

# James Robert Green, PhD, PEng, SMIEEE

## Personal Data

**Position:** Associate Professor  
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## Education

**Carleton University** 2009  
Certificate in University Teaching, Educational Development Centre

**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*

**Department of Systems and Computer Engineering** **Associate Professor**  
Carleton University, Ottawa, Ontario Jul. 2010 – present

**Department of Health Sciences (cross-appointment)** **Associate Professor**  
Carleton University, Ottawa, Ontario Feb. 2015 – present

**Department of Systems and Computer Engineering** **Assistant Professor**  
Carleton University, Ottawa, Ontario Sept. 2005 – Jun. 2010

**Department of Electrical and Computer Engineering** **Teaching Fellow**  
Queen's University, Kingston, Ontario Sept. 2003 – Apr. 2005

**Faculty of Applied Science, Integrated Learning Centre** **Tutor/Facilitator**  
Queen's University, Kingston, Ontario Jan. 2004 – Apr. 2004

**Department of Electrical and Computer Engineering** **Teaching Assistant**  
Queen's University, Kingston, Ontario Sept. 1998 – Apr. 2003

### *Industry Experience*

**Molecular Mining Corporation** **Computational Scientist**

Kingston, Ontario

Sept. 2000 – Apr. 2001

## Professional Engineering Registration

Member, Professional Engineers of Ontario

## Teaching

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

### Carleton University

SYSC 2001 Computer Systems Foundations	2015-2016
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design	
BIOM 5010 Introduction to Biomedical Engineering (with Prof. Andy Adler)	
BIOM 5800 Biomedical Engineering Seminar (with Prof. Andy Adler)	
SYSC 2001 Computer Systems Foundations (4.54)	2015-2016
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design (4.31)	
BIOM 5010 Introduction to Biomedical Engineering (with Prof. Andy Adler, 4.59)	
BIOM 5800 Biomedical Engineering Seminar (with Prof. Andy Adler)	
SYSC 2001 Computer Systems Foundations (4.72)	2014-2015
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design (4.66)	
BIOM 5800 Biomedical Engineering Seminar	
SYSC 2001 Computer Systems Foundations (4.60)	2013-2014
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design (4.59)	
BIOM 5800 Biomedical Engineering Seminar	
SYSC 5906 Directed Studies – ‘Biometrics’ (2 students, with Prof. Andy Adler)	
SYSC 2001 Computer Systems Foundations (4.67)	2012-2013
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design (4.59)	
BIOM 5800 Biomedical Engineering Seminar (4.76)	
SYSC 5906 Directed Studies – ‘Real-time Patient Monitoring in the NICU’ (1 student)	2011-2012
SYSC 4507 Computer Systems Architecture (4.60)	2010-2011
SYSC 5108 Pattern Classification and Experiment Design (4.62)	
SYSC 5906 Directed Studies – ‘Distributed Sparse Matrices’ (1 student, with Prof. Andy Adler)	
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		(Post-) Doctoral Students	
In Progress	Completed	In Progress	Completed
7	14	4	4

### **Post-doctoral and Visiting Scholar Research in Progress**

- Gerardo Maikel Casañola Martin, Prediction of Protein Post-translational Modifications, ELAP Visiting Scholar, Universidad de Las Américas (UDLA), Ecuador, 2016-2017
- Shermeen Nizami, Investigation of the Use of Pressure-Sensitive Mats for Patient Monitoring in the NICU, Postdoctoral Fellow, 2016.
- Yasser Ruiz-Blanco, Prediction of Protein Methylation, Visiting Professor, Universidad Central “Marta Abreu” de Las Villas, Santa Clara, Cuba, Sept - Oct 2016.

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

- Sankua Chao, Algorithms for Real-time Mass Spectrometry, Ph.D., 2009-present. (co-supervisor: Prof. Jeff Smith, Chemistry, Carleton University)

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

- Bradley Barnes, Computational Prediction of miRNA, M.A.Sc., 2015-present.
- Amente Bekele, Algorithms for Patient Monitoring via Pressure-sensitive Mats, M.A.Sc., 2016-present
- Madison Cohen-McFarlane, Detection of Obstructive Sleep Apnea using Pressure-Sensitive Mats and Beamforming, M.A.Sc., 2015-present. (co-supervisor: Prof. Rafik Goubran, SCE, Carleton University)
- Kevin Dick, Examining Genetic Variation within Protein-protein Interaction Interfaces, M.A.Sc., 2015-present.
- Yasmina Dosso, Machine Learning in Mobile Health, M.A.Sc., 2016-present
- Waldo Paz Rodriguez, Integrating Feature Generation and Selection for Describing Protein Sequences and Structures, MSc, (ELAP Visiting Scholar, Universidad Central “Marta Abreu” de Las Villas, Santa Clara, Cuba), 2016-2017
- Roger Selzler, Pressure-sensitive Mat Technology using Optical Sensors, M.A.Sc., 2016-present

### **Post-doctoral and Visiting Scholar Research Completed**

- Juan Alberto Castillo Garit, Prediction of Post-Translational Modification, ELAP Visiting Scholar, Universidad Central “Marta Abreu” de Las Villas, Santa Clara, Cuba, 2015-2016
- Yasser Ruiz-Blanco, Protein Structural Descriptors for Decoy Discrimination and Data Mining Applications, ELAP Visiting Scholar, Universidad Central “Marta Abreu” de Las Villas, Santa Clara, Cuba, Jan - Jun 2014.

### **Doctoral Thesis Research Completed**

- Shermeen Nizami, Integration of Artifact Detection in Clinical Decision Support Systems, Ph.D., 2008-2016. (co-supervisor: Prof. Carolyn McGregor, Canada Research Chair in Health Informatics, University of Ontario Institute of Technology)
- Robert Peace, MicroRNA Prediction for Unannotated Genome-Wide and Transcriptomic Experiments, Ph.D., 2011-2016.

### **Master’s Thesis Research Completed**

- Allen Amos-Binks, Protein-protein Interaction Prediction in the Presence of Genetic Variation, M.A.Sc., 2012-2014. (co-supervisor: Prof. Frank Dehne, SCS, Carleton University)
- Mariana Barssoum, Species-specific Prediction of Protein Secondary Structure, M.A.Sc., 2006-2009.
- Graham Fraser, Automated Assessment of EMG Signal Quality, M.A.Sc., 2010-2012. (co-supervisor: Prof. Adrian Chan, SCE, Carleton University)
- Ahmad Ghadiri, Mutation Spectrum Analysis via Next Generation Sequencing, M.A.Sc., 2012-2015 (co-supervisor: Prof. Andrew Marble, SCE, Carleton University)
- Rémi Gagné, Computational Identification of Thyroid Response Elements in Genomic DNA, M.Sc., 2006-2010. (part-time; co-supervisor: Dr. Carol Yauk, Health Canada)
- Festus Iyuke, Active Learning For The Prediction of Asparagine and Aspartate Hydroxylation Sites on Human Proteins, M.A.Sc., 2009-2011. (co-supervisor: Prof. Bill Willmore, Biology, Carleton University)
- Jason Koppert, Development and Optimization of Functional Oligomer Coatings for Usage in PCR, M.A.Sc., 2014-2016. (co-supervisor: Prof. Bill Willmore, Biology, Carleton University)
- Qi Li, Medical Informatics via Biostatistics and Pattern Classification, M.A.Sc., 2007-2010. (co-supervisor: Prof. Monique Frize, SCE, Carleton University)
- Alex McKenzie, Digital Signal Processing of Time-varying Gene Expression Data, M.A.Sc., 2006-2010. (co-supervisor: Prof. Richard Dansereau, SCE, Carleton University)
- Catalin Patulea, Targeted Optimization of Computational and Classification Performance of a Protein-Protein Interaction Predictor, M.A.Sc., 2010-2011.
- Robert Peace, String Matching and Online Retention Time Prediction for Real-Time Information-Driven Mass Spectrometry, M.A.Sc., 2009-2011.
- Vismand Rahpeymayrad, Prediction of N-Linked Glycosylation Sites in Plant Proteins, M.A.Sc., 2012-2015
- Ming Ye Yuan, Thermal Imaging Stove Top Monitor for Independent Living, M.A.Sc., 2006-2008. (co-supervisor: Prof. Rafik Goubran, SCE, Carleton University)
- Zhen Liu, Computational Identification of Hydroxylation Sites from Sequence, M.Sc., 2007-2009. (co-supervisor: Prof. Bill Willmore, Biology, Carleton University)

### **Thesis Examination Committees**

I have served on approximately 95 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 British Columbia (PhD), Queen’s University (PhD), the University of Toronto (PhD), the University of Western Sydney (M.Sc.-IT), and for the University of Ottawa (PhD-EE, M.A.Sc.-EE, M.Sc.).

### **Undergraduate and Research Associate Supervision**

<b>4<sup>th</sup> Year Project Students</b>		<b>USRA/Co-op/Intern/Contract Students</b>	
In Progress	Completed	In Progress	Completed
11	85	1	39

Year	Students	Program and Project	Co-supervisor
2016-2017	Akhila Ananth Robert Fernandes	(SYSC4907) Colour Identifier and Matcher	
	Tyler Ayers Matt LeBlanc	(SYSC4907) Image Logging Bird Feeder	
	Connor Neumann Iefan Morgan-Waggitt	(SYSC4907) A Webserver for the Prediction of Protein Methylation Sites	
	Maryam Kaka	(iCureus Contract) Computational Prediction of Protein-Protein Interaction Interfaces	
	Monica Ruttle Bhargav Patel Kevin Sullivan Symon Stowe Daniel Sauve	(SYSC4907) iTAD - Carleton University Intelligent Telepresence and Assistive Devices	Prof. Adrian Chan (Carleton, SCE)
2015-2016	Roger Selzler	(Volunteer Researcher) Pressure-sensitive mats using opto-electric sensors	
	Zeyad Abdelaziz	(Contract) Benchmarking protein methylation predictors & 3D protein structure prediction	
	Nick Wicklund	(Intern) Augmenting the Robotic Guide Dog using Arduino-based sensors	
	Jacky Chiu	(Intern) Predicting protein methylation in yeast	
	Sami Nofal	(USRA) Developing a patient annotation app	
	Monty Dhanani	(Research Volunteer) Using the MS Kinect for Non-Contact Tongue Tracking	
	Jonathan Oommen David Bews	(SYSC4907) Wearable obstacle detection for blind swimmers	Prof. Yuu Ono (Carleton, SCE)
	Nikola Neskovic Ian Wong Kevin Rosengren	(SYSC4907) Google Glass for chemical inventory tracking	Prof. Sreeraman Rajan (Carleton, SCE)
	Lina Serry	(iCureus contract) Evaluation of transcriptomic-based miRNA prediction methods	
	Mohammed Ahmed-Muhsin Devin Church Jonathan From Quoc-Nam Le-The	(SYSC4907) Robotic Ringette Coach	
	Vivian Liu Monisha Gunalan Amente Bekele David Bui David Yao	(SYSC4907) Wearable Assistive Device for the Deaf	Prof. Victor Aitken (Carleton, SCE)
	Mitchell Cail Mamoon Abdulhameed	(SYSC4907) Fitness and Nutrition App	
2014-2015	Irusha Vidanamadura	(NSERC USRA) Development of a next-generation sequencing mutation spectrum analysis pipeline	
	Maryam Kaka	(NSERC USRA) Pressure sensitive mats for detecting patient movement-induced artifacts	Prof. Rafik Goubran (Carleton, SCE)
	Chris Yuyitang	(Intern) Robotic Guide Dog	
	Alexander Fernandes	(Intern) Improving the Accuracy of the Tongue Tracker	
	Jaser El-Habrouk	(Contract) Tracking the Tongue using the MS Kinect	
	Christopher Sparrow Angus Burns	(SYSC4907) Wearable obstacle detection for blind swimmers	

	Ali Avci Naufil Qureshi	(SYSC4907) Development of a Multi-Camera Multi-Transmitter Electronic Swimming Coach for Blind Athletes	
2013-2014	Jonathan Oommen	(NSERC USRA) Assistive devices for promoting accessibility to employment and computer control	
	Rahul Minhas	(Intern) Developing a tongue-tracking mouse driver	
	Abedelbaset Al Tamimi	(Research Associate) Developing a Tongue-Tracking iOS Children's Game	
	Colin Jones	(NSERC Engage Research Associate) Enabling persons with intellectual disabilities to optimize automated video analysis systems	
	Darren Stahl Robert Nelson	(Contract) iCureus Undergraduate Research: Monitoring Mobility Using a Smartphone	Prof. Ed Lemaire (UofO, Rehab Centre)
	Kelly Barker Madeline Harlow	(SYSC4917) Robotic Guide Dog	
	Tyler Smith Kevin Lemay	(SYSC4917) RUTalking2Me?	Dr. James Ryan, SCE, (Carleton University)
	Sravya Atluri Amanda Hamameh	(SYSC4917) Development of a Protein Sumoylation Prediction Server	
2012-2013	Joshua Delrio Max Joyce	(SYSC4907) Designing an Embedded Self-Replicating 3-Dimensional Printer	Prof. Samuel Ajila (SCE, Carleton University)
	Jiakun Fang	(MITACS Globalink Intern) Virtualization for Robust Delivery of Bioinformatics Services	
	Colin Miyata Raymond Greiss	(Volunteers) RUTalkin2Me?	Dr. James Ryan, SCE, (Carleton University)
	Guanchen Cen Jue Hou Muhammad Fuad Mohd Derrick Nhan	(SYSC4917) Robotic Guide Dog	
2011-2012	Davide Agnello	(Contract) Development of a Prototype Electronic Swimming Coach for Blind Athletes	
	Amente Bekele	(Intern) Development of a Multi-Species Protein-Protein Interaction Database for PIPE	
	Derrick Nhan	(Contract) Down Syndrome Patient Database for CHEO	Dr. Mary Pothos, CHEO
2010-2011	Manmeet Singh Nikhilesh Pradhan	(1 <sup>st</sup> Year Intern) Identification of Artifacts in Streaming Physiological Data	
	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 – Colony Size Measurement for Functional Genomics	
	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>SCE 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>SCE 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>SCE 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

- Peace RJ, Biggar KK, Storey KB, Green JR, 2015, "A Framework for Improving MicroRNA Prediction in Non-Human Genomes", *Nucleic Acids Research*, doi:10.1093/nar/gkv698
- Ruiz-Blanco YB, Paz W, Green JR, Marrero-Ponce Y, 2015, "ProtDCal: A Program to Compute General-Purpose-Numerical Descriptors for Sequences and 3D-Structures of Proteins", *BMC Bioinformatics*, 16(1):162.
- Schoenrock A, Samanfar B, Pitre S, Hooshyar M, Jin K, Phillips CA, Wang H, Phanse S, Omidi K, Gui Y, Alamgir Md, Wong A, Barrenäs F, Babu M, Benson M, Langston MA, Green JR, Dehne F, Golshani A, 2014, "Efficient Prediction of Human Protein-Protein Interactions at a Global Scale", *BMC Bioinformatics*, 15:283. **This paper was designated as "Highly Accessed"**.
- Ruiz-Blanco YB, Marrero-Ponce Y, García Y, Puris A, Bello R, Green JR, Sotomayor-Torres CM, 2014, "A physics-based scoring function for protein structural decoys: Dynamic testing on targets of CASP-ROLL", *Chemical Physics Letters* 610:135-140.
- Fraser GD, Chan ADC, Green JR, Maclsaac D, 2014, "Automated Biosignal Quality Analysis for Electromyography using a One-Class Support Vector Machine", *IEEE Transactions in Instrumentation and Measurement*, 63(12):2919-2930 (doi:10.1109/TIM.2014.2317296).



- Chao S, Green JR\*, Smith JC\*, 2014, "Evaluation of a GPGPU-based de novo peptide sequencing algorithm", *Journal of Medical and Biological Engineering*, in press (doi:10.5405/jmbe.1713). (\*co-corresponding authors)
- Ghadiri A, Green JR, Marble AE, 2014, "Real-time Non-contact Optical Tongue Tracking", *Journal of Medical and Biological Engineering*, in press (doi:10.5405/jmbe.1712).
- Gagne R, Green JR, Dong H, Wade MG, Yauk CL, 2013, "Identification of Thyroid Hormone Receptor Binding Sites in Developing Mouse Cerebellum", *BMC Genomics*, 14:341 (doi: 10.1186/1471-2164-14-341).
- Nizami S, Green JR, McGregor C, 2013, "Implementation of Artifact Detection in Critical Care: A Methodological Review", *IEEE Reviews in Biomedical Engineering*, 6:127-42 (doi:10.1109/RBME.2013.2243724).
- Yuan MY, Green JR, Goubran R, 2013, "Thermal Imaging for Assisted Living At Home: Improving Kitchen Safety", *Journal of Medical and Biological Engineering*, 33(4):380-387 (doi:10.5405/jmbe.1271).
- Pitre S, Hooshyar M, Schoenrock A, Samanfar B, Jessulat M, Green JR, Dehne F, Golshani A, 2012, "Short Co-occurring Polypeptide Regions Can Predict Global Protein Interaction Maps", (*Nature*) *Scientific Reports*, 2:239.
- Jessulat M, Pitre S, Gui Y, Hooshyar M, Omidi O, Samanfar B, Tan LH, Alamgir Md, Green JR, Dehne F, Golshani A, 2011, "Recent Advances in Protein-Protein Interaction Prediction: Experimental and Computational Methods", *Expert Opinion on Drug Discovery*, 6(9):921-935 (doi:10.1517/17460441.2011.603722). (Review)
- Amos-Binks A, Patulea C, Pitre S, Schoenrock A, Gui Y, Green JR, 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. **This paper was designated as "Highly Accessed"**.
- Peace R, Mahmoud H, Green JR, 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 JR, Golshani A, DeRosa MC, Dehne F, 2010, "Computational Approaches Towards the Design of Pools for the in vitro Selection of Complex Aptamers", *RNA* 16:11. **This paper was recommended by "Faculty of 1000"**.
- Green JR, Korenberg MJ, 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 JR, 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 JR, Dumontier M, Dehne F, Golshani A, 2008, "Computational Methods for Predicting Protein-Protein Interactions", *Adv Biochem Eng Biotechnol.* 110:247-267. (Review)
- Green JR and Korenberg MJ, 2006, "On the Advantages of Multi-Input Single-Output Parallel Cascade Classifiers", *Ann. Biomed. Eng.* 34:709-716.
- Green JR, Korenberg MJ, David R, Hunter I, 2003, "Recognition of Adenosine Triphosphate Binding Sites Using Parallel Cascade System Identification", *Ann. Biomed. Eng.* 31:462-470.
- Bushel PR, Hamadeh HK, Bennett L, Green JR, Ableson A, Misener S, Afshari CA, Paules RS, 2003, "Computational Selection of Distinct Class- and Subclass-Specific Toxicant Gene Expression Signatures", *J. Biomed. Info.* 35(3):160-170.
- Korenberg MJ, Lipson E, Green JR, Solomon, JE, 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*

- Cohen-McFarlane M, Green JR, Goubran RA, Knoefel F, "Smart Monitoring of Fluid Intake and Bladder Voiding using Pressure Sensitive Mats", *37th Annual International Conference of the IEEE-EMBS (EMBC)*, Orlando, Florida, 16-20 Aug 2016.
- Dick K, Green JR, "Comparison of Sequence- and Structure-Based Protein-Protein Interaction Sites", *IEEE EMBS ISC 2016*, Ottawa, Canada, May 2016.
- Barnes B, Karimloo M, Schoenrock A, Burnside D, Cassol E, Wong A, Dehne F, Golshani A, Green JR, "Predicting Novel Protein-Protein Interactions Between the HIV-1 Virus and Homo Sapiens", *IEEE EMBS ISC 2016*, Ottawa, Canada, May 2016. **(Awarded 3rd Prize in Student Paper Competition)**

- Cohen-McFarlane M, Green JR, Goubran RA, Knoefel F, "Monitoring Congestive Heart Failure using Pressure-Sensitive Mats", IEEE International Symposium on Medical Measurements and Applications, Benevento, Italy, 15-18 May 2016.
- Cohen-McFarlane M, Green JR, Goubran R, Knoefel F, "Characterization of Measurements from Pressure Sensitive Mats Using an Anthropomorphic Body Model", *accepted to IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Taipei, Taiwan, May 2016.
- Schoenrock A, Burnside, D, Moteshareie H, Green JR, Wong A, Golshani A, Dehne F, "Engineering Inhibitory Proteins with InSiPS: The In-Silico Protein Synthesizer", *Supercomputing 2015*, Austin, Texas, Nov 2015.
- Nizami S, Green JR, McGregor C, 2015, "An Artifact Detection Framework for Clinical Decision Support Systems", *World Congress on Medical Physics & Biomedical Engineering*, Toronto, Canada, June 2015.
- Peace RJ, Green JR, "Updated Free Energy Parameters Increase MicroRNA Prediction Performance", *World Congress on Medical Physics & Biomedical Engineering*, Toronto, Canada, June 2015.
- Moradshahi P, Green JR, Lemair ED, Baddour, N, "Differentiating Two Daily Activities Through Analysis of Short Ambulatory Video Clips ", IEEE International Symposium on Medical Measurements and Applications (MeMeA), pp 160-163, Gatineau, Canada, May 2013.
- Fraser GD, Chan ADC, Green JR, Maclsaac D, "Biosignal Quality Analysis of Surface EMG using a Correlation Coefficient Test for Normality", IEEE International Symposium on Medical Measurements and Applications, Gatineau, Canada, May 2013.
- Chao S, Green JR, Smith JC, "De Novo Peptide Sequencing Using General-Purpose Computing On a Graphics Processing Unit", 36th Conference of the Canadian Medical & Biological Engineering Society, Ottawa, Canada, May 2013. (**Awarded 2nd Prize in Student Paper Competition**)
- Amos-Binks AR, Green JR, "Calibration Interface for the Electronic Swim Coach", 36th Conference of the Canadian Medical & Biological Engineering Society, Ottawa, Canada, May 2013.
- Ghadiri A, Green JR, Marble AE, "Using Local Binary Patterns for Non-Contact Optical Tongue Tracking", 36th Conference of the Canadian Medical & Biological Engineering Society, Ottawa, Canada, May 2013.
- Miyata C, Greiss R, Green JR, Ryan J, "RUTalking2Me? An Assistive Device Combining Beamforming And Speech Recognition", 36th Conference of the Canadian Medical & Biological Engineering Society, Ottawa, Canada, May 2013.
- Fraser GD, Chan ADC, Green JR, Maclsaac D, "Detection of ADC clipping, quantization noise, and amplifier saturation in surface electromyography", IEEE International Symposium on Medical Measurements and Applications, pp. 162-166, Budapest, Hungary, Aug 2012.
- Fraser GD, Chan ADC, Green JR, Maclsaac D, "Removal of electrocardiogram artifacts in surface electromyography using a moving average method", IEEE International Symposium on Medical Measurements and Applications, Budapest, Hungary, pp. 128-131, Aug 2012.
- Abser N, Maclsaac D, Chan ADC, Fraser GD, Green JR, "CleanEMG: Comparing interpolation strategies for power line interference quantification in surface EMG signals", 35th Conference of the Canadian Medical & Biological Engineering Society, Halifax, Canada, June 2012.
- Iyuke F, Green JR, Willmore W, "Active Learning for the Prediction of Asparagine/Aspartate Hydroxylation Sites on Proteins", *IATED International Conference on Computational Intelligence and Bioinformatics (CIB2011)*, Pittsburgh, 7-9 Nov 2011.
- Schoenrock A, Dehne F, Green JR, Golshani A, Pitre S, "MP-PIPE: A Massively Parallel Protein-Protein Interaction Prediction Engine", ICS'11, Tuscon AZ, USA, May 31-June 4, 2011.
- Fraser GD, Chan ADC, Green JR, Abser N, Maclsaac D, "CleanEMG - Power line interference estimation in sEMG using an adaptive least squares algorithm", 32nd Annual International Conference of the IEEE-EMBS (EMBC), Boston MA, USA, 2011.
- Abser N, Maclsaac D, Fraser G, Chan ADC, Green JR, "CleanEMG: Quantifying power line interference in surface EMG signals", 34th Conference of the Canadian Medical & Biological Engineering Society and Festival of International Conferences on Caregiving, Disability, Aging and Technology, Toronto, Canada, 69825, pp. 1-4, 2011.
- Patulea C, Peace R, Green JR, "CUDA-accelerated Genetic Feedforward-ANN Training for Data Mining", *High Performance Computing Symposium (HPCS2010)*, Toronto, 5-9 June 2010, doi:10.1088/1742-6596/256/1/012014. (*refereed on extended abstract*)
- Peace R, Mahmoud H, Green JR, "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 JR, "Towards Development of a Robotic Guide Dog", *CMBEC33*, Vancouver, 15-18 June 2010.
- Salehi-Abari O, Alaca F, Green JR, Goubran R, "Application Of Sensor Networks In A Smart Apartment", *CMBEC33*, Vancouver, 15-18 June 2010.
- Peace R, Stewart T, Green JR, 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 JR, Eklund JM, 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 JR, Chan ADC, 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 JR, Mahmoud H, Dumontier M, "Modeling Tryptic Digestion on the Cell BE Processor", *IEEE Canadian Conference on Electrical and Computer Engineering (CCECE09)*, St. John's NFLD, 3-6 May 2009.
- Yuan MY, Green JR, Goubran R, "Stove Top Thermal Monitoring For Assisted Living At Home", *CMBEC31*, Montreal, 10-13 June 2008.
- Chan ADC and Green JR, "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 JR, "PCI-SS: Web-Based Human and Machine Interfaces to Protein Secondary Structure Prediction", *IEEE Canadian Conference on Electrical and Computer Engineering (CCECE08)*, Niagara Falls, Ontario, 4-7 May, 2008.
- Sadeghian A, Yim CH, Chan ADC, Green JR, "Eye-Interact: A Low-Cost Eye Movement Controlled Communication System", *CMBEC30*, Toronto, 16-19 June 2007.
- Mulligan, K, LaRocque, J, Green, JR, "A Low Cost Non-Contact Approach to Tongue Tracking for Special Needs Children", *CMBEC30*, Toronto, 16-19 June 2007.
- Green JR and Korenberg MJ, "Nonlinear system Identification Provides Insight Into Protein Folding", *IEEE Canadian Conference on Electrical and Computer Engineering (CCECE06)*, Ottawa, Ontario, 7-10 May, 2006. (refereed on abstract only)
- Green JR, Dmochowski GM, 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 JR, 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 JR, "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

- Greiss R, Green JR, Goubran RA, 2016, "Acoustic Noise Management in Open Plan Offices for Critical Infrastructure Security", prepared for Natural Resources Canada, Energy Infrastructure Security Division, 52 pages.
- Peace R, Green JR, 2012, "Final Report on Semantic Techniques for Patent Landscape Analyses," prepared for Global Intellectual Strategies, Ottawa, 16 pages.
- Dumontier M, Green JR, Golshani A, Smith ML, Mir-Rashed N, Alamgir Md, Eroukovam V, Dehne F, Cheetham JJ, 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 JR, "Developing machine learning systems in the presence of class imbalance", Invited Talk, Ottawa Machine Learning Meetup Group, Ottawa, Canada, 30 November 2015.
- Green JR, "Machine Learning for Bioinformatics in the Face of Class Imbalance", Track Keynote at the *World Congress on Medical Physics & Biomedical Engineering*, Toronto, Canada, 11 June 2015.
- Green JR, "Pattern Classification in the Presence of Class Imbalance", Invited Talk, Universidad Central "Marta Abreu" de Las Villas, Santa Clara, Cuba, 5 May 2015.
- Green JR, "The Future of Assistive Technologies", International Summit on Accessibility, 20 minutes, Ottawa Ontario, 15 July 2014.
- Green JR, "Creating Assistive Devices Using Machine Vision", FEDTalks Speaker Series, 60 minutes, Ottawa Ontario, 5 March 2014.
- Green JR, "Exact String Matching on Cell B/E and GPGPU Multi-core Architectures for Computational Mass Spectrometry", CASCON Workshop on Parallel Algorithms for Multi-Core and Many-Core Processors, 30 minutes, 2 November 2010.
- Green, JR, "Acceleration of Exact String Matching for Computational Mass Spectrometry", IEEE Computer Society Ottawa Chapter, 90 minutes, 21 September 2010.
- Green, JR, "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 JR, Marble AE, "An Assistive Device for Visually Impaired Swimmers", *CMBEC32*, Calgary, 20-22 May 2009.
- Green JR, Mahmoud H, Dumontier M, "Modeling Tryptic Digestion on the Cell BE Processor", CASCON 2008, Toronto, 27-28 October 2008.
- Green JR 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 JR, Knisely W, Aghaei A, "An Extensible Genetic Algorithms Library for the Cell BE Processor", CASCON 2007, Toronto, 22-25 October 2007.
- Green JR, "Fast and Equitable Grading of Labs and Assignments in Science and Engineering", Educational Development Center, Carleton University, 90 minutes, 2007-2009.
- Green JR, "Discovering protein structure and function via nonlinear system identification", IEEE EMBS Ottawa Chapter, Ottawa, 23 November 2005.

## Posters

- Nizami A, Green JR, McGregor C, "Detecting Artifacts in Big Physiologic Data to Enhance Clinical Decision Support", Second Annual Data Day, Carleton University, 1 April 2015. **Honorable Mention in Poster Competition.**
- Peace R, Green JR, "MicroRNA prediction for elucidation of freeze-tolerant properties of *C. Picta Bellii*", First Annual Data Day, Carleton University, 24 April 2014.
- Ruiz-Blanco YB, Martinez E, Marrero-Ponce Y, Green JR, "A Hybrid-meta-heuristic Approach to Search Protein Conformational Space", First Annual Data Day, Carleton University, 24 April 2014.
- Amos-Binks A, Dehne F, Green JR, "Towards Personalized Interactomes", First Annual Data Day, Carleton University, 24 April 2014
- Schoenrock A, Samanfar B, Hooshyar M, Phillips CA, Wang H, Pitre S, Omidi K, Gui Y, Alamgir Md, Barrenas F, Benson M, Langston M, Green JR, Dehne F, Golshani A, "On finding overlapping graph complexes, with applications to PPI network analysis", UT-ORNL-KBRIN Bioinformatics Summit, Louisville, KY, March 2012
- Peace R, Mahmoud H, Green JR, "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 JR, "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 JR, "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 JR, 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 JR, "Dynamic Nonlinear System Identification on the Cell BE", Cell BE Programming Workshop 2008, Carleton University, 15-16 May 2008.
- Mahmoud H, Dumontier M, Green JR, "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
2016-2021	<b>NSERC Discovery Grant</b> <i>"Effective prediction of microRNAs in the face of class imbalance"</i>		\$18,000/yr for 5 years (\$90,000 total)
2016-2022	<b>NSERC Research and Training Experience Program</b> <i>"Biomedical Engineering Smartphone Training (BEST) Program"</i>	Natalie Baddour (PI) and 8 others.	\$1.65M over 6 years
2014-2016	<b>Carleton University Development Grant</b> <i>"Computing personalized protein interactomes"</i>		\$20,000
2014	<b>NSERC Engage Grant</b> <i>"Enabling persons with intellectual disabilities to optimize automated video analysis systems – a feasibility study"</i>		\$25,000
2013	<b>NSERC Research Tools &amp; Instruments - I</b> <i>"Personalized human protein interactomes"</i>	Frank Dehne (PI)	\$13,015
2012	<b>NSERC Engage Grant</b> <i>"Evaluation of semantic search technologies for patent landscape analyses"</i>		\$24,910
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 (\$95,000 total)
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
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> <i>3-year term is policy for new applicants to GSC 331.</i>		\$15,000/yr for 3 years (\$45,000 total)
2005	<b>Carleton University Start-up Grant</b>		\$25,000

## Major Honours and Awards

- IEEE Ottawa Section Outstanding Service Award 2015
- Nominated for a Capital Educator’s Award 2015
- 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

- Editorial positions:
  - Associate Editor, Journal of Medical and Biomedical Engineering, 2014-present
  - Guest Co-Editor, Journal of Medical and Biological Engineering, 2013
- Workshop Organization Committees:
  - Advisory committee member, 2016 IEEE Engineering in Medicine and Biology International Student Conference, Ottawa, 29-31 May 2016.
  - Track Co-Chair (Bioinformatics), 2015 World Congress on Medical Physics and Biomedical Engineering, Toronto, 7-12 June 2015
  - Academic Co-Chair, 2013 Joint Conference of the Canadian Medical and Biological Engineering Society (CMBEC36) and L’Association des Physiciens et Ingénieurs Biomédicaux du Québec (APIBQ42), Ottawa, 21-24 May 2013
  - 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
- Technical Program Committees:
  - IEEE BIBE 2016 – 16th International Conference on Bioinformatics and BioEngineering, Oct 2016
  - IEEE EMBS International Student Conference (ISC), May 2016
  - IEEE MeMeA 2015 – Medical Measurements and Applications, May 2015
  - IEEE CCECE 2014 – Biomedical and Health Informatics Stream, May 2014

- IEEE MeMeA 2013 – Medical Measurements and Applications, May 2013
- Associate editor for the CCECE 2012 Biomedical Engineering and Health Informatics track, May 2012
- 13<sup>th</sup> IASTED International Conference on Intelligent Systems and Control (ISC 2011), July 2011
- 2011 International Conference on Autonomous and Intelligent Systems (AIS 2011), June 2011
- The Third IEEE International Workshop of Real-Time Service-Oriented Architecture and Applications (RTSOAA 2010), July 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 IEEE International Workshop of Real-Time Service-Oriented Architecture and Applications (RTSOAA 2009)
- 2009 (IEEE) International Conference on Signals, Circuits and Systems (SCS 2009)
- CCECE 2009, Signal and Multimedia Processing Symposium
- Vice-Chair, IEEE EMBS Ottawa Chapter, 2015-present
- Secretary, IEEE EMBS Ottawa Chapter, 2007-2015
- Advisory Board member for the READ (Research, Education, Accessibility, and Design) Innovation Centre, 2015-present
- Reviewer for:
  - BMC Bioinformatics 2016
  - Nucleic Acids Research, 2014, 2012, 2006
  - Bioinformatics (Oxford) 2015
  - FEBS Letters 2015
  - Computer Methods and Programs in Biomedicine, 2011
  - 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.
  - Journal of Medical and Biological Engineering 2013.
  - Ad hoc grant reviews for NSERC Discovery Grant, CFI Leader's Opportunity Fund, MITACS Accelerate, 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), 2010
  - 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, 2013-2016)

## Committee Membership

### ***Carleton University***

Associate Director of the Ottawa-Carleton Collaborative Program in Bioinformatics 2016-2017  
 Chair, Systems and Computer Engineering Faculty Hiring Committee for Real-time Data Analytics/Software  
 Carleton University Joint Health and Safety Committee (CUASA rep)  
 Member of the Advisory Board for READ Innovation Centre

University Tenure and Promotion Appeal Committee  
 Fire Warden, 6<sup>th</sup> floor Canal Building

Director of the Ottawa-Carleton Collaborative Program in Bioinformatics 2015-2016  
 Interim Director of the Carleton University Institute for Data Science  
 Chair, Systems and Computer Engineering Faculty Hiring Committee for Real-time Data Analytics/Software  
 Carleton University Joint Health and Safety Committee (CUASA rep)  
 Member of the Advisory Board for READ Innovation Centre  
 University Tenure and Promotion Appeal Committee  
 Faculty Mentor, Virtual Ventures  
 Institute for Data Science Selection Committee  
 Member of the Systems and Computer Engineering Tenure & Promotion Committee  
 Fire Warden, 6<sup>th</sup> floor Canal Building

Co-op Coordinator, Department of Systems and Computer Engineering 2014-2015  
 Director of the Ottawa-Carleton Collaborative Program in Bioinformatics  
 Systems and Computer Engineering Faculty Hiring Committee, Biomedical Engineering  
 School of Computer Science Hiring Committee, Canada Research Chair in Big Data  
 Carleton University Joint Health and Safety Committee (CUASA rep)  
 Fire Warden, 6<sup>th</sup> floor Canal Building  
 NSERC PGS-D & PGS-M Departmental Scholarship Ranking Committee  
 Member of the Advisory Board for READ Innovation Centre

Co-op Coordinator, Department of Systems and Computer Engineering 2013-2014  
 Associate Director of the Ottawa-Carleton Collaborative Program in Bioinformatics  
 University Tenure and Promotion Appeal Committee  
 Institute for Data Science Steering Committee  
 Systems and Computer Engineering Faculty Hiring Committee  
 Carleton University Joint Health and Safety Committee (CUASA rep)  
 Fire Warden, 6<sup>th</sup> floor Canal Building

Co-op Coordinator, Department of Systems and Computer Engineering 2012-2013  
 Associate Director of the Ottawa-Carleton Collaborative Program in Bioinformatics  
 Systems and Computer Engineering Faculty Hiring Committee  
 Systems and Computer Engineering TA Orientation Panel Member

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  
 Educational Development Centre New Faculty Orientation Panel Member  
 Systems and Computer Engineering 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  
Educational Development Centre New Faculty Orientation Panel Member  
Systems and Computer Engineering 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  
Systems and Computer Engineering Tenure & Promotion Committee  
Carleton University Patrick O'Brien High School Teaching Award Selection Committee  
Educational Development Centre "Moving Forward by Looking Back" Faculty Panel Member  
Chief Fire Warden, Mackenzie Building Block 4  
Systems and Computer Engineering 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  
Systems and Computer Engineering 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**

FIRST Robotics Faculty Mentor for St. Francis Xavier High School, Ottawa 2013-2014  
Member of the Board of Directors, Down Syndrome Association – National Capital Region 2006-2010  
Fully certified member of the Queen's Applied Science Joint Health and Safety Committee 1999-2005