial University of Newfoundland, March - October 2008 and September 2010 - May 2011.
- Vice-President Research (pro tempore), Memorial University of Newfoundland, October 2008 - September 2010 and September 2014 - April 2015.
- Professor of Electrical and Computer Engineering, Memorial University of Newfoundland, since 2001.
- J.I. Clark Chair of Intelligent Systems for Operations in Harsh Environments, Memorial University of Newfoundland, 2001-2004 and since 2011.
- Associate Vice-President (Research), Memorial University of Newfoundland, since 2011.

AWARDS AND DISTINCTIONS:

- APEGN Anniversary Silver Medal, Memorial University, 1986.
- NSERC Post-graduate Scholarship, Government of Canada, 1986-89.

- Overseas Research Award, Government of Great Britain, 1986-89.
- Powrie Scholarship, Selwyn College, University of Cambridge, 1986-89.
- Research Scholar, Selwyn College, University of Cambridge, 1986-89.
- Research Fellow/Bye-Fellow, Selwyn College, University of Cambridge, 1988-91.
- Visiting Scholar, Lund University, Sweden, 1990-91.
- NSERC Jr. Chair of Industrial Automation, UBC, 1991-94.
- President's Award for Outstanding Research, Memorial University, 1997.
- Petro-Canada Young Innovator Award, Memorial University, 1998.
- APEGN Early Achievement Award, 1998.
- J.I. Clark Chair of Intelligent Systems for Operations in Harsh Environments, 2001.
- Fellow, Engineers Canada, 2011.
- Fellow, Canadian Academy of Engineering, 2014

PUBLICATIONS (selected publications)

Published Research Contributions

Book Chapters

Development of an Autonomous Visual Perception System for Robots using Object-based Visual Attention”, in *Recent Advances in Mobile Robotics*, InTech Publisher, 2012 (with Yu, and Mann).

An Approach to Multi-Robot Cooperation Under Human Supervision, in *The Ocean Engineering Handbook*, The CRC Press, 2001 (with Rokonuzzaman, Hale, Hwang, King, and Seshadri) .

The Application of Image Processing Technology to the Detection of Shell and Cartilage in Snow Crab Salad Meat, in *Seafood in Health and Nutrition*, ScienceTech Publishing Company, 2000 (with Guzzwell, Rokonuzzaman and Hale).

Intelligent Automation of Herring Roe Grading, in *Intelligent Adaptive Control: Industrial Applications*, The CRC Press, 1999 (with Kurnianto, de Silva, and Croft)

Journal Papers (refereed)

Nguyen, T., Mann, G., Gosine, R., Vardy, A. “Appearance-based visual teach and repeat navigation technique for micro aerial vehicle”, *Journal of Intelligent and Robotic Systems* (accepted as a regular paper to appear in 2016).

Worthmann, K., Mehrez, M., Zanon, M., Mann, G., Gosine, R., Diehl, M. (2015). “Model predictive control of nonholonomic mobile robots without stabilizing constraints and costs”, *IEEE Transactions on Control Systems Technology* (in press).

De Silva, O., Mann, G., Gosine, R. (2015). “An ultrasonic and vision-based relative positioning sensor for multi-robot localization”, *IEEE Sensors Journal* (in press).

Wanasinghe, T., Mann, G., Gosine, R. (2015). “Distributed leader-assistive localization method

for a heterogeneous multirobotic system”, IEEE Transaction on Automation Science and Engineering, 12(3): 795-809.

Wanasinghe, T., Mann, G., Gosine, R. (2014). “Relative localization approach for combined aerial and ground robotic system”, Journal of Intelligent and Robotic Systems, DOI 10.1007/s10846-014-0094-x.

Yu, Y., Mann, G., Gosine, R. (2013). “Development and evaluation of object-based visual attention for automatic perception of robots”, IEEE Transactions on Automation Science and Engineering, 10(2):365-379.

Yu, Y., Mann, G., Gosine, R. (2012). “ A single-object tracking method for robots using object-based visual attention”, International Journal of Humanoid Robotics, 9(4):DOI:10.1142/S0219843612500302.

Yu, Y., Mann, G., Gosine, R. (2012). “A goal-directed visual perception system using object-based top-down attention”, IEEE Trans on Autonomous Mental Development, 4(1):87-103.

Jayasiri, A., Mann, G., Gosine, R. (2012). “Modular and hierarchical supervisory control of fuzzy discrete event systems”, IEEE Trans. on Automatic Science and Engineering, 9(2):353-364.

Jayasiri, A., Mann, G., Gosine, R. (2012). “Generalizing the decentralized control of fuzzy discrete event systems”, IEEE Trans. on Fuzzy Systems, 20(4):699-714.

Jayasiri, A., Mann, G., Gosine, R. (2011). “Behavior coordination of mobile robotics using supervisory control of fuzzy discrete event systems”, IEEE Trans on Systems Man & Cybernetics-Part B: Cybernetics, 45(5):1224-1238.

Yu, Y., Mann G, Gosine, R. (2010) “An object-based visual attention model for robotic applications”, IEEE Transactions on Systems Man and Cybernetics, Part B: Cybernetics, 40(0):1398-1412.

Begum, M., Karray, F., Mann, G., Gosine, R. (2010) “A probabilistic model of overt visual attention for cognitive robots”, IEEE Transactions on Systems Man and Cybernetics, Part B: Cybernetics , 40(5) :1305-1318.

Amarasinghe, D., Mann, G., Gosine, R. (2009) “Land mark detection and localization for mobile robot applications; a multi-sensor approach”, Robotica, 28(5):663-673.

Huq, R., Mann, G., Gosine, R. (2008) “Mobile robot navigation using motor schema and fuzzy context dependant behaviour modulation”, Applied Soft Computing Journal, 8(1):422-436.

Begum, M., Mann, G. Gosine, R. (2008). “Integrated fuzzy logic and genetic algorithmic approach for simultaneous localization & mapping for mobile robots”, Applied Soft Computing Journal, 8(1):150-165.

Begum, M., Mann, G., Gosine, R. (2007). “An evolutionary SLAM algorithm for mobile robots”, Advanced Robotics, 21(9):1031-1050.

- Amarasinghe, D., Mann, G. Gosine, R. (2007). "Vision-based hybrid control scheme for autonomous parking of a mobile robot", *Advanced Robotics*, 21(8)905-930.
- Huq, R., Mann, G., Gosine, R. (2006). "Behaviour modulation technique in mobile robotics using fuzzy discrete event system", *IEEE Transaction on Robotics*, 22(5):903-916.
- Huq, R., Mann, G., Gosine, R. (2006). "Distributed fuzzy discrete event system for robotic sensory information processing", *Expert Systems*, 23(5):280-296.
- Mann, G., Gosine, R. (2005), "Three-dimensional min-max gravity based fuzzy PID inference analysis and tuning" *Fuzzy Sets and Systems*, 156:300 – 323.
- McFarlane, W., Cubitt, F., Williams, H., Rowsell, D., Moccia, R., Gosine, R., McKinley, R. (2004). "Can feeding status and stress level be assessed by analyzing patterns of muscle activity in free swimming rainbow trout ?", *Aquaculture*, 239:467-484.
- King, J., Pretty, R., Gosine, R. (2003). "Coordinated execution of tasks in a multi-agent environment", *IEEE Transactions on Systems, Man and Cybernetics*, 33(5):615-620.
- King, J., Delaney, B., Gosine, R., Norvell, T., O'Young, S. (2003). "Discrete event control and dynamic scheduling for telerobotic mining", *Canadian Institute of Mining (CIM) Bulletin*, 96(1069).
- Mann, G., Gosine, R. (2002). "Adaptive hierarchical tuning of fuzzy controllers", *International Journal of Knowledge Engineering and Neural Networks*, 19(1):34-45.
- Mohamed, A., Antia, H., Gosine, R. (2002) "Water flow in unsaturated soils in microgravity environment," *J. of Geotechnical and Geoenvironmental Engineering*, 128(10):814-823.
- Mann, G., Hu, B., Gosine, R. (2001). "Time-domain based design and analysis of new PID tuning rules", *IEE Proceedings – Control Theory and Applications*, 148(3):34-45.
- Mann, G., Hu, B., Gosine, (2001). R. "Two-level tuning of fuzzy PID controllers", *IEEE Trans. on System, Man, and Cybernetics Part B: Cybernetics*, 31:263-269.
- Hu, B., Mann, G., Gosine, R., (2001). "A systematic study of fuzzy PID controllers – function-based evaluation", *IEEE Transactions on Fuzzy Systems*, 9(5):699-712 .
- LeFeuvre, P., Rose, G., Gosine, R., Hale, R., Pearson, W., Khan, R., (2000). "Acoustic species identification in the northwest Atlantic using digital image processing", *Fisheries Research*, 47:137-147.
- Hu, B., Mann, G., Gosine, R. "Control curve design for nonlinear (or fuzzy) proportional control action using spline-based functions", *Automatica*, 34(9):1125-1133.
- Mann, G., Hu, B., Gosine, R. (1999). "Analysis of direct action fuzzy PID controller structures", *IEEE Trans. on System, Man, and Cybernetics Part B: Cybernetics*, 29(3):371-388.

- Hu, B., Mann, G. Gosine, R., (1999). "New methodology for analytical and optimal designs of fuzzy PID controllers", *IEEE Transactions on Fuzzy Systems*, 7(5): 521-539.
- Tomilson, A., Quaicoe, J., Gosine, R., Hinchey, M., Bose, N. (1998). "Application of a static VAR compensator to an autonomous wind-diesel system", *Wind Engineering*, 22(3)131-142. (also presented at the AWEA-CanWEA Wind-Diesel Workshop).
- Hu, B., Gosine, R., Cao, L., deSilva, C.W. (1998). "Application of a fuzzy classification technique in computer grading of fish products", *IEEE Journal of Fuzzy Systems*, 6(1):144-152.
- Hu, B., Gosine, R. (1997). "A new eigenstructure method for sinusoidal signal retrieval in broad band noise - estimation and pattern recognition", *IEEE Transactions on Signal Processing*, (45)12:3073-3083.
- Harwin, W., Gosine, R., Kazi, Z., Lees, D., Dallaway, J. (1997). "A comparison of rehabilitation robotics languages and software", *Robotica*, 15(2): 133-151.
- Gamage, L., Gosine, R., deSilva, C. (1996). "Extraction of rules from natural objects for automated mechanical processing", *IEEE Transactions on Systems, Man and Cybernetics*, 20(1)105-120.
- Birch, G., Fengler, M., Gosine, R., Schroeder, K. (1996). "An assessment methodology and its application to a robotic vocational assistive device", *Journal of Technology and Disability*, 151-165.
- Kose, E., Gosine, R., Dunwoody, A., Calisal, S. (1995). "An expert system for monitoring dynamic stability of small craft", *IEEE Journal of Oceanic Engineering*, 20(1):13-22.
- deSilva, C., Gamage, L., Gosine, R. (1995). "An intelligent firmness sensor for an automated herring roe grader", *Intelligent Automation and Soft Computing*, 1(1): 99-114.
- Mikelberg, F., Parfitt, C., Swindale, N., Graham, S., Drance, S., Gosine, R. (1995). "The ability of the Heidelberg retina tomograph to detect early glaucomatous visual field loss", *Journal of Glaucoma*, 4:242-247.
- Romilly, D., Anglin, C., Gosine, R., Hershler, C., Raschke, S. (1994). "A functional task analysis and motion simulation for the development of a powered upper-limb orthosis", *IEEE Transactions on Rehabilitation Engineering*, 2(3):119-129.
- Dallaway, J., Mahoney, R., Jackson, R., Gosine, R. (1993). "An interactive robot control environment for rehabilitation applications", *Robotica*, 11:541-551.
- deSilva, C., Gosine, R., Wu, Q., Wickramarachchi, N., Beatty, A. (1993). "Flexible automation of fish processing", *Engng. Applic. Artif. Intell.*, (6)2:165-178.
- Gosine, R., Mahoney, R., Gatiss, J., Jackson, R., Dargie, G., Gibson, J., Scott, D., Jones, T. (1992). "Interactive robotics to aid physically disabled people in manufacturing tasks", *I.Mech.E. - J. Eng. Manuf.*, (4):241-245.
- Gosine, R., Harwin, W., Furby, L., Jackson, R. (1989). "An intelligent end-effector for a

rehabilitation robot". J. Med. Eng. Tech., (13)1/2:37-43.

Conference Papers (refereed)

Wanasinghe, T., Mann, G., Gosine, R. (2015). "Stability analysis of the discrete-time cubature Kalman filter", 54th IEEE Conf. on Decision and Control, Osaka, Japan.

Worthmann, K., Mehrez, M., Zanon, M., Mann, G., Gosine, R., Diehl M. (2015). "Regulation of differential drive robots using continuous time MPC without stabilizing constraints or costs", 5 IFAC Conf. on Nonlinear Model Predictive Control (NMPC 2015), Seville, Spain

De Silva, O., Mann, G., Gosine, R. (2015). "Efficient distributed multi-robot localization: A target tracking inspired design", IEEE Int. Conf. on Robotics and Automation (ICRA '15), Seattle, USA.

De Silva, O., Mann, G., Gosine, R. (2014). "Pairwise observable relative localization in ground aerial multi-robot networks", 2014 European Control Conference (ECC), Strasbourg, France.

Wanasinghe, T., Mann, G., Gosine, R. (2013). "Pseudo-linear measurement approach for heterogeneous multi-robot relative localization", 16th Int. Conf. on Advanced Robotics (ICAR), Montevideo, Uruguay.

de Silva, O., Mann, G., Gosine, R. (2013). "Automated tuning of the nonlinear complementary filter for an attitude heading reference observer", IEEE Workshop on Robot Vision, (WORV), Clearwater, USA.

de Silva, O., Mann, G., Gosine, R. (2012). "Development of a relative localization scheme for ground-aerial multi-robot systems", IEEE Int. Conf. on Intelligent Robotics and Systems (IROS '12), Algarve, Portugal.

Jayasiri, A., Mann, G., Gosine, R. (2012). "A general architecture for decentralized supervisory control of fuzzy discrete event systems", American Control Conference (ACC), Montreal, Canada.

Jayasiri, A., Mann, G., Gosine, R. (2011). "Tightly-coupled multi robot coordination using decentralized control of fuzzy discrete event systems", IEEE Int. Conf. on Robotics and Automation (ICRA'11), Shanghai, China.

Jayasiri, A., Mann, G., Gosine, R. (2011). "Hierarchical supervisory control of fuzzy discrete event systems", American Control Conf. (ACC), San Francisco, USA.

Yu, Y., Mann, G., Gosine, R. (2010). "Target tracking for moving robots using object-based visual attention", IEEE/ Int. Conf. on Intelligent Robotics and Systems (IROS '10), Taipei, Taiwan.

Gamage, G., Mann, G., Gosine, R. (2010). "Leader follower based formation control strategies for nonholonomic mobile robots: design, implementation and experimental validation", American Control Conference, Baltimore, USA.

Jayasiri, A., Mann, G., Gosine, R. (2010). "Decentralized modular control of concurrent fuzzy discrete event systems", American Control Conference, Baltimore, USA.

Jayasiri, A., Mann, G., Gosine, R. (2009). "Mobile robot behavior coordination using supervisory fuzzy discrete event systems, IEEE Int. Conf. on Intelligent Robotics and Systems (IROS '09), St. Louis, USA.

Gamage, G., Mann, G., Gosine, R. (2009). "Discrete event systems based formation control framework to coordinate multiple nonholonomic mobile robots", IEEE Int. Conf. on Intelligent Robotics and Systems (IROS '09), St. Louis, USA.

Jayasiri, A., Mann, G., Gosine, R. (2009). "Mobile robot navigation in unknown environments based on supervisory control of partially-observed fuzzy discrete event systems", IEEE Int. Conf. on Advanced Robotics (ICAR '09), Munich, Germany.

Gamage, G., Mann, G., Gosine, R. (2009). "Formation control of multiple nonholonomic mobile robots via dynamic feedback linearization", IEEE Int. Conf. on Advanced Robotics (ICAR '09), Munich, Germany.

Begum, M., Karray, F., Mann, G., Gosine, R. (2008) . "A probabilistic approach for attention-based multi-modal human-robot interaction", IEEE Int. Symposium on Robot and Human Interactive Communication, Toyama, Japan.

Begum, M., Karray, F., Mann, G., Gosine, R. (2008). "Re-mapping of visual saliency in overt attention: A particle filter approach for robotic systems", IEEE Int. Conf. on Robotics and Biomimetics, Bangkok, Thailand.

Begum, M, Mann, G., Gosine, R., Karray, F. (2008). "Object-and space-based visual attention: An integrated framework for autonomous robots", IEEE Int. Conf. on Intelligent Robotics and Systems (IROS '08), Nice, France.

Arvani, F., Mann, G., Fisher, A., Gosine, R. (2008). "Range estimation using TDL neural networks and application to image-based visual servoing", IEEE Conf. on Soft Computing in Industrial Applications, CMCia08, Muroran, Japan.

Yu, Y., Mann, G., Gosine, R. (2007). "An object based visual attention model for robots," IEEE Int. Conf on Robotics and Automation (ICRA '08), California, USA.

Amarasinghe, D., Mann, G., Gosine, R. (2008). "Integrated laser-camera sensor for detection and localization of landmarks for robotic applications", IEEE Int. Conf on Robotics and Automation (ICRA '08), California, USA.

Amarasinghe, D., Mann, G., Gosine, R. (2008). "Dynamic object identification by a moving robot using laser data", International Federation of Automatic Control World Congress (IFAC '08), Seoul, Korea.

Amarasinghe, D., Mann, G., Gosine, R. (2008). "Robust landmark detection and localization: A multisensory approach", International Federation of Automatic Control World Congress (IFAC 08), Seoul, Korea.

Yu, Y., Mann, G., Gosine, R. (2007). "Task-driven moving object detection for robotics using visual

attention”, IEEE-RAS Int. Conf on Humanoid Robots, Pittsburgh, USA.

Yu, Y, Mann, G., Gosine, R. (2007). “A task-driven object based attention model for robots”, IEEE International Conference on Robotics and Biomimetics, Beijing, China.

Begum, M., Mann, G. Gosine, R. (2006). “A biologically plausible Bayesian model of visual attention for humanoid robots” , IEEE-RAS Int. Conf. on Humanoid Robots, Genova, Italy.

Huq, R., Begum, M., Mann, G. Gosine, R. (2006). “A biased competitive model of humanoid visual attention using fuzzy discrete event systems” IEEE Int. Conf. on Robotics and Biomimetics (ROBIO 2006), Kunming, China.

Amarasinghe, D., Mann, G., Gosine, R. (2006). “Moving object detection in indoor environments using laser range data”, IEEE/ Int. Conf. on Intelligent Robotics and Systems (IROS '06), Beijing, China.

Huq, R., Mann, G., Gosine, R. (2006). "A behavior-based control of an object-pulling robot using fuzzy discrete event system", IEEE/ Int. Conf. on Intelligent Robotics and Systems (IROS '06), Beijing, China.

Begum, M., Mann, G., Gosine, R. (2006). "An evolutionary SLAM algorithm for mobile robots", IEEE/ Int. Conf. on Intelligent Robotics and Systems (IROS '06), Beijing, China.

Begum, M., Mann, G., Gosine, R. (2006). “A fuzzy-evolutionary algorithm for simultaneous localization and mapping of mobile robots”, IEEE Congress on Evolutionary Computation, Vancouver, Canada.

Huq, R., Mann, G. Gosine R. (2006). “Behavior-based robot control using fuzzy discrete event system”, IEEE Int. Conf. on Fuzzy Systems, Vancouver, Canada.

Huq, R., Mann, G., Gosine, R. (2005). “Fuzzy discrete event system based behavior modulation in mobile robotics”, IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS05), Edmonton, Canada.

Begum, M., Mann, G., Gosine, R. (2005). “Concurrent mapping and localization for mobile robot using soft computing techniques”, IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS 05) Edmonton, Canada.

Amarasinghe, D., Mann, G., Gosine, R. (2005). “Vision-based hybrid control strategy for autonomous docking of a mobile robot”, IEEE Conf. on Control Applications (CCA05), Toronto, Canada.

Huq, R., Mann, G., Gosine, R. (2004). "Integrated motion planning for indoor mobile robots using motor schema and adaptive fuzzy behavioral modulation", IEEE IROS, Sendai, Japan.

Huq, R., Gosine, R., Mann, G. (2004). "An Integrated Approach for Multilane Robot Motion Planning Using Motor Schema and Fuzzy Logic", IEEE SMC, The Hague, The Netherlands.

King, J., Pretty, R., Brothers, B., Gosine, R. (2003). “A telerobotic management system –

coordinating multiple human operators with multiple robots”, SPIE Conference on Unmanned Ground Vehicle Technology, Florida, USA.

McFarlane, W., Cubitt, F., Williams, H., Rowsell, D., Moccia, R., Gosine, R., McKinley, R. (2002). “Development of an automated reasoning system by monitoring activity levels in rainbow trout”. American Soc. Limnology & Oceanography Summer Meeting, Victoria, Canada.

King, J., Delaney, B., Gosine, R., Norvell, T., O’Young, S. (2001). “ Discrete event control and dynamic scheduling for telerobotic mining”, MineSpace 2001, Quebec City, Canada.

Gosine, R., Hale, R., Hwang, F., King, J., Seshadri, J. (2001). “A general framework for group robotics for applications in mining”, IARP Workshop on Advances in Robotics for Mining and Underground Applications, Brisbane, Australia.

Zhao, X., Gosine, R., Davis, S., Lefevre, P., Sinclair, I., and Burden, E. (2000). “Automated image analysis for applications in reservoir engineering”, International Conference on Knowledge-based Intelligent Engineering Systems and Allied Technologies, Brighton, UK.

Hwang, F., King, J., Rokonuzzaman, M., Hale, R., Gosine, R., Norvell, T., O’Young, S., Fisher, A. (2000). “Discrete event control of mobile robotic systems with potential applications in healthcare”, World Congress on Medical Physics and Biomedical Engineering, Chicago, USA.

Rokonuzzaman, M., Hale, R., Hwang, F., King, J., Gosine, R. (2000). “Modeling, controlling and monitoring telerobotics based mine operations as discrete event systems”, 31st International Symposium on Robotics, Montreal, Canada.

Rokonuzzaman, M., Hale, R., Gosine, R. (1999). “Modeling of intelligent mediation system of sensori-motor augmented reality for telerobotics Using Discrete Event Formalism”, SPIE Conference on Mobile Robots and Autonomous Systems, Boston, USA.

Rokonuzzaman, M., Hale, R., Gosine, R. (1999). “Discrete event modeling of coordinated navigation of multiple mobile robots”, SPIE Conference on Mobile Robots and Autonomous Systems, Boston, USA.

Hale, R., Rokonuzzaman, M., Gosine, R. (1999). “Control of mobile robots in unstructured environments using discrete event modeling”, SPIE Conference on Mobile Robots and Autonomous Systems, Boston, USA.

Hu, B., Mann, G., Gosine, R. (1998). “Nonlinearity variation analysis of one-input fuzzy PID controllers”, IEEE International Conference in Systems, Man, and Cybernetics, California, USA.

Mann, G., Hu, B., Gosine, R. (1998). “Derivation and analysis of three-input fuzzy PID controller”, IEEE International Conference in Systems, Man, and Cybernetics, California, USA.

Rokonuzzaman M., Gosine, R. (1998) “Discrete event requirements model for sensor fusion to provide real-time diagnostic feedback”, SPIE Conference on Surgical-Assist Systems, California, USA.

Mann, G., Hu, B., Gosine, R. (1998). “Evaluation of fuzzy reasoning schemes for fuzzy controllers”,

Sixth International Conference on Fuzzy Theory and Technology, North Carolina, USA.

Mann, G., Hu, B., Gosine, R. (1998). "How fuzzy PID controllers are manually tuned for better performance", Sixth International Conference on Fuzzy Theory and Technology, North Carolina, USA.

Guzzwell, J., Gosine, R., Hale, R., Rokonuzzaman, M. (1998). "The application of image processing technology for the detection of shell and cartilage in snow crab salad meat", Atlantic Fisheries Technology Conference, St. John's, Canada.

Rokonuzzaman, M., Gosine, R. (1998). "Discrete event requirements model for sensor fusion to provide real-time diagnostic feedback", SPIE BiOS'98 - International Biomedical Optics Symposium, San Jose, USA.

Rokonuzzaman, M., Gosine, R. (1997). "Minimization of the effect of fault-clearance period in the fault-tolerant sensing of an intelligent system", SPIE International Symposium on Intelligent Systems & Advanced Manufacturing, Pittsburgh, USA.

Hu, B., Mann, G., Gosine, R. (1997). "Theoretic derivation of control actions for three-rule fuzzy PID controllers", IEEE Conference on Fuzzy Systems, Barcelona, Spain.

Mann, G., Hu, B., Gosine, R. (1997). "Analysis and development of new PID controller tuning rules for first-order processes", IFAC/IEEE Symp. on A.I. in Real-time Control, Kuala Lumpur, Malaysia.

Rokonuzzaman, M., Gosine, R. (1996). "Intelligent sensor fusion architecture for autonomous microgravity experiments", SPIE Photonics East'96 Symposium, Boston, USA.

Aitchison, G., Romilly, D., Herchler, C., Gosine, R. (1996). "Quantitative analysis of spasticity", 9th Biennial Conference of the Canadian Society for Biomechanics, Burnaby, Canada.

Swamidas, J., Gosine, R., Molgaard, J., Biden, E. (1996). "Investigation of Kalman prediction in the tracking of markers in gait analysis", Canadian Medical and Biological Engineering Society Conference, Charlottetown, Canada.

Aitchison, G., Romilly, D., Herchler, C., Gosine, R. (1995). "Biomechanical evaluation of spasticity", 18th RESNA, Vancouver, Canada.

Gosine, R., Gamage, L., Trites, A. (1995). "Image processing techniques for automatic counting of sea-lions from aerial images: results from a feasibility study", IASTED International Conference on Modeling and Simulation, Colombo, Sri Lanka.

Hu, B., Gosine, R., deSilva, C. (1995). "Classifier design for computer grading systems for food processing". IEEE Conference on Systems, Man, and Cybernetics, Vancouver, Canada.

Wu, Q., deSilva, C., Beatty, A., Cao, L., Gamage, L., Gosine, R., Kurnianto, I. (1995). "Knowledge-based system for on-line grading of herring roe". IEEE Conference on Systems, Man, and Cybernetics, Vancouver, Canada.

deSilva, C., Doug, C., Gosine, R., Yang, J. (1994). "An automated spray-marking machine for fish",

IEEE Conference on Systems, Man and Cybernetics, San Antonio, Texas.

deSilva, C., Doug, C., Gosine, R. (1994). "Image processing for data analysis in automated fish marking", IASTED International Conference on Modelling and Simulation, Pittsburgh, USA.

Cao, L., deSilva, C., Gosine, R. (1993). "A knowledge-based fuzzy classification system for herring roe grading", ASME Winter Annual Meeting, Atlanta, USA.

Birch, G., Fengler, M., Gosine, R. (1993). "Regenesis robotic appliance evaluation progress report", 16th RESNA, New Orleans, USA.

Anglin, C., Romilly, D., Gosine, R., Hershler, C. (1992). "Kinematic analysis of powered upper-extremity orthoses", 15th RESNA, Toronto, Canada.

Gosine, R., Mahoney, R., Jackson, R., Gatiss, J., Dargie, G., Evans, R., Scott, D., Jones, T. (1991). "Interactive robotics in manufacturing", World Congress on Technology, Washington, USA.

Gosine, R., Gatiss, J., Jackson, R., Gibson, J., Scott, D., Jones, T. (1991). "Interactive robotics in manufacturing", 14th RESNA, Atlanta, USA.

Gosine, R., Harwin, W., Jackson, R. (1991). "Development and application of a task-level robot language", International Conference on Rehabilitation Robotics (ICORR'91), Wilmington, USA.

Gosine, R., Harwin, W., Jackson, R. (1990). "An interactive robot workstation for applications in rehabilitation", IEEE IROS'91, Tsuchiura, Japan.

Harwin, W., Gosine, R., Jackson, R. (1990). "Computer recognition of head-gestures", ECART, Maastricht, The Netherlands.

Gosine, R., Harwin, W., Jackson, R., Scott, D. (1990). "Vocational assessment and placement: an application for an interactive robot workstation", 13th RESNA, Washington, USA.

Gosine, R., Harwin, W., Jackson, R. (1989). "Applications of an interactive robot workstation using the CURL programming environment", 2nd Int. Workshop on Medical and Health Care Robotics, Newcastle, England.

Gosine, R., Harwin, W., Jackson, R. (1989). "Applications of the CURL programming environment", 12th RESNA, New Orleans, USA.

CONTRIBUTIONS TO ACADEMIC AND COMMUNITY SERVICE

External Professional Boards and Service

Independent Public Review Panel on Hydraulic Fracturing (Chair) – since 2014
Health Research Ethics Authority, Board of Directors - since 2014
Labrador Gas Joint Industry Project Steering Committee (Chair) – 2006-08
AUCC Committee on the Downey Report on Software Engineering - 2000

Canadian Engineering Accreditation Board (CEAB) , Electrical Visitor, Univ. of Calgary – 2005
 Canadian Engineering Accreditation Board Electrical Visitor, Royal Military College – 2006
 Canadian Engineering Accreditation Board Visit Vice-Chair, Univ. of Waterloo – 2007
 Canadian Engineering Accreditation Board Visit Vice-Chair, Univ. of British Columbia – 2008
 Canadian Engineering Accreditation Board, Electrical Visitor, McGill University – 2010
 Canadian Engineering Accreditation Board Computer Visitor, Univ. of British Columbia – 2011
 Canadian Engineering Accreditation Board Electrical Visitor, Univ. of British Columbia – 2012
 Canadian Engineering Accreditation Board Electrical Visitor, Univ of Waterloo – 2013
 Canadian Engineering Accreditation Board Visit Vice-Chair, Carleton Univ – 2013
 Canadian Engineering Accreditation Board Electrical Visitor, Univ of Saskatchewan– 2014
 Canadian Engineering Accreditation Board Electrical Visitor, Univ of Victoria– 2016
 International Engineering Accreditation Visitor, University of Costa Rica – 2011

Professional Engineers and Geoscientists of NL (PEGNL) – 2002-08, 2010-13 (Chair 2011/12)
 PEGNL Discipline Committee, 2010-2013 (Chair 2013)
 PEGNL Registration Committee – 2008-11, since 2013
 National Council of Deans of Engineering and Applied Science (NCDEAS) – 2003-08
 NCDEAS Deans’ Liaison Committee with CEAB – 2006-08

NSERC Grant Selection Committee (GSC 21 Interdisciplinary Committee) – 2007-09
 NSERC Evaluation Group (1510 Electrical Engineering) – 2010
 NSERC Appeal Advisor – 2011-12

Canadian Foundation for Innovation, Research Development Fund Committee – 1998-01
 PRECARN Research Management Committee – 1995-08

External Review Panel, Faculty of Engineering, Dalhousie University - 2014
 External Review Panel, Faculty of Engineering, Univ. of New Brunswick – 2011
 External Review Panel, Faculty of Engineering, Ryerson University – 2009
 External reviewer for Ph.D. program proposal, Laurentian University – 2005

Shad Valley International, Board of Directors – since 2011
 Springboard Atlantic Inc., Board of Directors – since 2014
 Whitecap Scientific Inc., Board of Advisors – since 2011
 SeaState Capital Corp., Technical Advisory Board – 2002-08
 Oceans Advance, Board of Directors – 2009-14
 C-CORE Inc., Board of Directors – since 2003

Bruneau Centre for Excellence in Choral Music, Board of Directors – since 2015
 NL Research and Development Corporation, Board of Directors – 2009-11
 Genesis Inc., Board of Directors – 2005-10
 Verafin Inc., Board of Directors – 2002-09
 Compute Canada, Board of Directors – 2008-10
 Centre for Marine Compressed Natural Gas, Board of Directors – 2003-09
 Cathexis Innovations Inc., Board of Advisors – 2003-06
 Intrignia Solutions Inc., Board of Advisors – 2000-02
 Blueline Innovations Inc., Board of Advisors – 2004-06
 AquaNet NCE Board of Directors – 2000-01

Regularly serve as external referee for promotion and tenure cases in Canada, UK and USA

University Committees

University Senate – 2000-10, 2014-15
Research Council - since 2008
Vice-President's Council - 2014-15
Senior Executive Committee – 2008-10
Deans and Directors Group – 2003-08
Canada Research Chair Steering Committee – since 2014
Marilyn Harvey Award to Recognize the Importance of
Research Ethics, Selection Committee – since 2014 (Chair)
Seed, Bridge and Multidisciplinary Fund Selection Committee – 2014 (Chair)
Canada Foundation for Innovation Proposal Selection Committee – since 2013
Steering Committee for Core Science Building – since 2014
Advisory Committee for Husky Chair – since 2013
Advisory Committee for the Wood Group Chair – since 2015
Advisory Committee for the Statoil Chairs – since 2015
Senior Academic and Administrative Group – since 2003
Capital Campaign Working Group – 2009-2012
Memorial's Strategic Plan Working Group – 2006-07
Strategic Planning Focus Group on Program Innovation and Growth – 2006 (Chair)
Marine Institute Strategic Plan Steering Committee – 2006
Information Management Committee – 2005-08
Faculty of Business Strategic Plan Steering Committee – 2005-06
Faculty of Business Ph.D. Program Review Panel - 2005
Oil & Gas Partnership Executive Director Search Committee – 2001-02, 2005-06
INCO Innovation Centre Director Search Committee – 2006
Vice President (Research) Search Committee – 2001
Director of Human Resources Search Committee - 2010
Director of Finance and Administration Search Committee – 2007
Director of Faculty Relations Search Committee – 2006
University Legal Counsel Search Committee – 2007
Director of Faculty Relations Search Committee - 2008
Vice President (Research) Review Committee (Chair) – 2006
Dean of Business Review Committee (Chair) – 2006
Executive Director of the Marine Institute Search Committee – 2006
University Planning and Budget Committee – 2002-04
Standing Committee on Revenue Generation – 2002-03
Graduate Studies Academic Council - 1997-99, 2002-04
Facilities Advisory Committee for the INCO Innovation Centre – 2002-05
Academic Council Executive Committee – 2002-03
Review Committee for Master of Oil & Gas Studies (Chair) – 2002 (Chair)
Senate Committee on Research (Chair 2001/02) – 1999-02
Senate Committee of Committees (Chair 2002/03) – 2001-03
Committee on Intellectual Property Issues for Graduate Studies - 2001-07
Senate Committee on Undergraduate Studies – 1999-02
Advisory Committee on Food Science Programs – 1999-00

Steering Committee on Food Science Facilities – 2000
Appeals Committee of Graduate Studies Academic Council (Chair 1998) - 1996-98
Vice President (Research) Review Committee – 1996
Dean of Engineering Review Committee – 1997
Manufacturing Technology Centre Advisory Board - 1994-99
University Endowment Fund Review Committee – 1997

Faculty Committees

Research Advisory Committee – 2011-13
Faculty Management Group – 2002-08
Engineering Faculty Council – since 1994 (Chair 2003-08)
Undergraduate Studies Committee - 1996-2008 (Vice-chair 1998, Chair 1999-02)
Promotion and Tenure Committee - 1999-02 (Chair 2001-02)
Academic Development Committee - 1998-02
Search Committee for Associate Dean (Undergraduate Studies) – 2002 (Chair)
Executive Action Committee of Faculty Council - 1998-02
Committee on Promotion and Tenure Guidelines - 2000-02 (Chair)
Graduate Studies Committee - 1997-00, 2002-08
Research Advisory Committee – 2003-08
Advisory Committee to Associate Dean of Graduate Studies - 1997-00 (Chair)
Dean's Committee on Faculty Promotion, 1996
Faculty of Engineering Open House Committee - 1997-99, 2003 (Chair 1997-99)
Regularly served on/chair faculty search committees, including CRC, WISE and Petro-Canada
Chairs
Electrical Engineering Bridging Program Committee, 1997-98

Grant Reviews

NSERC, including Discovery, Equipment, CRD, CRO and IRC grant applications
CFI
Rick Hanson Man in Motion Foundation
Hospital for Sick Children

Paper Reviews

IEEE Transactions on Systems, Man and Cybernetics
IEEE Transactions on Biomedical Engineering
Engineering Application of A.I: International Journal of Real-time Automation
ASME Journal of Dynamic Systems
IEEE Journal of Control Systems Technology
Dynamics, Measurement and Control
Journal of Robotics and Autonomous Systems
Rehabilitation Society of North America (RESNA) Conference
American Control Conference
IASTED Robotics and Control Conference

ASME Winter Annual Meeting
IEEE Conference on Control Applications

Other Outside Community Activities

Shallaway (formerly Newfoundland Youth Symphony Choir), Board of Directors – 2004-14.
Johnson GEO Centre, Board of Directors - 2007-11.
Quidi Vidi/Rennie's River Development Foundation, Board of Directors - 2007-2012.
Judge for Junior High School Lego Robot Competition - 2003-08.
Rennie's River Development Foundation Volunteer - 1999-02.
St Pius X/Rennie's River School Council - 1998-00.
Technical Advisor to Scholastic Canada Children's Science Series - 1999-00.
Volunteer for School Events – 1997-2013.
Judge for Aventis Biotech Challenge - 2001-04.
Judge for Junior High School Science Fairs - 2001-05.
Coordinator of Junior High School Enrichment Courses on Robotics - 2002-04.
Regularly visit schools to promote/explain engineering to children and young people
Regularly open research lab to school and scout/guide groups