James Robert Green, PhD, PEng, SMIEEE

Personal Information

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Employment

Academic Appointments

Department of Systems and Computer Engineering	**Interim Chair**
Carleton University, Ottawa, Ontario	Jul. 2020 – June 2021
Department of Systems and Computer Engineering	**Full Professor**
Carleton University, Ottawa, Ontario	Jul. 2019 – present
Department of Health Sciences *(cross-appointment)*	**Full Professor**
Carleton University, Ottawa, Ontario	Jul. 2019 – present
Department of Systems and Computer Engineering	**Associate Professor**
Carleton University, Ottawa, Ontario	Jul. 2010 – Jun. 2019
Institute for Data Science	**Interim Director**
Carleton University, Ottawa, Ontario	Jan. 2016 – Jun. 2016
Department of Health Sciences *(cross-appointment)*	**Associate Professor**
Carleton University, Ottawa, Ontario	Feb. 2015 – Jun. 2019
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

Contributions:

Refereed Journal Publications

- [J54] Souley Dosso Y, Kyrollos D, Greenwood K, Harrold J, Green JR, 2021, "NICUface: Robust Neonatal Face Detection in Complex NICU Scenes," *IEEE Access, in press*.
- [J53] Charih F, Biggar KK, Green JR, 2022, "Assessing sequence-based protein-protein interaction predictors for use in therapeutic peptide engineering", *Scientific Reports*, *in press*.
- [J52] Dick K, Tanner JB, Charih F, Green JR, 2022, "GasBotty: Multi-Metric Extraction in the Wild," *IEEE Access*, 10:28487-28498, doi:10.1109/ACCESS.2022.3156578.
- [J51] Rurak GM, Simard S, Freitas-Andrade M, Lacoste B, Charih F, Van Geel A, Stead J, Woodside B, Green JR, Coppola G, Salmaso N, 2022, "Sex differences in developmental patterns of neocortical astroglia: A mouse translatome database", *Cell Reports*, 38(5):110310, doi:10.1016/j.celrep.2022.110310.
- [J50] Souley Dosso Y, Greenwood K, Harrold J, Green JR, 2021, "RGB-D Scene Analysis in the NICU," *Elsevier Computers in Biology and Medicine*, 138:104873, doi: 10.1016/j.compbiomed.2021.104873.
- [J49] Dick K, Hooker J, Nissan N, Pattang A, Sadowski M, Barnes B, Tan LH, Burnside D, Phanse S, Aoki H, Babu M, Dehne F, Golshani A, Cober ER, Green JR, Samanfar B, 2021, "Human-Soybean Allergies: Elucidation of the Seed Proteome & Comprehensive Protein-Protein Interaction Prediction," *Journal of Proteome Research*, 20(11):4925–4947, doi:10.1021/acs.jproteome.1c00138.
- [J48] Nizami S, McGregor AM C, Green JR, 2021, "Integrating Physiological Data Artifacts Detection With Clinical Decision Support Systems: Observational Study", *JMIR Biomed Eng*, 6(2):e23495, doi: 10.2196/23495.
- [J47] Dick K, Chopra A, Biggar KK, Green JR, 2021, "Multi-schema computational prediction of the comprehensive SARS-CoV-2 vs. human interactome", *PeerJ,* 9:e11117, doi:10.7717/peerj.11117.
- [J46] Wang RCC, Campbell DA, Green JR, Čuperlović-Culf M, 2021, "Automatic 1D 1H NMR Metabolite Quantification for Bioreactor Monitoring", *Metabolites*, 11(3):10.3390, doi:10.3390/metabo11030157.
- [J45] Charih F, Green JR, Biggar KK, 2020, "Machine Learning-Driven Identification of Novel Lysine Methylation Sites with MethySight", *STAR Protocols, accepted.*
- [J44] Kyrollos D, Reid B, Dick K, Green JR, 2020, "RPmirDIP: Reciprocal Perspective Improves miRNA Targeting Prediction," *(Nature) Scientific Reports*, 10:11770, doi:10.1038/s41598-020-68251-4.
- [J43] Biggar KK, Charih F, Liu H, Ruiz-Blanco YB, Stalker L, Chopra A, Connolly J, Adhikary H, Frensemier K, Galka M, Fang Q, Wynder C, Stanford WL, Green JR, Li SSC, 2020, "Proteome-

wide Prediction of Lysine Methylation Leads to Identification of H2BK43 Methylation and Outlines the Potential Methyllysine Proteome," *Cell Reports*, 32:107896, doi:10.1016/j.celrep.2020.107896.

- [J42] Shahreza ML, Ghadiri N, Green JR, 2020, "A computational drug repositioning method applied to rare diseases: Adrenocortical carcinoma," *(Nature) Scientific Reports*, 10:8846, doi:10.1038/s41598-020-65658-x.
- [J41] Goswami I, Redpath S, Langlois RG, Green JR, Lee KS, Whyte HEA, 2020, "Whole-body vibration in neonatal transport: a review of current knowledge and future research challenges", *Early Human Development*, 146:105051, doi:10.1016/j.earlhumdev.2020.105051.
- [J40] Charih F, Steeves A, Bromwich M, Mark AE, Lefrançois R, Green JR, "Data-Driven Audiogram Classification for Mobile Audiometry", 2020, *(Nature) Scientific Reports*, 10:3962, doi:10.1038/s41598-020-60898-3.
- [J39] Dick K, Samanfar B, Barnes B, Cober ER, Mimee B, Tan LH, Molnar SJ, Biggar KK, Golshani A, Dehne F, Green JR, 2020, "PIPE4: Fast PPI Predictor for Comprehensive Inter- and Cross-Species Interactomes", *(Nature) Scientific Reports*, 10:1390, doi:10.5683/SP2/PVOTRN.
- [J38] Sheikh Hassani M, Green JR, 2019, "A Semi-Supervised Machine Learning Framework for MicroRNA Classification", *BMC Human Genomics*, 13-Sup1:43 (doi:10.1186/s40246-019-0221-7).
- [J37] Sheikh Hassani M, Green JR, 2019, "Multi-view Co-training for microRNA Prediction", (Nature) Scientific Reports, 9:10931 (doi:10.1038/s41598-019-47399-8).
- [J36] Romero-Molina S, Ruiz-Blanco YB, Green JR, Sanchez-Garcia E, 2019, "ProtDCal-Suite: A web server for the numerical codification and functional analysis of proteins", *Protein Science*, 28(9):1734-1743 (doi: 10.1002/pro.3673).
- [J35] Peace RJ, Sheikh Hassani M, Green JR, 2019, "miPIE: NGS-based Prediction of miRNA Using Integrated Evidence", *(Nature) Scientific Reports*, 9:1548 (doi:10.1038/s41598-018-38107-z).
- [J34] Burnside D, Schoenrock A, Moteshareie H, Hooshyar M, Basra P, Hajikarimloo M, Dick K, Barnes B, Kazmirchuk T, Jessulat M, Pitre S, Samanfar B, Babu M, Green JR, Wong A, Dehne F, Biggar KK, Golshani A, 2019, "A robust computational tool for engineering synthetic binding proteins from random amino acid sequences," ISCIENCE, *11:375-387, (doi:10.1016/j.isci.2018.11.038).*
- [J33] Grigg N, Schoenrock A, Dick K, Green JR, Golshani A, Wong A, Dehne F, Tsai EC, Biggar KK, 2019, "Insights into the suitability of utilizing brown rats (Rattus norvegicus) as a model for healing spinal cord injury with epidermal growth factor and fibroblast growth factor-II by predicting protein-protein interactions," *Computers in Biology and Medicine*, 104:220-226.
- [J32] Dick K, Russell L, Souley Dosso Y, Kwamena F, Green JR, 2019, "Deep Learning for Critical Infrastructure Resilience," *ASCE Journal of Infrastructure Systems*, 25(2) (doi:10.1061/(ASCE)IS.1943-555X.0000477).
- [J31] Dick K, Green JR, 2018, "Reciprocal Perspective for Improved Protein-Protein Interaction Prediction," *(Nature) Scientific Reports,* 8(1):11694.

- [J30] Nizami S, Bekele A, Hozayen M, Greenwood K, Harrold J, Green JR, 2018, “Measuring uncertainty during respiratory rate estimation using pressure-sensitive mats,” *IEEE Transactions on Instrumentation and Measurement,* 67(7):1535-42.
- [J29] Martínez-López Y, Barigye SJ, Martínez-Santiago O, Marrero-Ponce Y, Green JR, Castillo-Garit JA, 2017, “Prediction of aquatic toxicity of benzene derivatives using molecular descriptor from atomic weighted vectors," *Environmental Toxicology and Pharmacology,* 56:314-321 (doi:10.1016/j.etap.2017.10.006).
- [J28] Kazmirchuk T, Dick D, Burnside DJ, Barnes B, Moteshareie H, Hajikarimlou M, Omidi K, Ahmed D, Low A, Lettl C, Hooshyar M, Schoenrock A, Pitre S, Babu M, Cassol E, Samanfar B, Wong A, Dehne F, Green JR, Golshani A, 2017, “Designing Anti-Zika Virus Peptides Derived from Predicted Human-Zika Virus Protein-Protein Interactions” *Computational Biology and Chemistry,* 71:180-187, (doi: 10.1016/j.compbiolchem.2017.10.011).
- [J27] Ruiz-Blanco YB, Agüero-Chapin G, García-Hernández E, Álvarez O, Antunes A, Green JR, 2017, “Exploring General-purpose Protein Features for Distinguishing Enzymes and Non-enzymes Within the Twilight Zone,” *BMC Bioinformatics*, 18:349, (doi: 10.1186/s12859-017-1758-x).
- [J26] Shahreza ML, Ghadiri N, Mossavi SR, Varshosaz J, Green JR, 2017, “Heter-LP: A heterogeneous label propagation algorithm and its application in drug repositioning,” *Journal of Biomedical Informatics*, 68:167-183, (doi:10.1016/j.jbi.2017.03.006).
- [J25] Schoenrock A, Burnside D, Moteshareie H, Pitre S, Hooshyar M, Green JR, Golshani A, Dehne F, Wong A, 2017, “Evolution of Protein-Protein Interaction Networks in Yeast,” *PLoS ONE* 12(3): e0171920. (doi:10.1371/journal.pone.0171920)
- [J24] Shahreza ML, Ghadiri N, Mossavi SR, Varshosaz J, Green JR, 2017, “A Review of Network-based Approaches to Drug Repositioning,” *Briefings in Bioinformatics*, 68:167-183, (doi:10.1016/j.jbi.2017.03.006).
- [J23] Ruiz-Blanco YB, Marrero-Ponce Y, García-Hernández E, Green JR, 2016, “Novel ‘extended sequons’ of Human N-glycosylation sites improve the precision of qualitative predictions: An alignment-free study of pattern recognition using ProtDCal protein features”, *Amino Acids*, 49:317–325 (doi: 10.1007/s00726-016-2362-5).
- [J22] 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
- [J21] 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.
- [J20] 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”.***
- [J19] 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.

- [J18] Fraser GD, Chan ADC, Green JR, MacIsaac 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).
- [J17] Chao S, Green JR*, Smith JC*, 2014, "Evaluation of a GPGPU-based de novo peptide sequencing algorithm", *Journal of Medical and Biological Engineering,* 34(5): 461-468 (doi:10.5405/jmbe.1713). (*co-corresponding authors)
- [J16] Ghadiri A, Green JR, Marble AE, 2014, "Real-time Non-contact Optical Tongue Tracking", *Journal of Medical and Biological Engineering*, *34(5): 455-460 (doi:10.5405/jmbe.1712)*.
- [J15] 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).
- [J14] 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).
- [J13] 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).
- [J12] 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*.
- [J11] 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)
- [J10] 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".***
- [J9] 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).
- [J8] 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".***
- [J7] Green JR, Korenberg MJ, and Aboul-Magd Md, 2009, "MISO Dynamic Nonlinear Protein Secondary Structure Prediction", *BMC Bioinformatics* 10:222.
- [J6] 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.

- [J5] 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)
- [J4] Green JR and Korenberg MJ, 2006, "On the Advantages of Multi-Input Single-Output Parallel Cascade Classifiers", *Ann. Biomed. Eng.* 34:709-716.
- [J3] 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.
- [J2] 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.
- [J1] 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.

Book Chapters

- [B2] Shahreza ML, Ghadiri N, Green JR, 2019, "Heter-LP: A heterogeneous label propagation method for drug repositioning," in: Vanhaelen Q. (eds) Computational Methods for Drug Repurposing. Methods in Molecular Biology, vol 1903. Humana Press, New York, NY, (DOI:10.1007/978-1-4939-8955-3_18)
- [B1] Peace RJ and Green JR, 2019, "Computational Sequence- and NGS-based MicroRNA Prediction" in Signal Processing and Machine Learning for Biomedical Big Data, edited by Sejdic E and Falk TH, CRC Press, Boca Raton, (DOI:10.1201/9781351061223)

Patents (Issued and Applications)

- [PP2] Giffen PR, Green JR, Nizami S, inventors; IBM, assignee. "Detecting Quality of Physiologic Data Using Contact Pressure Data for Alarm Generation," US Patent Number 10,297,143 B1. Issued 21 May 2019.
- [PP1] 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.

Refereed Conference Proceedings

All papers below were refereed on full manuscript except where noted

- [C89] Hajj-Ali Z, Greenwood K, Harrold J, Green JR, "Towards Depth-based Respiratory Rate Estimation with Arbitrary Camera Placement", *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Giardini Naxos-Taormina, Italy, 22-24 June 2022.
- [C88] Kyrollos D, Greenwood K, Harrold J, Green JR, "Transfer Learning Approaches for Neonate Head Localization from Pressure Images", *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Giardini Naxos-Taormina, Italy, 22-24 June 2022.
- [C87] Kehoe P, Gibb K, Hurley J, Aubertin C, Greenwood K, Ibey A, Redpath S, Chan ADC, Green JR, Langlois R, "Vibration Profiles of a Road Ambulance Using Equivalent Acceleration", *Canadian Society for Mechanical Engineering International Congress - CSME 2022*, Edmonton, Canada, 5-8 June 2022.

- [C86] Hurley J, Kehoe P, Gibb K, Aubertin C, Greenwood K, Ibey A, Redpath S, Chan ADC, Green JR, Langlois R, "Development of Dedicated Transport Isolette Vibration Test Apparatus", *Canadian Society for Mechanical Engineering International Congress - CSME 2022*, Edmonton, Canada, 5-8 June 2022.
- [C85] Gibb K, Kehoe P, Hurley J, Aubertin C, Greenwood K, Ibey A, Redpath S, Chan ADC, Green JR, Langlois R, "Developing a Dynamic Model of the Standard Neonatal Patient Transport System using Lagrange's Equation in the Pitch Plane", *Canadian Society for Mechanical Engineering International Congress - CSME 2022*, Edmonton, Canada, 5-8 June 2022.
- [C84] Gibb K, Kehoe P, Hurley J, Aubertin C, Greenwood K, Ibey A, Redpath S, Chan ADC, Green JR, Langlois R, "Dynamic Modeling of the Standard Neonatal Patient Transport System using a Newton-Euler Based Formulation in the Roll Plane", *9th International Conference of Control, Dynamic Systems, and Robotics - CDSR22*, Niagara Falls, Canada, 2-4 June 2022.
- [C83] Tanner J, Dick K, Green JR, "Inter- & Intra-City Image Geolocalization", *Conference on Robots and Vision - CRV2022*, Toronto, Ontario, 30 May - 2 June 2022.
- [C82] Mozafari M, Law A, Green JR, Goubran RA, "Respiration Rate Estimation from Thermal Video of Masked and Unmasked Individuals Using Tensor Decomposition", *IEEE International Instrumentation and Measurement Technology Conference - I2MTC2022*, Ottawa, Canada, 16-19 May 2022.
- [C81] Mozafari M, Law A, Béni Tchoudem Djouaka S, Green JR, Goubran RA, "Comparison of Blind Source Separation Techniques for Respiration Rate Estimation from Depth Video", *IEEE International Instrumentation and Measurement Technology Conference - I2MTC2022*, Ottawa, Canada, 16-19 May 2022.
- [C80] Kyrollos D, Green JR, "MetaHate: A Meta-Model for Hate Speech Detection", *IEEE Big Data DEVIANCE 2021: Workshop on Deviant Activities on Social Media*, Orlando, FL (virtual), 15-18 Dec 2021.
- [C79] Souley Dosso Y, Greenwood K, Harrold J, Green JR, "Bottle-Feeding Intervention Detection in the NICU", *IEEE Engineering in Medicine and Biology Conference - EMBC 2021*, Guadalajara, Mexico (virtual), 1-5 Nov 2021.
- [C78] Purohit A, Acharya S, Green JR, "A novel Greedy approach for Sequence based Computational prediction of Binding-Sites in Protein-Protein Interaction", *IEEE 21st International Conference on Bioinformatics and Bioengineering - BIBE2021*, Kragujevac, Serbia (virtual), 25-27 Oct. 2021.
- [C77] Dick K, Kyrollos D, Green JR, "Machine Learning Pedagogy to Support the Research Community", *ACM SIGPLAN conference on Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH-E '21)*, Chicago, IL (virtual), 20 Oct 2021.
- [C76] Mozafari M, Goubran RA, Green JR, "A Fusion Model for Cross-Subject Stress Level Detection Based on Transfer Learning", *Sensors Applications Symposium (SAS)*, Sundsvall, Sweden (virtual), 23-25 Aug 2021.
- [C75] Kyrollos D, Greenwood K, Harrold J, Green JR, "Detection of False Alarms in the NICU Using Pressure Sensitive Mat", *Sensors Applications Symposium (SAS)*, Sundsvall, Sweden (virtual), 23-25 Aug 2021.

- [C74] Kyrollos D, Tanner JB, Greenwood K, Harrold J, Green JR, "Noncontact Neonatal Respiration Rate Estimation Using Machine Vision", *Sensors Applications Symposium (SAS)*, Sundsvall, Sweden (virtual), 23-25 Aug 2021.
- [C73] Souley Dosso Y, Selzler R, Greenwood K, Harrold J, Green JR, "RGB-D Sensor Application for Non-Contact Neonatal Monitoring", *Sensors Applications Symposium (SAS)*, Sundsvall, Sweden (virtual), 23-25 Aug 2021.
- [C72] Selzler R, Chan ADC, Green JR, "TSEA: An Open Source Python-Based Annotation Tool for Time Series Data", *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Neuchatel, Switzerland (virtual), 23-25 June 2021.
- [C71] Selzler R, Chan ADC, Green JR, "Impact of Subject-specific Training Data in Anxiety Level Classification from Physiologic Data", *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Neuchatel, Switzerland (virtual), 23-25 June 2021.
- [C70] Darwaish F, Redpath S, Greenwood K, Aubertin C, Ibey A, Chan ADC, Green JR, Langlois RG, "Characterizing On-Road Vibrations in Ontario's Neonatal Patient Transport", *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Neuchatel, Switzerland (virtual), 23-25 June 2021.
- [C69] Dick K, Tanner J, Green JR, "To Keystone or Not to Keystone, that is the Correction", *Conference on Robots and Vision - CRV2020*, Vancouver, Canada (virtual), 25-28 May 2021.
- [C68] Kyrollos D, Hassan R, Souley Dosso Y, Green JR, "Fusing Pressure-Sensitive Mat Data with Video through Multi-Modal Registration", *IEEE International Instrumentation and Measurement Technology Conference - I2MTC2021*, Glasgow, Scotland (virtual), 17-20 May 2021.
- [C67] Cohen-McFarlane M, Dick K, Green JR, Goubran RA, "Chaos Game Representation of Audio Signals", *IEEE International Instrumentation and Measurement Technology Conference - I2MTC2021*, Glasgow, Scotland (virtual), 17-20 May 2021.
- [C66] Kyrollos D, Stachiw T, Green JR, Langlois RG, "Injury Risk and Comfort Assessment Applied to Ambulance Transportation", *7th International Conference of Control Systems, and Robotics (CDSR'20)*, Niagara Falls, ON (virtual), 9-11 Nov 2020, doi: 10.11159/cdsr20.156.
- [C65] Dick K, Green JR, "Chaos Game Representations and Deep Learning for Proteome-wide Protein Prediction", *IEEE 20th International Conference on Bioinformatics and Bioengineering - BIBE2020*, Cincinnati, OH (virtual), 26-28 Oct. 2020.
- [C64] Souley Dosso Y, Aziz S, Nizami S, Aubertin C, Greenwood K, Harrold J, Green JR, "Video-based Neonatal Motion Detection", *IEEE Engineering in Medicine and Biology Conference - EMBC 2020*, Montreal, Quebec, 20-24 July 2020.
- [C63] Darwaish F, Selzler R, Law A, Chen E, Ibey A, Aubertin C, Greenwood K, Redpath S, Chan ADC, Green JR, Langlois RG, "Preliminary Laboratory Vibration Testing of a Complete Neonatal Patient Transport System", *IEEE Engineering in Medicine and Biology Conference - EMBC 2020*, Montreal, Quebec, 20-24 July 2020.
- [C62] Selzler R, Smith A, Charih F, Boyle A, Holly J, Bridgewater C, Besemann M, Curan D, Chan ADC, Green JR, "Exploratory Analysis of Ultra-Short-Term Heart Rate Variability Features in

Virtual Rehabilitation Sessions," *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Bari, Italy, 1-3 June 2020.

- [C61] Aziz S, Souley Dosso Y, Nizami S, Greenwood K, Harrold J, Green JR, "Detection of Neonatal Patient Motion Using a Pressure-Sensitive Mat," *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Bari, Italy, 1-3 June 2020. ***(Received the IEEE MeMeA "Best Student Paper" award)***
- [C60] Souley Dosso Y, Aziz S, Nizami S, Greenwood K, Harrold J, Green JR, "Measuring Variability in Neonatal Face Tracking for Non-Contact Continuous Patient Monitoring," *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Bari, Italy, 1-3 June 2020.
- [C59] Dick K, Charih F, Woo J, Green JR, "Gas Prices of America: The Machine-Augmented Crowd-Sourcing Era", *CRV 2020 Computer and Robot Vision*, Ottawa, Ontario, 13-15 May 2020.
- [C58] Green JR, Langlois R, Chan A, Selzler R, Darwaish F, Ibey A, Aubertin C, Greenwood K, Redpath S, "Investigating Vibration Levels in a Neonatal Transport System", *Can Med Biol Eng Conf (CMBEC42)*, Ottawa, 21-24 May 2019.
- [C57] Hozayen H, Nizami S, Bekele A, Dick K, Green JR, "Developing a Real-Time Patient Monitor Data Import System", *National Conference on Undergraduate Research (NCUR2018)*, Edmond, Oklahoma, 4-7 Apr 2018.
- [C56] Sheikh Hassani M, Green JR, "Active Learning for MicroRNA Prediction", *IEEE International Conference on Bioinformatics and Biomedicine - BIBM2018*, Madrid, Spain, 3-6 Dec 2018.
- [C55] Bekele A, Samuel J, Nizami S, Basharat A, Giffen PR, Green JR, "Ontology Driven Temporal Event Annotator mHealth Application Framework," *CASCON 2018*, Markham, Canada, 29-31 October 2018.
- [C54] Dick K, Green JR, "Fitting Rank Order Data in the Age of Context", *IEEE Life Sciences Conference 2018*, Montreal, Quebec, 28-30 Oct 2018.
- [C53] Souley Dosso Y, Bekele A, Nizami S, Aubertin C, Greenwood K, Harrold J, Green JR, "Segmentation of Patient Images in the Neonatal Intensive Care Unit", *IEEE Life Sciences Conference 2018*, Montreal, Quebec, 28-30 Oct 2018.
- [C52] Charih F, Steeves A, Bromwich M, Mark AE, Lefrançois R, Green JR, "Applications of Machine Learning Methods in Retrospective Studies on Hearing", *IEEE Life Sciences Conference 2018*, Montreal, Quebec, 28-30 Oct 2018.
- [C51] Selzler R, Green JR, Goubran RA, "Neurodegenerative Disease Prediction Based on Gait Analysis Signals Acquired with Force-Sensitive Resistors", *IEEE Life Sciences Conference 2018*, Montreal, Quebec, 28-30 Oct 2018.
- [C50] Oommenn J, Bews D, Sheikh Hassani M, Ono Y, Green JR, "A Wearable Electronic Swim Coach for Blind Athletes", *IEEE Life Sciences Conference 2018*, Montreal, Quebec, 28-30 Oct 2018.
- [C49] Souley Dosso Y, Bekele A, Green JR, "Eulerian Magnification of Multi-Modal RGB-D Video for Heart Rate Estimation," *IEEE International Symposium on Medical Measurements*

and Applications (MeMeA), Rome, Italy, 11-13 May 2018. ***(Awarded the IEEE MeMeA "Women in Engineering Best Paper")***

- [C48] Selzler R, Aubertin C, Greenwood K, MacLean G, Redpath S, Green JR, “Measurement of Vibration Levels on Neonatal Transport Systems Using a Custom Data Logger,” *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Rome, Italy, 11-13 May 2018.
- [C47] Charih F, Bromwich M, Lefrancois R, Mark A, Green JR, “Mining Audiograms to Improve the Interpretability of Automated Audiometry Measurements,” *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Rome, Italy, 11-13 May 2018.
- [C46] Bekele A, Nizami S, Souley Dosso Y, Aubertin C, Greenwood K, Harrold J, Green JR, “Real-time Neonatal Respiratory Rate Estimation using a Pressure-Sensitive Mat,” *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Rome, Italy, 11-13 May 2018.
- [C45] Nizami S, Basharat A, Shaukat A, Hameed U, Raza SA, Bekele A, Giffen PR, Green JR, "CEA: Clinical Event Annotator mHealth Application for Real-time Patient Monitoring," *IEEE 40th International Engineering in Medicine and Biology Conference (EMBC2018)*, Honolulu, HI, USA, 17-21 July 2018.
- [C44] Dick K, Charih F, Souley Dosso Y, Russell L, Green JR, "Systematic Street View Sampling: High Quality Annotation of Power Infrastructure in Rural Ontario", *CRV 2018 Computer and Robot Vision*, Toronto, Ontario, 8-11 May 2018.
- [C43] Selzler R, Green JR, Goubran RA, Knoefel F, "Pressure sensitive mat using proximity sensors for vital sign monitoring", *IEEE International Instrumentation and Measurement Technology Conference*, Houston, Texas, 14-17 May 2018.
- [C42] Dick K, Dehne F, Golshani A, Green JR, "Positome: A method for improving protein-protein interaction quality and prediction accuracy", *IEEE CIBCB 2017*, Manchester, United Kingdom, Aug 2017, (doi:10.1109/CIBCB.2017.8058545).
- [C41] Nizami S, Bekele A, Hozayen M, Greenwood K, Harrold J, Green JR, “Comparing time and frequency domain estimation of neonatal respiratory rate using pressure-sensitive mats,” *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Rochester, MN, USA, 7-10 May 2017. ***(Awarded the IEEE MeMeA "Women in Engineering Best Paper")***
- [C40] Nizami S, Cohen-McFarlane M, Green JR, Goubran RA, “Comparing metrological properties of pressure-sensitive mats for continuous patient monitoring,” *2017 IEEE Sensors Applications Symposium*, Glassboro, New Jersey, 13-15 March 2017.
- [C39] 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.
- [C38] Dick K, Green JR, "Comparison of Sequence- and Structure-Based Protein-Protein Interaction Sites", *IEEE EMBS ISC 2016*, Ottawa, Canada, May 2016.

- [C37] 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)***
- [C36] 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.
- [C35] Cohen-McFarlane M, Green JR, Goubran R, Knoefel F, "Characterization of Measurements from Pressure Sensitive Mats Using an Anthropomorphic Body Model", *IEEE International Instrumentation and Measurement Technology Conference (I^2MTC)*, Taipei, Taiwan, 23-26 May 2016.
- [C34] 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.
- [C33] 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.
- [C32] Peace RJ, Green JR, "Updated Free Energy Parameters Increase MicroRNA Prediction Performance", *World Congress on Medical Physics & Biomedical Engineering*, Toronto, Canada, June 2015.
- [C31] 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.
- [C30] Fraser GD, Chan ADC, Green JR, MacIsaac 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.
- [C29] 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)***
- [C28] 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.
- [C27] 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.
- [C26] 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.
- [C25] Abser N, MacIsaac 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.

- [C24] Fraser GD, Chan ADC, Green JR, MacIsaac 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.
- [C23] Fraser GD, Chan ADC, Green JR, MacIsaac 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.
- [C22] Iyuke F, Green JR, Willmore W, "Active Learning for the Prediction of Asparagine/Aspartate Hydroxylation Sites on Proteins", *IASTED International Conference on Computational Intelligence and Bioinformatics (CIB2011)*, Pittsburgh, 7-9 Nov 2011.
- [C21] Nizami, S, Green, JR, McGregor, C, "Service oriented architecture to support real-time implementation of artifact detection in critical care monitoring.", 32nd Annual International Conference of the IEEE-EMBS (EMBC), Boston MA, USA, 2011.
- [C20] Fraser GD, Chan ADC, Green JR, Abser N, MacIsaac D, "CleanEMG - Power line inteference estimation in sEMG using an adaptive least squares algorithm", 32nd Annual International Conference of the IEEE-EMBS (EMBC), Boston MA, USA, 2011.
- [C19] Abser N, MacIsaac 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.
- [C18] 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.
- [C17] 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)*
- [C16] 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.
- [C15] Walia M, Lukmanji T, Farrell R, Green JR, "Towards Development of a Robotic Guide Dog", *CMBEC33*, Vancouver, 15-18 June 2010.
- [C14] Salehi-Abari O, Alaca F, Green JR, Goubran R, "Application of Sensor Networks In A Smart Apartment", *CMBEC33*, Vancouver, 15-18 June 2010.
- [C13] 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)*
- [C12] 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)*
- [C11] 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)*

- [C10] 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.
- [C9] Yuan MY, Green JR, Goubran R, "Stove Top Thermal Monitoring For Assisted Living At Home", *CMBEC31*, Montreal, 10-13 June 2008.
- [C8] 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)*
- [C7] 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.
- [C6] Sadeghian A, Yim CH, Chan ADC, Green JR, "Eye-Interact: A Low-Cost Eye Movement Controlled Communication System", *CMBEC30*, Toronto, 16-19 June 2007.
- [C5] 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.
- [C4] 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)*
- [C3] Green JR, Dmochowski GM, Golshani A, "Prediction of Protein Sumoylation Sites Via Parallel Cascade Identification", *CMBEC06*, Vancouver, 1-3 June 2006.
- [C2] 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.
- [C1] Green JR, "Human Factors in Motor Vehicle Collision Investigations", *Proc. CMRSC* 10:498-508, Toronto, Ontario, 9-11 June 1997. ***(Best Student Paper Award)***

Non-refereed technical papers

- [T9] Rajan S, Abbasi H, Dey A, Lam I, Sharifisoraki Z, Ali E, Amini M, Green JR, 2022, "Creating a Multi-modal Sensor Data Resource of Canadian Critical Electrical Infrastructure", prepared for Natural Resources Canada, Energy Infrastructure Security Division, 38 pages.
- [T8] Amini M, Sharifisoraki Z, Ali E, Abbasi H, Dey A, Lam I, Rajan S, Green JR, 2022, "Segmentation Algorithms for Multi-modal Monitoring of Critical Electrical Infrastructure", prepared for Natural Resources Canada, Energy Infrastructure Security Division, 42 pages.
- [T7] Amini M, Dey A, Green JR, Rajan S, Selzler R, Sharifisoraki Z, 2021, "Monitoring Critical Infrastructure using 3D LiDAR", prepared for Natural Resources Canada, Energy Infrastructure Security Division, 67 pages.
- [T6] Dick K, Biggar KK, Green JR, 2020, "Computational Prediction of the Comprehensive SARS-CoV-2 vs. Human Interactome to Guide the Design of Therapeutics", bioRxiv 2020.03.29.014381, doi:10.1101/2020.03.29.014381.

- [T5] Dick K, Charih F, Russell L, Souley Dosso Y, Green JR, 2018, “Towards Energy Infrastructure Image Segmentation Using Deep Learning”, prepared for Natural Resources Canada, Energy Infrastructure Security Division, 88 pages.
- [T4] Dick K, Russell L, Souley Dosso Y, Green JR, 2017, “Deep Learning for Identifying Threats to Critical Infrastructure”, prepared for Natural Resources Canada, Energy Infrastructure Security Division, 68 pages.
- [T3] 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.
- [T2] Peace R, Green JR, 2012, “Final Report on Semantic Techniques for Patent Landscape Analyses,” prepared for Global Intellectual Strategies, Ottawa, 16 pages.
- [T1] 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.

Datasets

- [D7] Dick K, Tanner J, Green JR, 2022, "Streetlearn Intra-City Geolocation Dataset", Carleton University Dataverse, 1 Mar 2022. (DOI: 10.5683/SP3/DPIIEH)
- [D6] Dick K, Tanner J, Charih F, Green JR, 2022, "Fully Annotated Gas Prices of America Dataset for Multi-Metric Extraction in the Wild", Carleton University Dataverse, 23 Jan 2022. (DOI: 10.5683/SP3/NRGMMB)
- [D5] Dick K, Biggar KK, Green JR, 2020, “Comprehensive Prediction of the SARS-CoV-2 vs. Human Interactome using PIPE4, SPRINT, and PIPE-Sites”, Carleton University Dataverse, 23 Mar 2020. (DOI: 10.5683/SP2/JZ77XA)
- [D4] Kyrollos D, Reid B, Dick K, Green JR, 2020, “RPmirDIP Predictions of ~6 Million miRNA-Gene Pairs”, Carleton University Dataverse, 24 Feb 2020. (DOI: 10.5683/SP2/LD8JKJ)
- [D3] Dick K, Charih F, Woo J, Green JR, 2020, “Sampled 2048 GPA Images with Annotated Regular Gas Price”, Carleton University Dataverse, 10 Feb 2020. (DOI: 10.5683/SP2/KQ6VNG)
- [D2] Dick K, Samanfar B, Green JR, 2019, “Human-HIV1 All-to-All Inter-Species Predictions using PIPE4, SPRINT, SPPS”, Carleton University Dataverse, 7 Nov 2019. (DOI: 10.5683/SP2/PVOTRN)
- [D1] Dick K, Charih F, Green JR, 2018, “High Quality Annotations of Power Infrastructure in Rural Ontario”, Carleton University Dataverse, 6 Feb 2018. (DOI: 10.5683/SP/0YOVH1)

Workshops and Invited Technical Presentations

- [W23] Green JR, "Machine Learning (ML) Applications in Critical Infrastructure Monitoring", Centre for Energy Advancement through Technological Innovation (CEATI) Virtual Black Sky Hazards Workshop, 40 minutes, Ottawa Ontario, 17 May 2022.
- [W22] Green JR, "Machine Learning for Biomedical Informatics", Project Tech Conferences “Code your future” Youth Conference, 60 minutes, Ottawa Ontario, 26 June 2021.
- [W21] Green JR, "Non-Contact Neonatal Patient Care", InGenius Talks, 60 minutes, Ottawa Ontario, 5 Feb 2020.

- [W20] Green JR, "Machine Learning for Biomedical Informatics", Students in Engineering and Technology (SET) Conference, 90 minutes, Ottawa Ontario, 9 Nov 2019.
- [W19] Green JR, “Reciprocal Perspective: Leveraging Context in Complete Prediction Graphs”, Ottawa AI Alliance Workshop, Ottawa, Canada, 20 minutes, 19 Oct 2018.
- [W18] Green JR, "Deep Learning for Identifying Threats to Critical Infrastructure," Meeting of the Energy and Utilities Sector Network (EUSN), Ottawa, Canada, 60 minutes, 15 Nov 2017.
- [W17] Green, JR, “Fast and Equitable Grading of Labs and Assignments in Engineering”, Teaching Assistant Mentor Workshop Series, Carleton University, 90 minutes, annually 2012-2017.
- [W16] Green JR, “Predicting Rare Events,” Data Day 4.0, Carleton University, 29 March 2017.
- [W15] Green JR, “Machine Learning with Class (*Imbalance*),” CASCON 2016 Evidence-based Analytics Workshop, Markham, Ontario, 1 November 2016.
- [W14] Green JR, “Developing machine learning systems in the presence of class imbalance”, Invited Talk, Ottawa Machine Learning Meetup Group, 90 minutes, Ottawa, Canada, 30 November 2015.
- [W13] Green JR, "Machine Learning for Bioinformatics in the Face of Class Imbalance", Track Keynote at the *World Congress on Medical Physics & Biomedical Engineering*, 30 minutes, Toronto, Canada, 11 June 2015.
- [W12] 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.
- [W11] Green JR, "The Future of Assistive Technologies", International Summit on Accessibility, 20 minutes, Ottawa Ontario, 15 July 2014.
- [W10] Green JR, "Creating Assistive Devices Using Machine Vision", FEDTalks Speaker Series, 60 minutes, Ottawa Ontario, 5 March 2014.
- [W9] 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.
- [W8] Green, JR, "Acceleration of Exact String Matching for Computational Mass Spectrometry", IEEE Computer Society Ottawa Chapter, 90 minutes, 21 September 2010.
- [W7] Gelowsky T, Marjaba R, Patulea C, Green JR, Marble AE, "An Assistive Device for Visually Impaired Swimmers", *CMBEC32*, Calgary, 20-22 May 2009.
- [W6] Green JR, Mahmoud H, Dumontier M, "Modeling Tryptic Digestion on the Cell BE Processor", CASCON 2008, Toronto, 27-28 October 2008.
- [W5] 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.
- [W4] Green JR, Knisely W, Aghaei A, "An Extensible Genetic Algorithms Library for the Cell BE Processor", CASCON 2007, Toronto, 22-25 October 2007.

- [W3] Green JR, “Fast and Equitable Grading of Labs and Assignments in Science and Engineering”, Educational Development Center, Carleton University, 90 minutes, 2007-2009, 2010.
- [W2] Green JR, “Discovering protein structure and function via nonlinear system identification”, IEEE EMBS Ottawa Chapter, Ottawa, 23 November 2005.
- [W1] Green JR, “Dynamic nonlinear protein structure prediction”, Carleton University, Ottawa Ontario, 10 December 2004.

Posters

- [P24] Souley Dosso Y, Aziz S, Nizami S, Sethi N, Samuel JF, Greenwood K, Harrold J, Giffen PR, and Green JR, “Neonatal Motion Detection and Classification from Pressure Sensitive Mat and RGB-D Video Data,” CASCON 2019, Markham, Ontario, 4-6 Nov 2019.
- [P23] Nizami S, Souley Dosso Y, Samuel J, Sethi N, Ain QU, Amin R, Basharat A, Giffen PR, Green JR, “Real-Time Dynamic mHealth Applications and Analytics Framework, IBM CAS Project 2019”, Data Day, Carleton University, Ottawa, ON, Canada, 26 Mar 2019. ***(First place among ~28 posters.)***
- [P22] Nizami S, Bekele A, Souley Dosso Y, Samuel JF, Sethi N, Basharat A, Greenwood K, Harrold J, Giffen PR, and Green JR, “Patient Monitoring in the NICU using Pressure Sensitive Mats and Video Analytics,” CASCON 2018, Markham, Ontario, 30 Oct - 1 Nov 2018.
- [P21] Nizami S, Bekele A, Souley Dosso Y, Samuel J, Sethi N, Hozayen M, Basharat A, Aubertin C, Greenwood K, Harrold J, Giffen PR, and Green JR, “Patient Monitoring in the NICU using Pressure Sensitive Mats and Video Analysis,” Carleton University Life Sciences Research Day, Ottawa, Ontario, 30 May 2018. (***Received Best Poster Award, among ~25 posters.)***
- [P20] Nizami S, Bekele A, Souley Dosso Y, Hozayen Y, Basharat A, Aubertin C, Greenwood K, Harrold J, Giffen R, Green JR, “Patient Monitoring in the NICU using Pressure Sensitive Mats and Video Analysis,” CASCON 2017, Markham, Ontario, 6-8 Nov 2017. ***(Tied for Best Poster Award, among 75 exhibits)***
- [P19] Cohen-MacFarlane, Green JR, Knoefel F, Goubran RA, “Smart Monitoring of Fluid Intake And Bladder Voiding Using Pressure Sensitive Mats,” Life Sciences Research Day, Carleton University, 5 May 2017.
- [P18] Dick K, Green JR, “A Framework for Improving Protein-Protein Interaction Predictions,” Life Sciences Research Day, Carleton University, 5 May 2017.
- [P17] Souley-Dosso Y, Dick K, Green JR, “Tongue Tracking using Convolutional Neural Networks and Transfer Learning,” Life Sciences Research Day, Carleton University, 5 May 2017.
- [P16] Dick K, Souley-Dosso Y, Russell L, Green JR, “Deep Learning for Identifying Threats to Critical Infrastructure,” Data Day 4.0, Carleton University, 29 March 2017.
- [P15] Castillo-Garit JA, Martínez-López Y, Barigye SJ, Martínez-Santiago O, Marrero-Ponce Y, Green JR, 2017, "Molecular descriptor from atomic weighted vectors to predict aquatic toxicity," MOL2NET 2016 - 2nd International Conference on Multidisciplinary Sciences, 25 Jan 2017.

- [P14] Nizami S, Nofal S, Statchuk C, Aubertin C, Greenwood K, Harrold J, Green JR, “Pressure Sensitive Mats for Patient Monitoring in the NICU,” CASCON 2016, Markham, Ontario, 31 October 2016.
- [P13] Nizami S, 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.***
- [P12] Peace R, Green JR, “Species-specific microRNA prediction for elucidation of freeze-tolerance”, 2014 Ottawa Hospital Research Institute (OHRI) Research Day, Ottawa ON, 13 Nov 2014.
- [P11] 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.
- [P10] 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.
- [P9] Amos-Binks A, Dehne F, Green JR, “Towards Personalized Interactomes”, First Annual Data Day, Carleton University, 24 April 2014
- [P8] 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
- [P7] 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.
- [P6] 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.***
- [P5] 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.
- [P4] 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.***
- [P3] 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.
- [P2] Hamdy M, Belkemah P, Green JR, “Dynamic Nonlinear System Identification on the Cell BE”, Cell BE Programming Workshop 2008, Carleton University, 15-16 May 2008.
- [P1] 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.

Funding History

Year	Grant Agency and Grant	Co-applicants	Amount
2022	**NSERC Idea to Innovation (I2I) Program** *"A novel strategy towards the computational development of peptide 'disruptors' to be used as molecular probes or therapeutic molecules"*	Kyle Biggar (PI)	$20,000
2021-2022	**CU Multidisciplinary Research Catalyst Fund (MRCF)** *"Multidisciplinary Tissue Engineering Cluster: M-TEC"*	Leila Mostaco-Guidolin (PI) and 4 others	$40,000
2021-2026	**NSERC Discovery Grant** *"Reciprocal Perspective Machine Learning to Identify Relationships in Sparse Biological Networks"*		$35,000/yr for 5 years ($175,000 total)
2020-2023	**NSERC/CIHR Collaborative Health Research Project (CHRP)** *"Reducing vibrations to improve infant patient safety during transportation"*	Robert Langlois (PI) Stephanie Redpath Adrian Chan	$522,864 over 3 years
2020-2021	**NSERC Alliance COVID-19 Grant (Zim Corp.)** *"COVID-19: Annotating and controlling the inter-species protein interactome through the development of peptide inhibitors for SARS-CoV-2 and human protein interactions"*	Kyle Biggar (PI)	$50,000
2020	**CU COVID19 Rapid Response Research Grant** *"Development of peptide inhibitors of SARS-CoV-2: human protein interaction"*	Kyle Biggar (co-PI)	$14,000
2020-2022	**NSERC CRD/IBM CAS Grant** *"Machine learning and computer vision for contactless patient monitoring in the NICU"*		$51,000/yr for 3 years ($153,000 total)
2020-2022	**National Research Council AI4Design Project** *"AI for simulation of biological systems - Probabilistic modeling of exosome metabolism and automatic quantification of metabolic activity from NMR data"*	David Campbell (PI)	$158,400 over 2 years
2020-2021	**Workplace Safety and Insurance Board (Contract)** *Machine Learning for Automating Adjudication Claims of Noise-Induced Hearing Loss*		$40,000
2019-2020	**Carleton University Development Grant** *"Assessing and improving the safety of neonatal patient transport"*		$10,000
2018-2020	**Canadian Institute for Military and Veteran Health Research - Advanced Analytics Initiative (IBM / MITACS)** *"Using machine learning to investigate sympathetic activation of the autonomic nervous system during the treatment of mild traumatic brain injury, chronic pain, and post-traumatic stress disorder."*	Adrian Chan	$230,000 over 2 years
2018-2020	**Fields Institute; Ontario Ministry of Research, Innovation and Science**	Co-PI along with 7 others	$4,000,000 over 2 years ($160,000 to Carleton)

	"Thematic Program on Interdisciplinary Quantitative Analysis and Modeling: Lab for Modelling and Prediction of Anomalous Events"		
2018	**Natural Resources Canada - Critical Infrastructure Protection Program Contract** *"Towards Energy Infrastructure Image Segmentation using Deep Learning"*		$23,000
2018	**Research Achievement Award (Carleton University)** *"Real-time patient monitoring during neonatal transport"*		$15,000
2018	**Access to Justice Grant (Law Foundation of Ontario)** *"Access to justice for facilitating access: helping family law disputant resolve conflicts"*	Rebecca Bromwich (PI)	$45,000
2017	**OCE VIP-I/NSERC Engage (Clearwater Clinical)** *"Automating classification of ShoeBOX audiograms"*		$50,000
2017	**NSERC Engage (SavvyDox)** *"Facilitating document collaboration and processing for review committees"*	Andy Adler	$25,000
2017	**Natural Resources Canada - Critical Infrastructure Protection Program Contract** *"Deep Learning for Identifying Threats to Critical Infrastructure"*		$22,500
2016-2019	**NSERC CRD / IBM CAS Grant (IBM/CHEO)** *"Pressure sensitive mats for patient monitoring in the NICU"*		$102,000/yr for 3 years ($306,000 total)
2016	**MITACS Mitacs Globalink Research Award** *"Investigation of the protein-protein interaction network of an anti-oxidant protein TPxGl in the human malaria parasite P. falciparum"*	Dr. Swati Patankar, ITT Bombay, India *Supported travel of Kevin Dick, MASc*	$5,000
2016-2021	**NSERC Discovery Grant** *"Effective prediction of microRNAs in the face of class imbalance"*		$22,000/yr for 5 years ($110,000 total)
2016-2023	**NSERC Research and Training Experience Program** *"Biomedical Engineering Smartphone Training (CREATE-BEST) Program"*	Natalie Baddour (PI) and 7 others.	$1.65M over 6 years
2016	**Natural Resources Canada - Critical Infrastructure Protection Program Contract** *"Acoustic noise management in open plan offices"*	Rafik A. Goubran	$25,000
2014-2016	**Carleton University Development Grant** *"Computing personalized protein interactomes"*		$10,000
2014	**NSERC Engage (SoLink Corp)** *"Enabling persons with intellectual disabilities to optimize automated video analysis systems – a feasibility study"*		$25,000

2013	**NSERC Research Tools & Instruments - I** *"Personalized human protein interactomes"*	Frank Dehne (PI)	$13,015
2012	**NSERC Engage (Global Intellectual Strategies)** *"Evaluation of semantic search technologies for patent landscape analyses"*		$24,910
2011-2012	**Carleton University Innovation Forum** *"Clinical Engineering: "Engineering Health in Hospitals"*	Adrian Chan (PI and 5 others)	$19,000
2009-2014	**NSERC Discovery Grant** *"Real-time proteomics on heterogeneous multi-core processors"*		$19,000/yr for 5 years ($95,000 total)
2009	**MITACS Network and Training Initiative** *"Second annual Cell BE programming workshop – the Cell BE in biomedical informatics"*	Frank Dehne Michel Dumontier Gabriel Wainer	$10,000 + $4,500 in-kind
2009-2011	**Health Canada Genomics R&D Program** *"Development and validation of toxicogenomic tools, and integrated systems biology approaches in regulatory toxicology"*	Carole L. Yauk (PI and 17 others)	$418,000 (2%) 2009 $496,000 (2%) 2010
2008	**Ontario Research Fund** **Research Infrastructure Program** *"Laboratory for hardware accelerated protein identification for mass spectrometry"*	Michel Dumontier (PI)	114,628 (50%)
2007	**Canadian Foundation for Innovation** **Leaders Opportunity Fund** *"Laboratory for hardware accelerated protein identification for mass spectrometry"*	Michel Dumontier (PI)	114,628 (50%)
2006-2009	**NSERC Discovery Grant** *"Discovering protein structure and function through nonlinear system identification"* *3-year term is policy for new applicants to GSC 331.*		$15,000/yr for 3 years ($45,000 total)
2005	**Carleton University Start-up Grant**		$25,000

Major Honours and Awards

- IEEE Ottawa Section Outstanding Educator Award 2020
- Co-author S. Aziz wins IEEE MeMeA "2020 Best Student Paper Award" 2020
- Co-author Y. Souley Dosso wins IEEE MeMeA "2018 Best Women in Engineering Paper Award" 2018
- Research Achievement Award, Carleton University 2018
- Teaching Achievement Award, Carleton University 2018
- Carleton University Faculty Graduate Mentoring Award 2018
- Co-author S. Nizami wins IEEE MeMeA "2017 Best Women in Engineering Paper Award" 2017
- Best Poster Award, among 75 exhibits at CASCON2017 2017
- 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 2008
- Ontario Graduate Scholarship in Science and Technology 2003 – 2005
- Favourite Professor Award, 3rd 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

Knowledge and technology translation activities

- 2020: Collaborated with Ontario's WSIB to automate the adjudication of incoming claims of noise induced hearing loss. Developed machine vision approaches for semi-automating the digitization of audiology reports received by fax and implemented machine learning systems to make recommendations regarding hearing loss.
- 2017-18: Worked with Natural Resources Canada to investigate the potential use of autonomous vehicle imagery for surveying critical infrastructure in the environment, such as vegetation approaching power lines or poles with significant lean.
- 2016-19: Working with IBM and the Children's Hospital of Eastern Ontario to explore the use of pressure-sensitive mats for patient monitoring within the NICU. Led to one patent application.
- 2017-18: Working with Clearwater Clinical Corporation (now Shoebox.md) to use machine learning to automate the analysis of audiograms. This work has resulted in a patent disclosure.
- 2014-15: Worked with the environmental toxicogenomics group at Health Canada to develop a software analysis pipeline for next-generation sequencing mutation spectrum analysis experiments.

Teaching

Note: Average teaching evaluation scores (out of 5) are provided in brackets where available.

Carleton University

SYSC 4415 Introduction to Machine Learning (4.38) 2021-2022
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design (4.61)
SYSC 3010 Computer Systems Development Project (4.52)

SYSC 4906 Introduction to Machine Learning (4.26) 2020-2021

SYSC 4906 Introduction to Machine Learning (4.55) 2019-2020
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design (4.53)
ECOR 1051 Fundamentals of Engineering I (Software Development)
SYSC 5906 Directed Studies – 'Face Recognition' (1 student)

SYSC 5906 Directed Studies – ‘Active Learning in the Presence of Class Imbalance’ (1 student)

SYSC 2001 Computer Systems Foundations (4.63) 2017-2018
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design (4.70)
SYSC 3601 Microprocessor Systems (4.69)
BIOM 5800 Biomedical Engineering Seminar (with Prof. Andy Adler)
SYSC 5906 Directed Studies – ‘Deep Learning for Critical Infrastructure Protection’ (1 student)
SYSC 5906 Directed Studies – ‘Deep Neural Networks’ (2 students, with Profs E. Ukwatta and S. Rajan)
BIOL 5501 Directed Studies – ‘Soy allergies and human-soy protein interactions’ (1 student)

SYSC 2001 Computer Systems Foundations (4.48) 2016-2017
SYSC 5405/BIOM 5405 Pattern Classification and Experiment Design (4.47)
BIOM 5010 Introduction to Biomedical Engineering (with Prof. Andy Adler, 4.44)
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) 2005
ELEC371 Microprocessor Systems (4.4) 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 score for the statement: "Overall, this instructor is an effective teacher" (out of 5).*

Graduate Supervision

Summary

PDF/Visiting Scholar		Doctoral Students		Master Students	
In Progress	Completed	In Progress	Completed	In Progress	Completed
0	7	5	4	9	25

Post-doctoral and Visiting Scholar Research in Progress

Doctoral Thesis Research in Progress

- Francois Charih, Machine Learning for Peptide Engineering, PhD-ECE, 2019-present. (co-supervisor: Prof. Kyle Biggar, Biochemistry, Carleton University)
- Keely Gibb, Dynamic Modeling of a Neonatal Patient Transport System to Assess Patient Vibrations, PhD-MECH, 2020-present (co-supervised by Prof. Adrian Chan and Prof. Robert Langlois)
- Mohsen Mozafari, Non-contact Patient Monitoring to Promote Independence in Aging, PhD-ECE, 2020-present (co-supervisor: Prof. Rafik Goubran, SCE, Carleton University)
- Roger Selzler, Using Gait to Estimate Sympathetic Activation of the Autonomic Nervous System, PhD-ECE, 2019-present. (co-supervisor: Prof. Adrian Chan, SCE, Carleton University)

- Matthew Stewart, Polysomnography using Pressure-sensitive Mats, PhD-BIOM, 2020-present (co-supervisor: Prof. Rafik Goubran, SCE, Carleton University)

Master's Thesis Research in Progress

- Victoria Ajila, Computational Prediction of Inter-kingdom miRNA Targets, MASc-ECE (Specialization in Data Science), 2021-present
- Michael Avarello, Characterizing Noise Experienced by Neonatal Patients During Ground Transport, MASc-MECH, 2022-present, (co-supervised by Prof. Adrian Chan and Prof. Robert Langlois)
- Jaser El-Habrouk, Virtual Reality for Diagnosing ADHD, MASc-BIOM (Specialization in Data Science), 2021-present
- Anthony Fuller, Vision Transformers for Remote Sensing, MASc-ECE, 2022-present (co-supervisor: Prof. Koreen Millard, Geography, Carleton University)
- Zein Haj-Ali, Depth Video for Non-contact Neonatal Patient Monitoring, MASc-ECE (Specialization in Data Science), 2020-present.
- Saif Huq, Deep Learning for Cough Sound Analysis in the Presence of Noise and Reverberations, MASc-BIOM (Specialization in Data Science), 2021-present (co-supervisor: Prof. Rafik Goubran, SCE, Carleton University)
- Patrick Kehoe, Characterizing Noise Experienced by Neonatal Patients During Ground Transport, MASc-MECH, 2020-present, (co-supervised by Prof. Adrian Chan and Prof. Robert Langlois)
- Martin Klamrowski, Prediction of Unplanned Kidney Dialysis, MASc-ECE (Specialization in Data Science), 2021-present (co-supervisor: Prof. Adrian Chan, SCE, Carleton University)
- Daniel Kyrollos, Multi-modal Neonatal Patient Monitoring, MASc-ECE (Specialization in Data Science), 2020-present

Post-doctoral and Visiting Scholar Research Completed

- Alistair Boyle, CIMVHR: Estimation of Subject Stress Levels during Immersive PTSD Therapy Using Machine Learning, Postdoctoral Fellow, 2018-2019. (co-supervisor: Prof. Adrian Chan, SCE, Carleton University)
- Andrew Smith, CIMVHR: Estimation of Subject Stress Levels during Immersive PTSD Therapy Using Machine Learning, Postdoctoral Fellow, 2018-2020. (co-supervisor: Prof. Adrian Chan, SCE, Carleton University)
- Shermeen Nizami, Investigation of the Use of Pressure-Sensitive Mats for Patient Monitoring in the NICU, Postdoctoral Fellow, 2016-2019.
- Waldo Paz Rodriguez, Integrating Feature Generation and Selection for Describing Protein Sequences and Structures, ELAP Visiting Scholar, Universidad Central "Marta Abreu" de Las Villas, Santa Clara, Cuba, 2016-2017
- Gerardo Maikel Casañola Martin, Prediction of Protein Post-translational Modifications, ELAP Visiting Scholar, Universidad de Las Américas (UDLA), Ecuador, 2016-2017
- Yasser Ruiz-Blanco, Prediction of Protein Methylation, Visiting Professor, Universidad Central "Marta Abreu" de Las Villas, Santa Clara, Cuba, Sept - Oct 2016.
- 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 - May 2014.

- Roy Wang, Fields Centre for Quantitative Analytics and Modeling - Machine Learning for Anomaly Detection (Co-supervised by Prof. Sreeraman Rajan), 2019 - 2020
- Roy Wang, National Research Council – AI4Design Challenge (Co-supervised by Prof. David Campbell, Math & Stats, Carleton University), 2020 - 2022

Doctoral Thesis Research Completed

- Kevin Dick, Reciprocal Perspective: A Cascaded Semi-Supervised Machine Learning Framework to Improve Pairwise Classification & Regression, PhD-BIOM, 2015-2022.
- Shermeen Nizami, Integration of Artifact Detection in Clinical Decision Support Systems, Ph.D.-ECE, 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.-ECE, 2011-2016.
- Yasmina Souley Dosso, Machine Vision for Patient Monitoring in the Neonatal Intensive Care Unit, PhD-BIOM, 2016-2022

Master's Thesis Research Completed

- Allen Amos-Binks, Protein-protein Interaction Prediction in the Presence of Genetic Variation, M.A.Sc.-BIOM, 2012-2014. (co-supervisor: Prof. Frank Dehne, SCS, Carleton University)
- Eric Arezza, Protein-protein Interaction Consensus Prediction in Ecoli, MASc-ECE (Specialization in Data Science), 2020-2022
- Samreen Aziz, Patient Monitoring in the NICU using Pressure-Sensitive Mats, MASc-BIOM (Specialization in Data Science), 2018-2022.
- Bradley Barnes, Computational Prediction of miRNA, M.A.Sc.-BIOM, 2015-2018.
- Mariana Barssoum, Species-specific Prediction of Protein Secondary Structure, M.A.Sc.-BIOM, 2006-2009.
- Amente Bekele, Algorithms for Patient Monitoring via Pressure-sensitive Mats, M.A.Sc.-ECE-DS, 2016-2018
- Francois Charih, Machine Learning in Audiology: Applications and Implications, M.A.Sc.-ECE-DS, 2017-2018
- Madison Cohen-McFarlane, Tracking Fluid Distributions within the Body Using Pressure-Sensitive Mats, M.A.Sc.-BIOM, 2015-2017. (co-supervisor: Prof. Rafik Goubran, SCE, Carleton University)
- Fadwa Darwaish, Quantifying the Patient Experience during Emergency Neonatal Transport, MASc-ECE, 2018-2020. (co-supervisors: Prof. Adrian Chan, SCE & Robert Langlois, MAE, Carleton University)
- Graham Fraser, Automated Assessment of EMG Signal Quality, M.A.Sc.-BIOM, 2010-2012. (co-supervisor: Prof. Adrian Chan, SCE, Carleton University)
- Ahmad Ghadiri, Mutation Spectrum Analysis via Next Generation Sequencing, M.A.Sc.-ECE, 2012-2015 (co-supervisor: Prof. Andrew Marble, SCE, Carleton University)
- Rémi Gagné, Computational Identification of Thyroid Response Elements in Genomic DNA, M.C.S., 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.-BIOM, 2009-2011. (co-supervisor: Prof. Bill Willmore, Biology, Carleton University)

- Calvin Jary, Incorporating Protein Physicochemical Properties in Computational PPI Prediction, M.A.Sc.-BIOM-DS, 2017-2020.
- Jason Koppert, Development and Optimization of Functional Oligomer Coatings for Usage in PCR, M.A.Sc.-BIOM, 2014-2016. (co-supervisor: Prof. Bill Willmore, Biology, Carleton University)
- Qi Li, Medical Informatics via Biostatistics and Pattern Classification, M.A.Sc.-BIOM, 2007-2010. (co-supervisor: Prof. Monique Frize, SCE, Carleton University)
- Zhen Liu, Computational Identification of Hydroxylation Sites from Sequence, M.Sc., 2007-2009. (co-supervisor: Prof. Bill Willmore, Biology, Carleton University)
- Alex McKenzie, Digital Signal Processing of Time-varying Gene Expression Data, M.A.Sc.-BIOM, 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.-ECE, 2010-2011.
- Robert Peace, String Matching and Online Retention Time Prediction for Real-Time Information-Driven Mass Spectrometry, M.A.Sc.-BIOM, 2009-2011.
- Aishwarya Purohit, Predicting the Site of Protein Interaction, MASc-BIOM, 2018-2021.
- Vismand Rahpeymayrad, Prediction of N-Linked Glycosylation Sites in Plant Proteins, M.A.Sc.-BIOM, 2012-2015
- Roger Selzler, Pressure-sensitive Mat Technology using Optical Sensors, M.A.Sc.-ECE-DS, 2016-2019. (co-supervisor: Prof. Rafik Goubran, SCE, Carleton University)
- Mohsen Sheikh-Hassani, Active and Multi-View Machine Learning for microRNA Prediction, M.A.Sc.-BIOM, 2016-2018
- Ming Ye Yuan, Thermal Imaging Stove Top Monitor for Independent Living, M.A.Sc.-BIOM, 2006-2008. (co-supervisor: Prof. Rafik Goubran, SCE, Carleton University)

Thesis Examination Committees

I have served on over 100 graduate examination committees for Carleton University (PhD-EE, PhD-CS, PhD-Bio, 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.), and for the University of Ottawa (PhD, M.A.Sc., M.Sc.).

Undergraduate and Research Associate Supervision

4th Year Project Students		**USRA/Co-op/Intern/Contract Students**	
In Progress	Completed	In Progress	Completed
0	143	4	53

Year	**Students**	**Program and Project**	**Co-supervisor**
2021-22	Richard Egwabor	(Contract) Assessing Vibrations during Neonatal Patient Ground Transport	Profs. Rob Langlois and Adrian Chan
	Jason Hurley	(Contract/iCureus) Developing an Instrumented Incubator Shaker System	Profs. Rob Langlois and Adrian Chan
	Abitalib Kagalwala	(Contract) Mitigating Vibrations during Neonatal Patient Ground Transport	Profs. Rob Langlois and Adrian Chan
	Emma Ma Chen Young	(Contract) Developing a Sensor Package for Quantifying Patient Vibrations During Transport	Profs. Rob Langlois and Adrian Chan

	Michael Marsland Ahmad Rahme Raqib Khan	(SYSC4907) Laparoscopic Surgery Simulator Augmented Reality Surgery Trainer for Pediatric Surgeons	Prof. Carlos Rossa
	Mahtab Mohammed, Reyad El Mahdy	(SYSC4907) Haptic Feedback Training for Pediatric Laparoscopic Surgery Simulators	Prof. Carlos Rossa
	Astrid MacKinnon Erik Iuhas Nikolas Paterson	(SYSC4907) StreetSmarts	
	Aidan Lochbihler Andrew Emard Wyatt Boothby	(SYSC4907) Real-Time Environment Sensing Device and Monitoring Application for Patient Transport	
	Chhavi Sujeebun Moonis Mohammad Desmond Blake	(SYSC4907) Privacy-preserving Tennis Court Occupancy System	
2020-21	Josh Tanner	(Contract + MEng project) GasBotty: Extracting Gas Prices from Autonomous Vehicle Imagery Using Deep Learning	
	Daniel Kyrollos	(USRA) Propagation of Uncertainty in Pressure-Sensitive Mat Physiologic Parameter Estimation	
	Abhinav Yalamanchili	(Contract) Deep Learning for Audiogram Digitization	
	Ahmed Abdelrazik	(Contract/co-op) Deep Learning for Audiogram Digitization	
	Fatima Shamraiz	(Contract) Quality Assurance for Multi-modal Data Collected in the NICU	
	Victoria Ajila Laura Colley	(SYSC4907) Species-specific Multi-view Co-training for Host-Pathogen miRNA Prediction and Targeting	
	Lyndon Lo Leonard Paz Beshr Rouston	(SYSC4907) Using Google Streetview to Assess Accessibility of a Community	
	Derek Shao Christopher Want	(SYSC4907) Deep Learning Transformers for Protein Function Prediction	
	Tufayl Dhalla Nayeeb Mowla Sahil Sharma Jake Surret	(SYSC4907) Smart Kitchen Modular Unit	Prof. Leila Mostaco-Guidolin (Carleton, SCE)
	Thomas Gatto William Ma	(SYSC4907) Deep Learning for Protein-protein Interaction Site Prediction	
2019-2020	Sahil Sharma	(Contract) Temporal Event Annotator (TEA) Framework	
	Sidharth NA	(Contract) Machine Learning for Biomedical Informatics	
	Randa Hassan	(I-CUREUS Contract) Quality Assurance for VR Rehabilitation Patient Data	Prof. Adrian Chan (Carleton, SCE)
	Haseeb Khan Jobin Mathew Abraham Srna	(SYSC4907) Crowd-source grocery store layouts for dynamically sorted shopping lists	

	Teodora Blidaru Juan Contreras Caleb Gryfe	(SYSC4907) Real-time patient monitoring app for the CHEO neonatal patient transport team	
	Layan El-Astal Zhe(Jeff) Ji Haoyang Liu	(SYSC4907) Real-time sit to stand mobility analysis	Prof. Bruce Wallace (Carleton, SCE)
	Bradley Reid Daniel Kyrollos	(SYSC4907) Reciprocal Perspective for Improved miRNA Target Prediction	
2018-2019	Naman Sethi	(Intern/ I-CUREUS Contract) Developing an Integrated Data Viewer for Multi-modal Patient Monitoring	
	Joe F. Samuel	(I-CUREUS Contract) Clinical Event Annotation App	
2017-2018	Pratyush Singh	(Contract) Using Computer Vision to Digitize Audiogram Data	
	Naman Sethi	(Intern/ I-CUREUS Contract) Developing an Integrated Data Viewer for Multi-modal Patient Monitoring	
	Stefan Murga	(USRA) Deep Learning for Patient Monitoring	
	Joe F. Samuel	(I-CUREUS Contract) Clinical Event Annotation App	
	William Ma	(USRA) Neonatal Patient Vibration During Emergency Transport	
	Ashlynn Steeves	(Co-op) Audiogram Analysis using Machine Learning	
	Joshua Armel Haris Ghauri	(SYSC4907) Creating an IoT Aquaponics System	
	Sajeda Almalki Sarah Garlough Alex Fernandes Gabrielle Genereux	(SYSC4907) iTAD - Carleton University Intelligent Telepresence and Assistive Devices	Prof. Adrian Chan (Carleton, SCE)
	Noah Segal Bronwyn Skelley Daniel Hogan	(SYSC4907) Who's Got the Kids? ***Prototype solution supported successful grant application to the Law Foundation of Ontario.***	Prof. Rebecca Bromwich (Carleton, Legal Studies)
2016-2017	Jaser El-Habrouk	(Contract) Tracking the Tongue using the MS Kinect	
	Akhila Ananth Robert Fernandes	(SYSC4907) Colour Identifier and Matcher	
	Tyler Ayers Matt LeBlanc	(SYSC4907) Image Logging Bird Feeder	
	Connor Neumann Iefan Morgan-Waggitt	(SYC4907) A Webserver for the Prediction of Protein Methylation Sites	
	Maryam Kaka	(I-CUREUS Contract) Computational Prediction of Protein-Protein Interaction Interfaces	
	Mohamed Hozayen	(USRA/iCureus Contract) Neonatal Patient Monitor Data Export and Parsing	
	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 Event 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	(SYC4907) Google Glass for Chemical Inventory Tracking	Prof. Sreeraman Rajan (Carleton, SCE)
	Lina Serry	(I-CUREUS 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	(I-CUREUS Contract) 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	(1st 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	(1st 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-Abari	(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	(1st 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 ***SCE Best Project Award***	
	Ramzi Marjaba, Catalin Patulea, Trevor Gelowski	(SYSC4907) Electronic Swimming Coach for Blind Athletes ***Featured in Ingenious Magazine, CBC Radio***	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	(1st 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 ***SCE Best Project Award***	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 ***SCE Best Project Award***	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 *s. Cerevisiae*	Prof. Ashkan Golshani, Biology, Carleton University

Services and Professional Memberships

- Editorial positions:
  - Associate Editor, (Nature) Scientific Reports, 2019-present
  - Associate Editor, Journal of Medical and Biomedical Engineering, 2014-present
  - Member of the Editorial Board, Online Journal of the Infrastructure Resilience Research Group, Carleton University, 2018-present
  - Guest Issue Co-Editor, Journal of Medical and Biological Engineering, 2013
- Workshop Organization Committees:
  - Theme Co-Chair, IEEE Engineering in Medicine and Biology Conference (EMBC2020), "Theme 4. Computational systems & synthetic Biology; Multiscale modelling", Montreal, July 2020
  - General Co-Chair, IEEE GlobalSip Symposium on Machine Learning for Rare Event Detection in Healthcare, Nov 2019
  - General Co-Chair, 2019 Fields Conference on Machine Learning in the Presence of Class Imbalance, Ottawa, 20-21 June 2019.
  - Co-Chair, CASCON Workshop on "Evidence Based Analytics!", Toronto, 1 Nov 2016.
  - 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:
  - CASCON x EVOKE 2022, Nov 2022
  - IEEE International Conference on Digital Health (ICDH) 2022, July 2022
  - IEEE MeMeA 2022 – Medical Measurements and Applications, June 2022
  - CASCON x EVOKE 2021, Nov 2021
  - IEEE MeMeA 2020 – Medical Measurements and Applications, June 2020
  - CASCON 2020, Nov 2020
  - CMBEC 2019, May 2019
  - IEEE MeMeA 2019 – Medical Measurements and Applications, June 2019
  - CASCON 2018, Oct 2018
  - IEEE BIBE 2018 – 18th International Conference on BioInformatics and BioEngineering, Oct 2018
  - 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
- 13th 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

- SOSCIP Scientific Advisory Board member, 2019-present
- Vice-Chair, IEEE EMBS Ottawa Chapter, 2015-2018
- Secretary, IEEE EMBS Ottawa Chapter, 2007-2015
- Advisory Board member for the Carleton University READ (Research, Education, Accessibility, and Design) Innovation Centre, 2015-2017
- Reviewer for:
  - Annals of Biomedical Engineering, 2009, 2007, 2005, 2002.
  - BBAGEN, 2015
  - Bioinformatics (Oxford) 2015, 2018
  - BMC Bioinformatics, 2016
  - BMC Genomics, 2017
  - BMC Systems Biology, 2017
  - Computer Methods and Programs in Biomedicine, 2011
  - FEBS Letters 2015
  - IEEE Journal of Biomedical and Health Informatics, 2018
  - Journal of Medical Systems, 2009
  - Journal of Medical Internet Research, 2018
  - Journal of Medical and Biological Engineering 2013, 2016.
  - Journal of Molecular Biology, 2015
  - Journal of Raman Spectroscopy, 2018
  - Journal of Theoretical and Applied Electronic Commerce Research, 2009
  - Nucleic Acids Research, 2014, 2012, 2006
  - PLoS One, 2015
  - SIAM Journal on Discrete Mathematics, 2008
  - Simulation: Transactions of the Society for Modeling and Simulation International, 2011
  - 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 IEEE BIBM (2018) and CMBEC (2010-2006).
- Memberships:

- Senior Member of the Institute of Electrical and Electronic Engineering (IEEE), 2010
- IEEE Engineering in Medicine and Biology (EMBS), IEEE Instrumentation and Measurement Society (IMS)
- Canadian Medical and Biological Engineering Society (CMBES)

- Judge for Ottawa Regional Science Fair (2008, 2010, 2011, 2013-2019)
- Virtual Ventures mentor (2016, 2017)

Committee Membership

Carleton University

University Joint Health and Safety Committee (JHSC), CUASA representative **2021-2022**

Member of the FED Council on Equity, Diversity, and Inclusion

Data Science and Analytics Governance Committee

Member of the SOSCIP Scientific Advisory Committee

Member of the Infrastructure Resilience Research Group Professional Training Review Committee (PTRC).

Handler of *Floy*d, Carleton Therapy Dog Program

Fire Warden, 6th floor Canal Building

Interim Department Chair **2020-2021**

Member of the Infrastructure Resilience Research Group Professional Training Review Committee (PTRC)

Data Science and Analytics External Advisory Committee

Member of the SOSCIP Scientific Advisory Committee

University Joint Health and Safety Committee (JHSC), CUASA representative **2019-2020**

Member of the Faculty of Science Canada Research Chair in Data Science Hiring Committee

Member of the SOSCIP Scientific Advisory Committee

Member of the Infrastructure Resilience Research Group Professional Training Review Committee (PTRC).

Carleton Faculty of Engineering and Design Health and Safety Committee

Steering Committee Member for the PhD/MASc/MEng in Data Science and Analytics

Handler of *Floy*d, Carleton Therapy Dog Program

Fire Warden, 6th floor Canal Building

Sabbatical **2018-2019**

Member of the Infrastructure Resilience Research Group Professional Training Review Committee (PTRC)

Fire Warden, 6th floor Canal Building

Associate Director of the Ottawa-Carleton Collaborative Program in Bioinformatics **2017-2018**

Secretary of Engineering Faculty Board

Member of the Infrastructure Resilience Research Group Professional Training Review Committee (PTRC)

Steering Committee Member for the PhD/MASc/MEng in Data Science and Analytics

Member of the School of Information Technology Hiring Committee

Carleton University Joint Health and Safety Committee (CUASA rep)
Faculty of Engineering and Design Health and Safety Committee (SCE rep)
Fire Warden, 6th floor Canal Building
Virtual Ventures Faculty Mentor

Associate Director of the Ottawa-Carleton Collaborative Program in Bioinformatics **2016-2017**
Chair, SCE Faculty Hiring Committee for Real-time Data Analytics and Software Engineering
Secretary of Engineering Faculty Board
Carleton University Joint Health and Safety Committee (CUASA rep)
Faculty of Engineering and Design Health and Safety Committee (SCE rep)
Carleton University Development Grant Review Committee
University Tenure and Promotion Appeal Committee
Fire Warden, 6th floor Canal Building
Virtual Ventures Faculty Mentor

Director of the Ottawa-Carleton Collaborative Program in Bioinformatics **2015-2016**
Interim Director of the Carleton University Institute for Data Science
Chair, SCE Faculty Hiring Committee for Real-time Data Analytics and Software Engineering
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, 6th 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, 6th 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, 6th 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

Sabbatical **2011-2012**

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)
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)
Faculty of Engineering and Design Committee on Admissions and Studies (CAS)
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
Faculty Recruitment and Support Advisory Committee
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
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
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, 4th floor.

Faculty of Engineering and Design Committee on Admissions and Studies (CAS) **2005-2006**
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**