

# James Robert Green, PhD, P.Eng.

## Personal Data

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## Education

**Queen's University** May 2001 – Aug. 2005  
**Doctor of Philosophy (Ph.D.), Electrical and Computer Engineering**  
Thesis: "MISO Dynamic Nonlinear Protein Secondary Structure Prediction."

**Queen's University** Sept. 1998 – Sept. 2000  
**Master of Science (Engineering), Electrical and Computer Engineering**  
Thesis: "The Analysis of ATP-binding Protein Sequences Using Parallel Cascade System Identification."

**University of Waterloo** Sept. 1993 – May 1998  
**Bachelor of Applied Sciences, Systems Design Engineering**

## Employment Experience

### *Academic Appointments*

<b>Department of Systems and Computer Engineering</b> Carleton University, Ottawa, Ontario	<b>Associate Professor</b> Jul. 2010 – present
<b>Department of Systems and Computer Engineering</b> Carleton University, Ottawa, Ontario	<b>Assistant Professor</b> Sept. 2005 – Jun. 2010
<b>Department of Electrical and Computer Engineering</b> Queen's University, Kingston, Ontario	<b>Teaching Fellow</b> Sept. 2003 – Apr. 2005
<b>Faculty of Applied Science, Integrated Learning Centre</b> Queen's University, Kingston, Ontario	<b>Tutor/Facilitator</b> Jan. 2004 – Apr. 2004
<b>Department of Electrical and Computer Engineering</b> Queen's University, Kingston, Ontario	<b>Teaching Assistant</b> Sept. 1998 – Apr. 2003

### *Industry Experience*

<b>Molecular Mining Corporation</b> Kingston, Ontario	<b>Computational Scientist</b> Sept. 2000 – Apr. 2001
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## Professional Engineering Registration

Member, Professional Engineers of Ontario

## Teaching

*Note: Average teaching evaluation scores are provided in brackets where available.*

### Carleton University

SYSC 4507 Computer Systems Architecture (4.81)	2009-2010
SYSC 5108 Pattern Classification and Experiment Design (4.45)	
SYSC 5906 Directed Studies – ‘Inverse Models and Problems’ (3 students, with Prof. Andy Adler)	
SYSC 5906 Directed Studies – ‘Pattern Classification and Experiment Design’ (1 student)	
SYSC 3601 Microprocessor Systems (4.82)	2008-2009
SYSC 4507 Computer Systems Architecture (4.71)	
SYSC 5108 Pattern Classification and Experiment Design (4.20)	
SYSC 5906 Directed Studies – ‘Inverse Models and Problems’ (2 students, with Prof. Andy Adler)	
SYSC 3601 Microprocessor Systems (4.89)	2007-2008
SYSC 4507 Computer Systems Architecture (4.71)	
SYSC 5108 Pattern Classification and Experiment Design (4.56)	
SYSC 3601 Microprocessor Systems (winter=4.96)	2006-2007
SYSC 3601 Microprocessor Systems (spring=4.82)	
SYSC 4507 Computer Systems Architecture (4.63)	
SYSC 5906 Directed Studies – ‘The Cell BE in Practice’ (4 students, with Prof. Trevor Pearce)	
SYSC 3601 Microprocessor Systems (winter=4.83)	2005-2006
SYSC 3601 Microprocessor Systems (spring=4.80)	

### Queen’s University\*

ELEC274 Computer Architecture (4.7; avg=3.8)	2005
ELEC371 Microprocessor Systems (4.4; avg=3.9)	2003

\* ELEC274 (W05) and ELEC371 (F03) were both taught as a Teaching Fellow at Queen’s University, Department of Electrical and Computer Engineering. I have reported the average for the statement: “Overall, this instructor is an effective teacher” (out of 5).

## Graduate Supervision

### Summary

Master Students		Doctoral Students	
In Progress	Completed	In Progress	Completed
6	6	2	0

### Master’s Thesis Research Completed

- Mariana Barssoum, Species-specific Prediction of Protein Secondary Structure, M.A.Sc., 2006-2009. (Completion time includes 1 year of maternity leave)
- Rémi Gagné, Computational Identification of Thyroid Response Elements in Genomic DNA, M.Sc., 2006-2010. (part-time; co-supervisor: Dr. Carol Yauk, Health Canada)

- Qi Li, Medical Informatics via Biostatistics and Pattern Classification, M.A.Sc., 2007-present. (co-supervisor: Professor Monique Frize, SCE, Carleton University)
- Alex McKenzie, Digital Signal Processing of Time-varying Gene Expression Data, M.A.Sc., 2006-present. (co-supervisor: Professor Richard Dansereau, SCE, Carleton University)
- Ming Ye Yuan, Thermal Imaging Stove Top Monitor for Independent Living, M.A.Sc., 2006-2008. (co-supervisor: Professor Rafik Goubran, SCE, Carleton University)
- Zhen Liu, Computational Identification of Hydroxylation Sites from Sequence, M.Sc., 2007-2009. (co-supervisor: Professor Bill Willmore, Biology, Carleton University)

### ***Master's Thesis Research in Progress***

- Graham Fraser, Automated Assessment of EMG Signal Quality, M.A.Sc., 2010-present. (co-supervisor: Professor Adrian Chan, SCE, Carleton University)
- Festus Iyuke, Active Learning for Optimizing Wet Lab Verification Experiments, M.A.Sc., 2009-present. (co-supervisor: Professor Bill Willmore, Biology, Carleton University)
- Catalin Patulea, Protein Structure Prediction for Protein-Protein Interactions, M.A.Sc., 2010-present.
- Robert Peace, Using the Cell BE Processor for Mass Spectrometry, M.A.Sc., 2009-present.
- Omar Shammam, Non-conformal Microphone Array for Patient Monitoring, M.A.Sc., 2011-present. (co-supervisor: Professor Rafik Goubran, SCE, Carleton University)
- Travis Stewart, Computational Mass Spectrometry, M.C.S., 2009-present. (co-supervisor: Professor Frank Dehne, SCS, Carleton University)

### ***Doctoral Thesis Research in Progress***

- Sankua Chao, Algorithms for Real-time Mass Spectrometry, Ph.D., 2009-present.
- Shermeen Nizami, A Framework for Multi-Dimensional Artifact Detection for Real-Time NICU Patient Monitoring, Ph.D., 2008-present. (co-supervisor: Professor Carolyn McGregor, Canada Research Chair in Health Informatics, University of Ontario Institute of Technology)

### ***Thesis Examination Committees***

I have served on approximately 40 graduate examination committees for Carleton University (PhD-EE, M.A.Sc.-EE, M.A.Sc.-Biomed, M.Sc.-CS, M.Sc.-Physics, M.A.Sc.-MAE, M.A.-Psych), for the University of Western Sydney (M.Sc.-IT), and for the University of Ottawa (PhD-EE, M.A.Sc.-EE).

### ***Undergraduate Supervision***

<b>4<sup>th</sup> Year Project Students</b>		<b>USRA/Co-op/Intern/Contract Students</b>	
In Progress	Completed	In Progress	Completed
0	55	0	13

<b>Year</b>	<b>Students</b>	<b>Program and Project</b>	<b>Co-supervisor</b>
2010-2011	Hugo Vihvelin, Myna Moharib, Abhilash Narra	(SYSC4917) Electronic Swimming Coach for Blind Athletes	Prof. Andrew Marble, SCE, Carleton University
	Chinedu Nwiyi, Nancy Dioka	(SYSC4917) iCurl: iPhone App for Curling Sports Analytics	
	Geoff Clarke	(SYSC4917) Instrumentation of an Olympic Racing Kayak	
2009-2010	Graham Fraser	(NSERC USRA) Biomedical Imaging - CSM	
	Derrick Nhan	(1 <sup>st</sup> Year Intern) Down Syndrome Patient Database for CHEO	Dr. Mary Pothos, CHEO
	Jaclyn Baldwin, David Galarneau, Adam Jones, Alexa Loiskandl	(SYSC4917) Electronic Swimming Coach for Blind Athletes	Prof. Andrew Marble, SCE, Carleton University

	Furkan Alaca, Omid Salehi-Aba	(SYSC4907) Application of Sensor Networks in a Smart Apartment	Prof. Rafik Goubran, SCE, Carleton University
	Ronnie Farrell, Manish Walia, Taha Lukmanji	(SYSC4907) Robotic Guide Dog	
	Faizan Sultan, Suchita Kannangara, Kasun Wijenayake	(SYSC4907) Mass Spectra Processing and Identification on the Cell BE Processor	
2008-2009	Robert Peace	(NSERC USRA) Exact String Matching for Proteomics on the Cell BE Processor	
	Owen Wetherow	(NSERC USRA) Yeast Spot Analyzer	Prof. Adrian Chan, SCE, Carleton University
	Jonathan Wong	(1 <sup>st</sup> Year Intern) Down Syndrome Patient Database for CHEO	Dr. Mary Pothos, CHEO
	Ravishankar Kanagasundaram, Rahul Rohra	(SYSC4907) Using the Cell BE Processor for Nonlinear System Identification	
	Hanan Mahmoud, Robert Peace	(SYSC4907) Using the Cell BE Processor for Mass Spectrometry <b>NSERC Best Project Award</b>	
	Ramzi Marjaba, Catalin Patulea, Trevor Gelowski	(SYSC4907) Electronic Swimming Coach for Blind Athletes <b>Featured in Ingenious Magazine, CBC Radio</b>	Prof. Andrew Marble, SCE, Carleton University
	Rizwan Haider, Christopher Arksey, Andy Jung	(SYSC4907) Smart Rollator	Prof. Adrian Chan, SCE, Carleton University
2007-2008	Hanan Mahmoud	(NSERC USRA) Using the Cell BE Processor to Simulate Tryptic Digestion of Proteins	
	Davide Agnello	(NSERC USRA) Creation of a Smart Rollator Prototype for Field Testing	Prof. Adrian Chan, SCE, Carleton University
	David Xu	(1 <sup>st</sup> Year Intern) Creation of a Down Syndrome Patient Database for CHEO	Dr. Mary Pothos, CHEO
	Mohammed Aboul-Magd, Faysal Hasan, Alex Sintu	(SYSC4907) Smart Walker - Obstacle Avoidance and Guidance	Prof. Adrian Chan, SCE, Carleton University
	Ryan Steeves, Mike Colussi	(SYSC4907) Eye-Interact	Prof. Adrian Chan, SCE, Carleton University
	Peter Wiebe, Paola Osorio	(SYSC4907) Red-Light/Green-Light Playing Robot	
	Faezeh Rafsanjani-Sadeghi, Weizhong Li	(SYSC4907) Behaviour Modification Through Machine Vision	Prof. Andy Adler, SCE, Carleton University
	Brian Earl, Davide Agnello	(SYSC4907) Smart Walker - Usage Monitoring and Telemetry <b>NSERC Best Project Award</b>	Prof. Adrian Chan, SCE, Carleton University
	Kevin Charland, Ka Chun Eric Au	(SYSC4907) Vehicle Anti-Dozing Eye-Monitoring System	
	Moheyeldin Mohsen Hamdy, Payam Belkameh	(SYSC4907) Using the Cell BE Processor for Nonlinear System Identification	
	Kagiso Mguni	(SYSC4907) Intelligent Systems for Bioinformatics: Protein Analysis Tool	

2006-2007	Mohammed Aboul-Magd	(NSERC USRA) PCI Protein Secondary Structure Prediction Webservice	
	Arman Aghaei, William (Che) Knisely	(Contract) Open Source Genetic Algorithms Library for the IBM Cell BE	
	Lisa Boyachok, Yasmin Khezri, Jed Vito	(SYSC4907) Smart Walker - Robust Heart Rate Detection	Prof. Adrian Chan, SCE, Carleton University
	Greg Dmochowski	(Contract) Open Source Protein Structure-Function Navigator	
	Jonathan LaRocque, Kyle Mulligan	(SYSC4907) Assistive Device for Children with Down Syndrome	
	James Makienko, George Shenouda	(SYSC4907) Smart Walker - Force and Gait Analysis	Prof. Adrian Chan, SCE, Carleton University
	Amir Sadeghian, Ryan (Chol-ho) Yim	(SYSC4907) Eye Interact <b>NSERC Best Project Award</b>	Prof. Adrian Chan, SCE, Carleton University
2005-2006	Divya Mantha	(Co-op) Bioinformatics Systems Developer: Migration of bioinformatics resources to Linux	
	Sankua Chao	(SYSC4907) Towards Protein Structure: Predicting Protein Domain Boundaries	
	Greg Dmochowski	(Co-op) Bioinformatics Systems Developer - Creating a web interface for PCI-SUMO	
	Arlinda Hyseni	(BIOL4907) Developing an O-Glycosylation Prediction Tool for <i>s. Cerevisiae</i>	Prof. Ashkan Golshani, Biology, Carleton University

## Publications

### Refereed Journal Publications

- Jessulat, M., Pitre, S., Gui, Y., Hooshyar, M., Omid, O., Samanfar, B., Tan, L.H., Alamgir, Md., Green, J.R., Dehne, F., Golshani, A., 2011, "Recent Advances in Protein-Protein Interaction Prediction: Experimental and Computational Methods", *Expert Opinion on Drug Discovery*, in press. (Review)
- Amos-Binks, A., Patulea, C., Pitre, S., Schoenrock, A., Gui, Y., Green, J.R., Golshani, A., Dehne, F., 2011, "Binding Site Prediction for Protein-Protein Interactions and Novel Motif Discovery using Re-occurring Polypeptide Sequences", *BMC Bioinformatics*, 12:225.
- Peace, R., Mahmoud, H., Green, J.R., 2011, "Exact String Matching For MS/MS Protein Identification Using the Cell Broadband Engine", *Journal of Medical and Biological Engineering*, 31(2).
- Luo, X., McKeague, M., Pitre, S., Dumontier, M., Green, J.R., Golshani, A., DeRosa, M.C., Dehne, F., 2010, "Computational Approaches Towards the Design of Pools for the in vitro Selection of Complex Aptamers", *RNA* 16:11.
- Green, J.R., Korenberg, M.J., and Aboul-Magd, Md., 2009, "MISO Dynamic Nonlinear Protein Secondary Structure Prediction", *BMC Bioinformatics* 10:222.
- Pitre, S., North, C., Alamgir, Md., Jessulat, M., Chan, A., Luo, X., Green, J.R., Dumontier, M., Dehne, F., Golshani, A., 2008, "Global Investigation of Protein-Protein Interactions in Yeast *Saccharomyces*

Cerevisiae Using Re-occurring Short Polypeptide Sequences", *Nucleic Acids Research* 36(13):4286-4294.

- Pitre, S. Alamgir, Md., Green, J.R., Dumontier, M., Dehne, F., Golshani, A., 2008, "Computational Methods for Predicting Protein-Protein Interactions", *Adv Biochem Eng Biotechnol.* 110:247-267. (Review)
- Green, J.R. and Korenberg, M.J., 2006, "On the Advantages of Multi-Input Single-Output Parallel Cascade Classifiers", *Ann. Biomed. Eng.* 34:709-716.
- Green, J.R., Korenberg, M.J., David, R., Hunter, I., 2003, "Recognition of Adenosine Triphosphate Binding Sites Using Parallel Cascade System Identification", *Ann. Biomed. Eng.* 31:462-470.
- Bushel, P.R., Hamadeh, H.K., Bennett, L., Green, J.R., Ableson, A., Misener, S., Afshari, C.A., Paules, R.S., 2003, "Computational Selection of Distinct Class- and Subclass-Specific Toxicant Gene Expression Signatures", *J. Biomed. Info.* 35(3):160-170.
- Korenberg, M.J., Lipson, E., Green, J.R., Solomon, J.E., 2002, "Parallel Cascade Recognition of Exon and Intron DNA Sequences", *Ann. Biomed. Eng.* 30(1):129-140.

#### Refereed Conference Proceedings

*All papers below were refereed on full manuscript except where noted*

- Patulea, C., Peace, R., Green, J.R., "CUDA-accelerated Genetic Feedforward-ANN Training for Data Mining", HPCS2010, Toronto, 5-9 June 2010. (*refereed on extended abstract*)
- Peace, R., Mahmoud, H., Green, J.R., "Exact String Matching For MS/MS Protein Identification Using the Cell Broadband Engine", CMBEC33, Vancouver, 15-18 June 2010.
- Walia, M., Lukmanji, T., Farrell, R., Green, J.R., "Towards Development of a Robotic Guide Dog", CMBEC33, Vancouver, 15-18 June 2010.
- Salehi-Abari, O., Alaca, F., Green, J.R., Goubran, R., "Application Of Sensor Networks In A Smart Apartment", CMBEC33, Vancouver, 15-18 June 2010.
- Peace, R., Stewart, T., Green, J.R., Smith, J., "Analysis of Redundant Peaks in LC-MS/MS Datasets", IEEE International Workshop on Medical Measurements and Applications (MeMeA), p.23-27, Ottawa, 30 April-1 May 2010. (*refereed on extended abstract*)
- Nizami, S., Green, J.R., Eklund, J.M., McGregor, C., "Heart Disease Classification through HRV Analysis Using Parallel Cascade Identification and Fast Orthogonal Search", IEEE International Workshop on Medical Measurements and Applications (MeMeA), p.134-139, Ottawa, 30 April-1 May 2010. (*refereed on extended abstract*)
- Wetherow, O., Green, J.R., Chan, A.D.C., Golshani, A., "Plate Analyzer - A Yeast Colony Size Measurement System", IEEE International Workshop on Medical Measurements and Applications (MeMeA), p.140-144, Ottawa, 30 April-1 May 2010. (*refereed on extended abstract*)
- Green, J.R., Mahmoud, H., Dumontier, M., "Modeling Tryptic Digestion on the Cell BE Processor", CCECE09, St. John's NFLD, 3-6 May 2009.
- Yuan, M.Y., Green, J.R., Goubran, R., "Stove Top Thermal Monitoring For Assisted Living At Home", CMBEC31, Montreal, 10-13 June 2008.
- Chan, A.D.C. and Green, J.R., "Smart Rollator Prototype", IEEE International Workshop on Medical Measurements and Applications (MeMeA), p.97-100, Ottawa, 8-9 May 2008. (*refereed on extended abstract*)
- Aboul-Magd, Md. and Green, J.R., "PCI-SS: Web-Based Human and Machine Interfaces to Protein Secondary Structure Prediction", CCECE08, Niagara Falls, Ontario, 4-7 May, 2008.
- Sadeghian, A., Yim, C.H., Chan, A.D.C., Green, J.R., "Eye-Interact: A Low-Cost Eye Movement Controlled Communication System", CMBEC30, Toronto, 16-19 June 2007.
- Mulligan, K., LaRocque, J., Green, J.R., "A Low Cost Non-Contact Approach to Tongue Tracking for Special Needs Children", CMBEC30, Toronto, 16-19 June 2007.
- Green, J.R. and Korenberg, M.J., "Nonlinear system Identification Provides Insight Into Protein Folding", CCECE06, Ottawa, Ontario, 7-10 May, 2006. (*refereed on abstract only*)
- Green, J.R., Dmochowski G.M., Golshani A., "Prediction of Protein Sumoylation Sites Via Parallel Cascade Identification", CMBEC06, Vancouver, 1-3 June 2006.
- Bushel, P. R., Bennett, L., Hamadeh, H., Green, J., Ableson, A., Misener, S., Paules, R., Afshari, C., "Gene expression pattern recognition algorithm inferences to classify samples exposed to chemical agents", *Proc. SPIE Int. Soc. Opt. Eng.* 4623:85-93, 2002.

- Green, J.R., "Human Factors in Motor Vehicle Collision Investigations", *Proc. CMRSC* 10:498-508, Toronto, Ontario, 9-11 June 1997. (**Best Student Paper Award**)

#### Patents Pending

- Kotlyar, M., Ableson, A., Green, J., Somogyi, R., Steeg, E., inventors; Molecular Mining Corp., assignee. "Determination of Co-occurrences of Attributes," International Patent Application No. PCT/CA02/00731 (International Patent Publication No. WO 02/095650). Filed May 17, 2002.

#### Non-refereed technical papers

- Dumontier, M., Green, J.R., Golshani, A., Smith, M.L., Mir-Rashed, N., Alamgir, Md., Eroukovam, V., Dehne, F., Cheetham, J.J., 2008, "Identifying Significant Features Shared Among Yeast Proteins for Functional Genomics", *Nature Precedings*, hdl:10101/npre.2008.2311.1, 16 pages.

#### Workshops and Invited Technical Presentations

- Green, J.R., "Fast and Equitable Grading of Labs and Assignments in Science and Engineering", Educational Development Center, Carleton University, 90 minutes, Sept-Oct 2010.
- Gelowsky, T., Marjaba, R., Patulea, C., Green, J.R., Marble, A.E., "An Assistive Device for Visually Impaired Swimmers", *CMBEC32*, Calgary, 20-22 May 2009.
- Green, J.R., Mahmoud, H., Dumontier, M., "Modeling Tryptic Digestion on the Cell BE Processor", *CASCON 2008*, Toronto, 27-28 October 2008.
- Green, J.R. and Aitken, S., "Fast and Equitable Grading of Labs and Assignments in Science and Engineering", Educational Development Center, Carleton University, 90 minutes, 2008-2009.
- Green, J.R., Knisely, W., Aghaei, A., "An Extensible Genetic Algorithms Library for the Cell BE Processor", *CASCON 2007*, Toronto, 22-25 October 2007.
- Green, J.R., "Fast and Equitable Grading of Labs and Assignments in Science and Engineering", Educational Development Center, Carleton University, 90 minutes, 2007-2009.
- Green, J.R., "Discovering protein structure and function via nonlinear system identification", *IEEE EMBS Ottawa Chapter*, Ottawa, 23 November 2005.

#### Posters

- Peace, R., Mahmoud, H., Green, J.R., "Exact String Matching for Proteomics on the Cell BE", *Second SHARCNET Symposium on GPU and Cell Computing*, University of Waterloo, 20 May 2009.
- Peace, R., Mahmoud, H., Green, J.R., "Peptide Sequence Tag Identification Using the Cell BE", *2nd Annual Carleton Cell BE Programming Workshop*, Carleton University, 13-15 May 2009. **Received Best Poster Award.**
- Rohra, R., Kanagasundaram, R., Green, J.R., "Accelerating Nonlinear System Identification Using the Cell BE Processor", *2nd Annual Carleton Cell BE Programming Workshop*, Carleton University, 13-15 May 2009.
- Gagne, R., Williams, A., Dong, H., Wade, M., Green, J., Yauk, C., "Guidelines for Chip-chip pre-processing and analysis", *Health Canada Science Forum*, 8-9 Oct 2008. **Received Best Poster Award.**
- Green, J.R., Knisely, W., Aghaei, A., "An Extensible Genetic Algorithms Library for the Cell BE Processor", *Cell BE Programming Workshop 2008*, Carleton University, 15-16 May 2008.
- Hamdy, M., Belkema, P., Green, J.R., "Dynamic Nonlinear System Identification on the Cell BE", *Cell BE Programming Workshop 2008*, Carleton University, 15-16 May 2008.
- Mahmoud, H., Dumontier, M., Green, J.R., "Towards Real Time Protein Identification using the Cell BE", *Cell BE Programming Workshop 2008*, Carleton University, 15-16 May 2008.

## Research Funding

Year	Grant Agency and Grant	Co-applicants	Amount
2011-2012	<b>Carleton University Innovation Forum</b> <i>"Clinical Engineering: "Engineering Health in Hospitals"</i>	Adrian Chan (PI and 5 others)	\$19,000

2009-2014	<b>NSERC Discovery Grant</b> <i>"Real-time proteomics on heterogeneous multi-core processors"</i>		\$19,000/yr for 5 years
2009	<b>MITACS Network and Training Initiative</b> <i>"Second annual Cell BE programming workshop -- the Cell BE in biomedical informatics"</i>	Frank Dehne Michel Dumontier Gabriel Wainer	\$10,000 + \$4,500 in-kind
2009-2011	<b>Health Canada Genomics R&amp;D Program</b> <i>"Development and validation of toxicogenomic tools, and integrated systems biology approaches in regulatory toxicology"</i>	Carole L. Yauk (PI and 17 others)	\$418,000 (2%) 2009 \$496,000 (2%) 2010 \$496,000 (2%) 2011
2008	<b>Ontario Research Fund Research Infrastructure Program</b> <i>"Laboratory for hardware accelerated protein identification for mass spectrometry"</i>	Michel Dumontier (PI)	114,628 (50%)
2007	<b>Canadian Foundation for Innovation Leaders Opportunity Fund</b> <i>"Laboratory for hardware accelerated protein identification for mass spectrometry"</i>	Michel Dumontier (PI)	114,628 (50%)
2006-2009	<b>NSERC Discovery Grant</b> <i>"Discovering protein structure and function through nonlinear system identification"</i> 3-year term is policy for new applicants to GSC 331.		\$15,000 2006-2007 \$15,000 2007-2008 \$15,000 2008-2009
2005	<b>Carleton University Start-up Grant</b>		\$25,000

## Major Honours and Awards

- Senior Member of the Institute of Electrical and Electronic Engineering (IEEE) 2010
- Employee Recognition Award for Health and Safety, Carleton University 2008
- Teaching Achievement Award, Carleton University 2007 – 2008
- Ontario Graduate Scholarship in Science and Technology 2003 – 2005
- Favourite Professor Award, 3<sup>rd</sup> Year Computer Engineering, Queen's University 2003 – 2004
- Burroughs Wellcome Fund Bursary to attend Canadian Bioinformatics Workshop 2002
- NSERC PGS-B scholarship 2001 – 2003
- Queen's University Graduate Award 1998 – 2005
- NSERC PGS-A scholarship 1998 – 2000
- Canadian Posture and Seating Centre Scholarship 1998
- CARSP National Student Paper Award 1997

## Services and Professional Memberships

- Technical Program Committees:
  - 13<sup>th</sup> IASTED International Conference on Intelligent Systems and Control (ISC 2011), July 2011
  - 2011 International Conference on Autonomous and Intelligent (AIS 2011), June 2011
  - Systems The Third International Workshop of Real-Time Service-Oriented Architecture and Applications (RTSOAA 2010)
  - IEEE MeMeA 2010 – Medical Measurements and Applications, April 30-May1 2010
  - IEEE Cluster 2010, "Algorithms and Applications" track, September 2010
  - 2010 International Conference on Autonomous and Intelligent Systems (AIS 2010), June 2010

- The Second International Workshop of Real-Time Service-Oriented Architecture and Applications (RTSOAA 2009)
- 2009 International Conference on Signals, Circuits and Systems (SCS 2009)
- Signal and Multimedia Processing Symposium, CCECE 2009
- Workshop Organization Committees:
  - Chair, Second Annual Carleton Cell BE Programming Workshop, Carleton University, 13-15 May 2009
  - Co-Chair, CASCON Workshop on the Cell BE and Multi-core Programming Architectures, Toronto, 27 Oct. 2008
  - Co-Chair, CASCON Workshop on the Cell BE Programming Experience!, Toronto, 28 Oct. 2008
  - Co-Chair, Cell BE Programming Workshop, Carleton University, 15-16 May 2008
- Secretary, IEEE EMBS Ottawa Chapter, 2007-present
- Reviewer for:
  - Simulation: Transactions of the Society for Modeling and Simulation International, 2011
  - Journal of Medical Systems, 2009
  - Journal of Theoretical and Applied Electronic Commerce Research, 2009
  - SIAM Journal on Discrete Mathematics, 2008
  - Annals of Biomedical Engineering, 2009, 2007, 2005, 2002.
  - Nucleic Acids Research, 2006.
  - Conferences: IEEE TIC-STH-SBME (2009), CCECE (2006, 2008, 2009), CMBEC (2007), SCSC (2007).
  - Ad hoc grant reviews for NSERC Discovery Grant, CFI Leader's Opportunity Fund, NSERC Collaborative Health Research Projects (CHRP), and NSERC Strategic Project Grant.
- Session chair for CMBEC33 (2010), CMBEC32 (2009), CCECE08 (2008), CMBEC30 (2007), and CMBEC29 (2006).
- Membership in :
  - Senior Member of the Institute of Electrical and Electronic Engineering (IEEE)
  - IEEE Engineering in Medicine and Biology (EMBS)
  - Canadian Medical and Biological Engineering Society (CMBES)
  - Canadian Systems Biology Society
  - Canadian Proteome Society
- Judge for Ottawa Regional Science Fair (2008, 2010, 2011)

## Committee Membership

### ***Carleton University***

Associate Chair, Undergraduate Studies, Department of Systems and Computer Engineering 2010-2011  
 Fully Certified Member of Carleton University Joint Health and Safety Committee (CUASA rep)  
 Carleton Faculty of Engineering and Design Committee on Admissions and Studies (CAS)  
 Faculty mentor for Student Experience Office's Emerging Leaders Program  
 Chief Fire Warden, Mackenzie Building Block 4

Associate Chair, Undergraduate Studies, Department of Systems and Computer Engineering 2009-2010  
 Fully Certified Member of Carleton University Joint Health and Safety Committee (CUASA rep)  
 Carleton Faculty of Engineering and Design Committee on Admissions and Studies (CAS)  
 Carleton Faculty of Engineering and Design Health and Safety Committee  
 EDC New Faculty Orientation Panel Member  
 SCE TA Orientation Panel Member  
 Faculty mentor for Student Experience Office's Emerging Leaders Program

Chief Fire Warden, Mackenzie Building Block 4

Fully Certified Member of Carleton University Joint Health and Safety Committee (CUASA rep) 2008-2009  
 Employee Appreciation Day Steering Committee  
 Employee Recognition Awards Selection Committee  
 Carleton Faculty Recruitment and Support Advisory Committee  
 Carleton Faculty of Engineering and Design Committee on Admissions and Studies (CAS)  
 Program Coordinator for Biomedical and Electrical Engineering  
 Faculty Liaison for undergraduate Biomedical Engineering Society  
 Carleton Faculty of Engineering and Design Health and Safety Committee  
 Carleton University Teaching Achievement Award Selection Committee  
 EDC New Faculty Orientation Panel Member  
 SCE TA Orientation Panel Member  
 Chief Fire Warden, Mackenzie Building Block 4

Carleton University Joint Health and Safety Committee (CUASA rep) 2007-2008  
 Carleton Faculty Recruitment and Support Advisory Committee  
 Carleton Faculty of Engineering and Design Committee on Admissions and Studies (CAS)  
 Program Coordinator for Biomedical and Electrical Engineering  
 Carleton Faculty of Engineering and Design Health and Safety Committee  
 SCE Tenure & Promotion Committee  
 Carleton University Patrick O'Brien High School Teaching Award Selection Committee  
 EDC "Moving Forward by Looking Back" Faculty Panel Member  
 Chief Fire Warden, Mackenzie Building Block 4  
 SCE Hiring Committee

Carleton University Joint Health and Safety Committee (CUASA rep) 2006-2007  
 Carleton Faculty Recruitment and Support Advisory Committee  
 Carleton Faculty of Engineering and Design Committee on Admissions and Studies (CAS)  
 Program Coordinator for Biomedical and Electrical Engineering  
 Faculty founder of undergraduate Biomedical Engineering Society  
 Carleton Faculty of Engineering and Design Health and Safety Committee  
 SCE Tenure & Promotion Committee  
 Carleton University Patrick O'Brien High School Teaching Award Selection Committee  
 Fire Warden, Mackenzie Building Block 4, 4<sup>th</sup> floor.

Carleton Faculty of Engineering and Design Committee on Admissions and Studies (CAS) 2005-2006  
 Carleton Faculty of Engineering and Design Health and Safety Committee

**Other**

Down Syndrome Association – National Capital Region Board of Directors & Co-Webmaster 2006-2010  
 Fully certified member of the Queen's Applied Science Joint Health and Safety Committee 1999-2005