

Appendix 1: Members Contributions between May 1, 2018 – April 30, 2019

Abdul-Sater, Ali A.

Funding Received:

Canadian Institutes of Health Research (CIHR) – Project Grant

Dissecting the role of TRAF1 in regulating linear ubiquitination and the impact on inflammatory diseases

2019/4 – 2024/4, Total Funding - \$803,250

Arthritis Foundation – Stars Career Development Award

A mouse model to design therapies targeting TRAF1 in rheumatoid arthritis

2019/1 – 2022/1, Total Funding - \$375,000

Bhagirath Singh Early Career Award in Infection and Immunity

Dissecting the role of TRAF1 in regulating linear ubiquitination and the impact on inflammatory diseases

2019/4, Total Funding - \$16,667

Natural Sciences and Engineering Research Council of Canada (NSERC) – Discovery Grant

The Effects of Exercise on the Molecular Mechanisms of Inflammation

2017/6 - 2022/6, Total Funding - \$130,000

Canada Foundation for Innovation (CFI) – JELF

A Molecular Immunology Laboratory to Elucidate the Mechanisms of Immune Regulation Following Exercise

2018/6 - 2023/6, Total Funding - \$270,000 (\$135,000 from CFI and \$135,000 from ORF)

Banting Foundation – Discovery Award

Dissecting the role of TRAF1 in regulating inflammatory and autoimmune diseases

2018/7 - 2019/6, Total Funding - \$25,000

Ontario Center of Excellence (OCE) – VIP

Exploring the effects of copper-infused fabric on inflammation

2018/4 - 2019/7, Total Funding - \$25,000

NSERC – ENGAGE

Exploring the effects of copper-infused fabric on inflammation

2018/4 - 2019/7, Total Funding - \$25,000

York University Faculty of Health – Junior Faculty Funds

The Effects of Exercise on the Molecular Mechanisms of Inflammation.

2017/1 - 2019/1, Total Funding - \$5,000

Cheng, Arthur

Funding Received:

Canadian Foundation for Innovation – John R. Evan’s Leaders Fund

Investigating the role of intracellular calcium dynamics on skeletal muscle function in aged muscle.

April 2019, Total funding - \$150,000

Junior Faculty Funds & Minor Research Grant

Investigating the role of intracellular acidosis on fatigue-induced power loss in skeletal muscle.

November 2018, Total funding - \$5,000

Drake, Janessa D. M.

Funding Received:

NSERC Discovery Grant

Thoracic and Lumbar Spine Biomechanics

May 2018- April 2019

\$25,000 (Principle Investigator)

York University Faculty of Health Minor Research Grant

May 2018-Apr 2019

Comparison of older and university aged adult spine kinematics invivo using MRI and ultrasound techniques.

\$3,000 (Principle Investigator)

Ministry of Labour (MOL): Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD)

Functional implications of dynamic and fixed chairs and keyboard systems on musculoskeletal responses during a prolonged seating exposure.

March 2018- August 2019

\$9,800 (Co-Researcher; Lead Research is my MSc Mario Simone, Co-Researcher is my PhD Heather Johnston)

Funding – APPLIED (STATUS = SUCCESSFUL):

NSERC Discovery Grant

Thoracic and Lumbar Spine Biomechanics

May 2019- April 2024 (Notified April 2019)

\$40,000/year (\$200,000 total)

Edgell, Heather

Funding Received:

Conference Travel Funds

American Autonomic Society meeting in Newport Beach, USA.
November 2018 - \$1,000

CFI Infrastructure operating funds

2019 - \$5,000

Conference Travel Funds

American Physiological Society for travel to the Pan-American Congress for Physiological Sciences

2019 - \$500

In-kind contribution of Q-collars

Q30 Innovations

2018 - ~\$3,000 of equipment

CFI Infrastructure operating funds

2018 - \$5,000

Stand up to POTS

Postural orthostatic tachycardia syndrome – autonomic testing through the menstrual cycle and a proposed intervention (Q-collar)

2018-2020, Total funding \$16,250USD = ~\$20,000CAD

NSERC Discovery Grant

Cerebrovascular and ventilatory responses to autonomic reflex stimulation in supine and upright postures in women throughout the menstrual cycle and men

2016-2021, Total funding \$120,000 over 5 years

Haas, Tara L.

Funding Received:

Heart and Stroke Research Foundation of Canada

\$266,211 total funding (3 years);

“Regulators of angiogenesis in peripheral limb ischemia”

PI – Tara Haas; Co-applicants: C. Ellis (UWO) and O. Birot

2015-2018

NSERC Discovery Grant (renewal);

“Regulation of capillary sprouting and stabilization in skeletal muscle”

\$165,000 total funding (5 years)

2013-2018

Hamadeh, Mazen J.

Funding Received:

Minor Research Grant, Faculty of Health, York University, \$3,000 (PI)

“May 2018 Molecular mechanisms in the central nervous system following high dose vitamin D supplementation in amyotrophic lateral sclerosis”

Hood, David A.

Funding Received:

Canadian Institutes for Health Research (CIHR) Research Grant

Mitophagy and lysosomal biogenesis in aging muscle

2018-23, Total Funding - \$722,925 (144,585 per year).

Natural Science and Engineering Research Council of Canada Discovery Grant

Mitochondrial Biogenesis in Skeletal Muscle”

\$65,000 per year

2016-20

Canadian Institutes for Health Research (CIHR) Research Grant

Mitochondria in Aging Skeletal Muscle

\$117,937 per year

2013-18

Hynes, Loriann

Funding Received:

Distinguished Athletic Therapy Educator Award

\$1500

2018

McDermott, John C.

Funding Received:

NSERC Discovery Grant

Role of AP-1 in skeletal myogenesis

\$170,000 per year

2018-2023

CIHR program grant

Protein: Protein Networks in Regulation of Cardiomyocyte Gene Expression

Total funding - \$661,000 (per year \$132,200)

Oct 2018-2023

Perry, Christopher G. R.

Funding Received:

PI, Operating: NSERC Discovery Grant

Title: Regulation of mitochondrial bioenergetics in striated muscle

Total: \$200,000
2019-2024

Riddell, Michael C.
Funding Received:

Canadian Glycomics Network (GlycoNet) Strategic Initiatives Grant: DO-19,
“Elucidating the role of somatostatin in dysglycemia in a rodent model of type 2 diabetes”.
\$69,047.00/ year for one year (April 1 2019- March 31st 2020)

NSERC Operating Grant:
“Role of somatostatin signaling on pancreatic islet function and energy homeostasis”.
\$40,000/year for 5 years (May 1, 2018-April 2023)

JDRF Strategic Research Agreement (SRA) –
“Additional Signals for Next Generation AP Systems RFA: Improving the Daily Lives of People with Type 1 Diabetes by Meeting the Challenges of Glucose Control through the Development of a Next-Generation Closed-Loop System”.
D O’Neal (Principle Investigator) Co-PIs: A Jenkins, S McAuley, E Botvinivk, A LaGerche, C Smart, B King, G Goodwin, A Medioli, P Colman, R Maclsaac, G Ward, N Cohen, M Riddell.
\$898,123. USD (2018-2020).

Funding Applied For:

Helmsley Trust Pilot Grant: Exercise in Diabetes Initiative:
“The Effect of Exercise on Glycemic Control in Children and Adults with Type 1 Diabetes”.
Principle investigators: Robin Gal (JAEB-co-ordinating centre) Co-PIs Michael Riddell (Project Director), Roy Beck, Jessica Castle, Peter Jacobs, Mark Clements, Eyal Dassau, Frank Doyle and Mike Rickles.

Appendix 3: AWARDS RECEIVED between May 1, 2018 – April 30, 2019

Abdul-Sater, Ali A.

Bhagirath Singh Early Career Award in Infection and Immunity (\$16,667). Awarded by CIHR for the top scoring project grant in the panel throughout the competition.

Arthritis Society Stars Career Development Award (\$375,000). Award is used to provide protected research support for 3 years which are also matched by the host institution.

Banting Research Foundation Discovery Award (\$25,000). Awarded to innovative health and biomedical research projects by outstanding new investigators

Perry, Christopher G. R.

York Research Leader Award (2019)

Haas, Tara L.

Faculty of Health Conference Travel Funds; \$1000 (Fall 2018)

Hamadeh, Mazen J.

Recipient of YUFA's Conference Award to attend Harry Crowe Foundation Conference on Free Speech (declined) (2019)

Dean's Award for Excellence in Teaching, Faculty of Health, York University (2018)
(<http://kine.info.yorku.ca/2018/12/faculty-of-health-professors-recognized-with-teaching-research-and-service-awards/>)

Hynes, Loriann

2018 Distinguished Athletic Therapy Educator Award

UHN Traumatic Brain Injury Conference: Winner – Best Poster, 2018 Sandeep Gill, MSc Student
Details:

Gill S, Sem M, Edgell H, Hynes L "A Comparison of Techniques in Predicting Brain Blood Flow from the Neck" 2018 National Traumatic Brain Injury Conference (UHN), Toronto Rehabilitation Institute, ON, February 2, 2018.

Appendix 4: Peer-reviewed publications and submitted manuscripts by MHRC Faculty members between May 1, 2018 – April 30, 2019

Abdul-Sater, Ali A.

Ardavan Jafari[#], David M. Ojcius, Laxmi Yeruva, Christian Schindler and **Ali A. Abdul-Sater***. Dicer controls the activation of NLRP3 inflammasomes. *PLoS One* April 2019 (*Accepted*)

Abdul-Sater AA, Edilova MI, Clouthier DL, Mbanwi A, Kremmer E, Watts TH. The signaling adaptor TRAF1 negatively regulates Toll-like receptor signaling and this underlies its role in rheumatic disease. *Nature Immunology*, 2017 Jan;18(1):26-35. doi: 10.1038/ni.3618. Highlighted by *Nature Reviews Rheumatology: Reduced TRAF1 exacerbates inflammation*. doi:10.1038/nrrheum.2016.203 [L]
[SEP]

Chang YH, Wang KC, Chu KL, Clouthier DL, Tran AT, Torres Perez MS, Zhou AC, **Abdul-Sater AA**, Watts TH. Dichotomous Expression of TNF Superfamily Ligands on Antigen-Presenting Cells Controls Post-priming Anti-viral CD4+ T Cell Immunity. 2017 *Immunity*, Nov 21;47(5):943-958 [L]
[SEP]

Abdul-Sater AA, Majoros A, Plumlee CR, Perry S, Gu AD, Lee C, Shresta S, Decker T, Schindler C. Different STAT transcription complexes drive early and delayed responses to type I Interferons. *The Journal of Immunology*, 2015 Jul 1;195(1):210-6. doi: 10.4049/jimmunol.1401139

Abdul-Sater AA, Tattoli I, Jin L, Grajkowski A, Levi A, Koller BH, Allen IC, Beaucage SL, Fitzgerald KA, Ting JP, Cambier JC, Girardin SE, Schindler C. Cyclic-di-GMP and cyclic-di-AMP activate the NLRP3 inflammasome. *EMBO Reports* 2013 Sep 6. doi: 10.1038/embor.2013.132

Abdul-Sater, A. A., Grajkowski, A., Erdjument-Bromage, H., Plumlee, C., Levi, A., Schreiber, M. T., Lee, C., Shuman, H., Beaucage, S. L. & Schindler, C. The overlapping host responses to bacterial cyclic dinucleotides. *Microbes and Infection* 2012 Feb;14(2):188-97.

Abdul-Sater, A. A., Said-Sadier, N., Lam, V. M., Singh, B., Pettengill, M. A., Soares, F., Tattoli, I., Lipinski, S., Girardin, S. E., Rosenstiel, P. & Ojcius, D. M. Enhancement of reactive oxygen species production and chlamydial infection by the mitochondrial Nod-like family member NLRX1. *Journal of Biological Chemistry*, 2010 Dec 31;285(53):41637-45.

Abdul-Sater, A. A., Said-Sadier, N., Padilla, E. V. & Ojcius, D. Chlamydial infection of monocytes stimulates IL-1beta secretion through activation of the NLRP3 inflammasome. *Microbes and Infection*, 2010 Aug;12(8-9):652-61.

Abdul-Sater, A. A., Koo, E., Hacker, G. & Ojcius, D. M. Inflammasome-dependent caspase-1 activation in cervical epithelial cells stimulates growth of the intracellular pathogen *Chlamydia trachomatis*. *Journal of Biological Chemistry*, 2009 Sep 25;284(39):26789-96.

Sater, A. A., Ojcius, D. M. & Meyer, M. P. Susceptibility of *Chlamydia trachomatis* to the excipient hydroxyethyl cellulose: pH and concentration dependence of antimicrobial activity. *Antimicrobial Agents and Chemotherapy*, 2008 Jul;52(7):2660-2.

Seror, C., Melki, M. T., Subra, F., Raza, S. Q., Bras, M., Saidi, H., Nardacci, R., Voisin, L., Paoletti, A., Law, F., Martins, I., Amendola, A., **Abdul-Sater, A. A.**, Ciccocanti, F., Delelis, O., Niedergang, F., Thierry, S., Said-Sadier, N., Lamaze, C., Metivier, D., Estaquier, J., Fimia, G. M., Falasca, L., Casetti, R., Modjtahedi, N., Kanellopoulos, J., Mouscadet, J. F., Ojcius, D. M., Piacentini, M., Gougeon, M. L., Kroemer, G. & Perfettini, J. L. Extracellular ATP acts on P2Y2 purinergic receptors to facilitate HIV-1 infection. *Journal of Experimental Medicine*, 2011 Aug 29;208(9):1823-34.

Yilmaz, O., **Sater, A. A.**, Yao, L., Koutouzis, T., Pettengill, M. & Ojcius, D. M. ATP-dependent activation of an inflammasome in primary gingival epithelial cells infected by *Porphyromonas gingivalis*. *Cellular Microbiology*, 2010 Feb;12(2):188-98.

Mouawad CA, Mrad MF, El-Achkar GA, **Abdul-Sater A**, Nemer GM, Creminon C, Lotersztajn S, Habib A. Statins Modulate Cyclooxygenase-2 and Microsomal Prostaglandin E Synthase-1 in Human Hepatic Myofibroblasts. *Journal of Cellular Biochemistry* 2015 Oct 8. doi: 10.1002/jcb.25401.

M. A. Pettengill, C. Marques-da-Silva, M. L. Avila, S. d'Arc dos Santos Oliveira, V. W. Lam, I. Ollawa, **A. A. Abdul Sater**, R. Coutinho-Silva, G. Häcker, and D. M. Ojcius. Reversible Inhibition of *Chlamydia trachomatis* Infection in Epithelial Cells Due to Stimulation of P2X4 Receptors. *Infection and Immunity* 2012 Dec;80(12):4232-8.

Coutinho-Silva, R., Correa, G., **Sater, A. A.** & Ojcius, D. M. The P2X(7) receptor and intracellular pathogens: a continuing struggle. *Purinergic Signaling*, 2009 Jun;5(2):197-204.

Darville, T., Welter-Stahl, L., Cruz, C., **Sater, A. A.**, Andrews, C. W., Jr. & Ojcius, D. M. Effect of the purinergic receptor P2X7 on *Chlamydia* infection in cervical epithelial cells and vaginally infected mice. *The Journal of Immunology*, 2007 Sep 15;179(6):3707-14.

* *corresponding author*

York University student (graduate or independent study undergraduate)

Book chapters

Ali A. Abdul-Sater and Dana J Philpott. Inflammasomes. *Encyclopedia of Immunobiology*, Volume 2, 2016, Pages 447-453

Abdul-Sater, A. A. & Schindler, C. Interferon regulation of the innate response to bacteria. *Jak-Stat Signaling : From Basics to Disease* DOI 10.1007/978-3-7091-0891-8_22, # Springer-Verlag/Wien 2012 (Book Chapter)

Reviews in refereed journals

Dhillon B, Aleithan F, Abdul-Sater Z, **Abdul-Sater AA**. The Evolving Role of TRAFs in Mediating Inflammatory Responses. *Frontiers in Immunology*, 2019 Feb
doi.org/10.3389/fimmu.2019.00104

Edilova MI, **Abdul-Sater AA**, Watts TH. TRAF1 Signaling in Human Health and Disease. *Frontiers in Immunology*, 2018 Dec 18;9:2969. doi: 10.3389/fimmu.2018.02969.

Bishop GA, **Abdul-Sater AA** and Watts TH. Editorial overview: TRAF proteins in Human Disease. *Editorial, Frontiers in Immunology - Molecular Innate Immunity*. In press 2019

Pettengill MA, **Abdul-Sater A***, Coutinho-Silva R, Ojcius DM. ***Co-First Author**. Danger signals, inflammasomes, and the intricate intracellular lives of chlamydiae. *Biomedical Journal*, 2016 Oct;39(5):306-315. doi: 10.1016/j.bj.2016.07.001.

Abdul-Sater, A. A., Said-Sadier, N., Ojcius, D. M., Yilmaz, O. & Kelly, K. A. Inflammasomes bridge signaling between pathogen identification and the immune response. *Drugs of Today (Barc)*, 2009 Nov;45 Suppl B:105-12.

Backx, Peter H.

Polidovitch N, Yang S, Sun H, Lakin R, Ahmad F, Gao X, Turnbull PC, Chiarello C, Perry CGR, Manganiello V, Yang P, Backx PH.(2019) Phosphodiesterase type 3A (PDE3A), but not type 3B (PDE3B), contributes to the adverse cardiac remodeling induced by pressure overload. *J Mol Cell Cardiol*. 2019 Apr 30. pii: S0022-2828(19)30086-0. doi: 10.1016/j.yjmcc.2019.04.028. [Epubahead of print]

Zhao Y, Rafatian N, Wang EY, Feric NT, Lai BFL, Knee-Walden EJ, Backx PH, Radisic M. (2019) Engineering microenvironment for human cardiac tissue assembly in heart-on-a-chip platform.

Matrix Biol. 2019 Apr 11. pii: S0945-053X(18)30483-9. doi: 10.1016/j.matbio.2019.04.001. [Epub ahead of print]

Lakin R, Polidovitch N, Yang S, Guzman C, Gao X, Wauchop M, Burns J, Izaddoustdar F, Backx PH. (2019) Inhibition of soluble TNF α prevents adverse atrial remodeling and atrial arrhythmia susceptibility induced in mice by endurance exercise. *J Mol Cell Cardiol.* 2019 Apr;129:165-173. doi: 10.1016/j.yjmcc.2019.01.012.

Zhao Y, Rafatian N, Feric NT, Cox BJ, Aschar-Sobbi R, Wang EY, Aggarwal P, Zhang B, Conant G, Ronaldson-Bouchard K, Pahnke A, Protze S, Lee JH, Davenport Huyer L, Jekic D, Wickeler A, Naguib HE, Keller GM, Vunjak-Novakovic G, Broeckel U, Backx PH, Radisic M. (2019) A Platform for Generation of Chamber-Specific Cardiac Tissues and Disease Modeling. *Cell.* 2019 Feb 7;176(4):913-927.e18. doi: 10.1016/j.cell.2018.11.042.

Hughes MC, Ramos SV, Turnbull PC, Edgett BA, Huber JS, Polidovitch N, Schlattner U, Backx PH, Simpson JA, Perry CGR. (2019) Impairments in left ventricular mitochondrial bioenergetics precede overt cardiac dysfunction and remodelling in Duchenne muscular dystrophy. *J Physiol.* 2019 Jan 23. doi: 10.1113/JP277306.

Lakin R, Guzman C, Izaddoustdar F, Polidovitch N, Goodman JM, Backx PH. (2019) Changes in Heart Rate and Its Regulation by the Autonomic Nervous System Do Not Differ Between Forced and Voluntary Exercise in Mice. *Front Physiol.* 2018 Jul 16;9:841. doi: 10.3389/fphys.2018.00841.

Goodman JM, Banks L, Connelly KA, Yan AT, Backx PH, Dorian P. (2019) Excessive exercise in endurance athletes: Is atrial fibrillation a possible consequence? *Appl Physiol Nutr Metab.* 2018 Sep;43(9):973-976. doi: 10.1139/apnm-2017-0764.

Liu J, Bayer JD, Aschar-Sobbi R, Wauchop M, Spears D, Gollob M, Vigmond EJ, Tsushima R, Backx PH, Chauhan VS. (2019) Complex interactions in a novel SCN5A compound mutation associated with long QT and Brugada syndrome: Implications for Na⁺ channel blocking pharmacotherapy for de novo conduction disease. *PLoS One.* 2018 May 23;13(5):e0197273. doi: 10.1371/journal.pone.0197273.

Birot, Olivier

Aiken J, Mandel ER, Riddell MC, Birot O. Hyperglycaemia correlates with skeletal muscle capillary regression and is associated with alterations in the murine double minute-2/forkhead box O1/thrombospondin-1 pathway in type 1 diabetic BioBreeding rats. *Diab Vasc Dis Res.* 2019 Jan;16(1):28-37. doi: 10.1177/1479164118805928. Epub 2018 Oct 26.

Ceddia, Rolando B.

Sepa-Kishi DM, Jani S, Da Eira D, Ceddia RB. Cold acclimation enhances UCP1 content, lipolysis, and triacylglycerol resynthesis, but not mitochondrial uncoupling and fat oxidation, in rat white adipocytes. *Am J Physiol Cell Physiol*. 2019 Mar 1;316(3):C365-C376.

Sepa-Kishi DM, Ceddia RB. Circulating fibroblast growth factor 21 is reduced, whereas its production is increased in a fat depot-specific manner in cold-acclimated rats. *Adipocyte*. 2018;7(4):238-247.

Rudnicki M, Abdifarkosh G, Nwadozi E, Ramos SV, Makki A, Sepa-Kishi DM, Ceddia RB, Perry CG, Roudier E, Haas TL. Endothelial-specific FoxO1 depletion prevents obesity-related disorders by increasing vascular metabolism and growth. *Elife*. 2018 Dec 4;7.

Cheng, Arthur

Cheng, A.J., Allodi, I., Chaillou, T., Ivarsson, N., Schlittler, M., Lanner, J.T., Thams, S., Hedlund, E., Andersson, D.C. (2019). Intact single fibres from SOD1^{G93A} ALS mice display preserved specific force, fatigue resistance, and training-like adaptations. *The Journal of Physiology*. Accepted Apr 2019.

Chaillou, T., **Cheng, A.J.** (2019). Mechanisms of prolonged low-frequency force depression: in vivo studies get us closer to the truth. *American Journal of Physiology – Regulatory, Integrative, and Comprehensive Physiology*. Accepted Mar 2019. doi: 10.1152/ajpregu.00063.2019

Drake, Janessa D.M.

Schinkel-Ivy, A., **Drake, J.D.M.** (2018) The influence of thoracic movement on lumbar spine muscle activation patterns in young adults asymptomatic for low back pain: A cross-sectional study' *Journal of Manipulative and Physiological Therapeutics*, (JMPT_2017_1_R1, Accepted 28th Nov 2018).

Edgell, Heather

Joshi H and **Edgell H.** (2019) Ventilatory and cardiovascular response to supine and tilted metaboreflex activation. *Physiological Reports* 7(6): e14041

Fouladi B, Joshi H, and **Edgell H** (2018) Cardiovascular responses to passive limb movement in men and women. *Eur J Appl Physiol* 119(2): 551-559

Parikh J, Randhawa AK, Wharton S, **Edgell H**, and Kuk JL (2018) The association between antihypertensive use and blood pressure is influenced by obesity. *J Obes* 2018:4573258

Edgell H, Grinberg A, Beavers K, Gagne N, and Hughson R (2018). Efficacy of fluid-loading as a countermeasure to the hemodynamic and hormonal changes of 28-hour head down bed rest. *Physiol Rep* 6(19): e13874

Costanian C, McCague H, **Edgell H**, Ardern C, and Tamim H (2019) Changes in adiposity and other factors in relation to age at natural menopause: analyses from the coronary artery risk development (CARDIA) study. *Menopause* 26(2): 162-171

Gage, William H.

Street BD, Gage W. (2019) Younger Total Knee Replacement Patients Do Not Demonstrate Gait Asymmetry for Heel Strike Transient or Knee Joint Moments That Are Observed in Older Patients. *J Appl Biomech.* 35(2):140-148.

Haas, Tara L.

Rudnicki M, Abdifarkosh G, Nwadozi E, Ramos SV, Makki A, Sepa-Kishi DM, Ceddia RB, Perry CGR, Roudier E, Haas TL. Endothelial-specific FoxO1 depletion prevents obesity-related disorders by increasing vascular metabolism and growth. *Elife.* 2018 Dec 4;7. pii: e39780. doi: 10.7554/eLife.39780.

Rudnicki M, Abdifarkosh G, Rezvan O, Nwadozi E, Roudier E, Haas TL. Female mice have higher angiogenesis in perigonadal adipose tissue than males in response to high-fat diet. *Front Physiol* 2018;doi:<https://doi.org/10.3389/fphys.2018.01452>

Nwadozi, E., A. Ng, A. Stromberg, H. Liu, K. Olsson, T. Gustafsson* and T.L. Haas*. Leptin is a physiological regulator of skeletal muscle angiogenesis and is locally produced by PDGFR α and PDGFR β expressing perivascular cells. *Angiogenesis* 2018 Aug 18. DOI: 10.1007/s10456-018-9641-6(*shared senior author)

Hood, David A.

M. Triolo, and D. A. Hood Mitochondrial breakdown in skeletal muscle and the emerging role of the lysosomes. *Arch. Biochem. Biophys.* 661:66-73, 2019.

Kim, Y., M. Triolo, A. T Erlich, and D. A. Hood. Regulation of autophagic and mitophagic flux during chronic contractile activity-induced muscle adaptations. *European Journal of Physiology.* <https://doi.org/10.1007/s00424-018-2225-x> 2018 (in press).

Hood, D.A., J.M. Memme, A.N. Oliveira and M. Triolo. Maintenance of skeletal muscle mitochondria in health, exercise, and aging. *Ann. Rev. Physiol.* 81:19-41, 2019.

Beyfuss, K., A. T Erlich, M. Triolo and D. A. Hood. The Role of p53 in Determining Mitochondrial Adaptations to Endurance Training in Skeletal Muscle. *Sci. Reports.* 8(1):14710. doi: 10.1038/s41598-018-32887-0 2018

Oliveira, A.N., and D.A. Hood. Effect of Tim23 Knockdown in vivo on Mitochondrial Protein Import and Retrograde Signaling to the UPRmt in Muscle. Am J Physiol Cell Physiol. <https://doi.org/10.1152/ajpcell.00275.2017>, 2018

Chen, C.C.W., A. T. Erlich, M. J. Crilly and D. A. Hood. Parkin is required for exercise-induced mitophagy in muscle: impact of aging. Am. J. Physiol. (Endocrin. Metab.) 315(3):E404-E415, 2018.

Carter, H.N., Y. Kim, A. T. Erlich, D. Zarrin-Khat and D. A. Hood. Autophagy and mitophagy flux in young and aged skeletal muscle following chronic contractile activity. J. Physiol. (Lond.) 596(16):3567-3584, 2018.

Chen C.C.W., A.T. Erlich and D.A. Hood. Role of Parkin and endurance training on mitochondrial turnover in skeletal muscle. Skelet. Muscle 8(1):10, 2018.

Carter, H.N., M. Pauly, L.D. Tryon and D. A. Hood. Effect of contractile activity on PGC-1 α transcription in young and aged skeletal muscle. J. Appl. Physiol. 124(6):1605-1615, 2018.

Parousis, A., H. N. Carter, C. Tran, A. T. Erlich, Z. S. Mesbah-Moosavi, M. Pauly and D.A. Hood. Contractile activity attenuates autophagy suppression and reverses mitochondrial defects in skeletal muscle cells. Autophagy, 4:1-12, 2018.

Kim, Y., J. M. Memme and D.A. Hood. Application of chronic stimulation to study contractile activity-induced rat skeletal muscle phenotypic adaptations. J. Vis. Exp., e56827, 2018.

Beyfuss, K and D.A. Hood. A systematic review of p53 regulation of oxidative stress in skeletal muscle. Redox Report: <https://doi.org/10.1080/13510002.2017.1416773>, 2018.

Chapters in books

Carter, H.N. and D.A. Hood. The relationship between muscle mitochondrial turnover and sarcopenia. In Meynial-Denis, D. (Ed.) Sarcopenia, Francis and Taylor, (in press, 2018).

Hynes, Loriann.

Miller, MB, Macpherson AK, Hynes LM. Athletic Therapy Students' Perceptions of High-Fidelity Manikin Simulation: A Pilot Study. Athletic Training Education Journal, 2018;13(2):158-167.

Professional Responder Manual, Canadian Red Cross. StayWell Health Co. Ltd., Guelph, ON, 2018. Technical Advisor and Content Reviewer (textbook)

Kuk, Jennifer L.

Deldin A, **Kuk J**, Lee S: Influence of sex on the changes in regional fat and skeletal muscle mass in response to exercise training in adolescents with obesity (Childhood Obesity – 2019 Jan 29. doi: 10.1089/chi.2018.0329)

Kuk JL, Christensen R, Wharton S: Faster and slow weight loss is associated with similar improvements in metabolic health (J Obesity – In Press).

Lee S, Libman I, Hughan K, **Kuk JL**, Jeong JH, Zhang D, Arslanian S.: Effects of exercise modality on insulin resistance and ectopic fat in adolescents with overweight or obesity: A randomized trial. (Journal of Pediatrics - 2018 Dec 12. pii: S0022-3476(18)31566-X. doi: 10.1016/j.jpeds.2018.10.059).

Raiber L, Christensen R, Randhawa AK, Jamnik VK, **Kuk JL**: Do Moderate to Vigorous Intensity Accelerometer Count Thresholds Correspond to Relative Moderate to Vigorous Intensity Physical Activity? (APNM – 2018 Sep 24. doi: 10.1139/apnm-2017-0643)

Bonder R, Davis C, **Kuk JL**, Loxton N: Compulsive ‘Grazing’ and Addictive Tendencies towards Food (European Eating Disorders Reviews – 2018. DOI: 10.1002/erv.2642.)

Alkhalidi, B, Kimball, SM, **Kuk JL** and Ardern CI. Lifetime risk of cardiometabolic mortality according to vitamin D status of middle and older-aged adults: NHANES III mortality follow-up (Journal of Steroid Biochemistry and Molecular Biology – 2018 Sep 13. pii: S0960-0760(18)30262-0. doi: 10.1016/j.jsbmb.2018.09.007.)

Parikh JS, Randhawa AK, Wharton S, Edgell H, **Kuk JL**: The association between antihypertensive use and blood pressure is influenced by obesity (J of Obesity 2018 Oct 1;2018:4573258. doi: 10.1155/2018/4573258. eCollection 2018.).

Kuk JL, Rotondi M, Sui X, Blair SN and Ardern CI. Individuals with obesity but no other metabolic risk factors are not at significantly elevated all-cause mortality risk in men and women (Clinical Obesity – <http://dx.doi.org/10.1111/cob.12263>)

McDermott, John C.

FMRP recruitment of β -catenin to the translation pre-initiation complex represses translation. Ehyai, S., Miyake, T., Williams, D., Vinayak, J., Bayfield, M.A., and McDermott, J.C. EMBO Rep. 2018 Oct 25. e45536. doi: 10.15252/embr.201745536.

Perry, Christopher G. R.

Hughes MC*, **Ramos SV***, **Turnbull PC**, Edgett BA, Huber JS, Polidovitch N, Schlattner U, Backx PH, Simpson JA, Perry CGR. Impairments in left ventricular mitochondrial bioenergetics

precede overt cardiac dysfunction and remodeling in Duchenne muscular dystrophy. *J Physiol*, 2019 Jan 22 (Accepted).

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Rudnicki M, Abdifarkosh G, Nwadozi E, **Ramos SV**, Makki A, Sepa-Kish DM, Ceddia RB, Perry CGR, Roudier E, Haas TL. Endothelial-specific Foxo1 depletion prevents obesity-related disorders by increasing vascular metabolism and growth. *eLife* 2018 Dec 4; 7. pii. e39780

Bellissimo C, Perry CGR. Sex differences in the regulation of hepatic mitochondrial turnover following physical activity: do males need more quality control than females? *J Physiol*. 2018 Dec; 596(24): 6125-6126. (Invited perspectives)

Monaco CMF*, **Hughes MC***, **Ramos SV**, Varah NE, Lambzerz C, Rahman FA, McGlory C, Tarnopolsky MA, Krause MP, Laham R, Hawke TJ*, Perry CGR*. Altered mitochondrial bioenergetics and ultrastructure in the skeletal muscle of young adults with type 1 diabetes. *Diabetologia*. 2018 June; 61(6): 1411-1423

Editor/Co-editor of Series:

New and emerging roles of the cytoskeleton in skeletal muscle. Review theme, *Am J Physiol Cell Physiol*. 2019 Mar 6 (Epub ahead of print).

Riddell, Michael C.

Aihua Li, Michael C. Riddell, Dana Potashner, Ruth E. Brown, Ronnie Aronson. Accuracy of Continuous Glucose Monitoring During High Intensity Interval Training in Adults with Type 1 Diabetes. *Diabetes Technology & Therapeutics* (in press).

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Olga Kordonouri & Michael C Riddell. Use of Apps for Physical Activity in Type 1 Diabetes – Current Status and Requirements for Future Development. In revision, *Therapeutic Advances in*

Zaharieva DP, McGaugh S, Pooni R, Vienneau T, Ly T, Riddell MC. Improved Open-Loop Glucose Control With Basal Insulin Reduction 90 Minutes Before Aerobic Exercise in Patients With Type 1 Diabetes on Continuous Subcutaneous Insulin Infusion. *Diabetes Care*. 2019 Feb 22. pii: dc182204. doi: 10.2337/dc18-2204 [Epub ahead of print]

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Zaharieva DP, Riddell MC, Henske J. The Accuracy of Continuous Glucose Monitoring and Flash Glucose Monitoring During Aerobic Exercise in Type 1 Diabetes. *J Diabetes Sci Technol*. 2018

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Theresa Beesley, Jessica Fraser-Thomas and Michael C. Riddell. More than Diabetes Self-Management: Positive Youth Development at an Inclusive Type 1 Diabetic Sport Camp. *Journal of Youth Development* (in press).

Adolfsson P, Riddell MC, Taplin CE, Davis EA, Fournier PA, Annan F, Scaramuzza AE, Hasnani D, Hofer SE. ISPAD Clinical Practice Consensus Guidelines 2018 Compendium Exercise in children and adolescents with diabetes. *Pediatr Diabetes*. 2018 Aug 22. doi: 10.1111/peidi.12755. [Epub ahead of print] PubMed PMID: 30133095.

Rickels MR, DuBose SN, Toschi E, Beck RW, Verdejo AS, Wolpert H, Cummins MJ, Newswanger B, Riddell MC; T1D Exchange Mini-Dose Glucagon Exercise Study Group. Mini-Dose Glucagon as a Novel Approach to Prevent Exercise-Induced Hypoglycemia in Type 1 Diabetes. *Diabetes Care*. 2018 Sep;41(9):1909-1916. doi:10.2337/dc18-0051. Epub 2018 May 18. PubMed PMID: 29776987.

Book chapters:

Teich, T., Zaharieva, D.P., and Riddell, M.C. (2019). Advances in Exercise, Physical Activity and Diabetes Mellitus. In M. Phillip and T. Battelino (Ed.), *Advanced Technology and Treatments in Diabetes 2018 Yearbook*. New Rochelle, NY: Mary Ann Liebert Inc.

Pasieka, A.M., and **Riddell, M.C.** (2018). Advances in Exercise, Physical Activity and Diabetes Mellitus. In M. Phillip and T. Battelino (Ed.), *Advanced Technology and Treatments in Diabetes 2017 Yearbook*. New Rochelle, NY: Mary Ann Liebert Inc.

Submitted/in review:

Jane Yardley, Glen Kenny, Nicole Brockman, Bruce A. Perkins, Michael C. Riddell and Ronald Sigal. Sex-related differences in blood glucose responses to resistance exercise in type 1 diabetes: A secondary analysis. *Canadian Journal of Diabetes* (submitted oct 1, 2018).

Erwan Leclair, Richard Liggins, Trevor Teich, David H. Coy, Mladen Vranic, and Michael Riddell. Efficacy of somatostatin receptor 2 antagonism in a novel rodent model of diabetic recurrent hypoglycemia. *Disease Models and Mechanisms* (DMM-2016-028381v1, in review).

Roudier, Emilie

Martina Rudnicki, Ghoncheh Abdifarkosh, Emmanuel Nwadozi, Sofia V. Ramos, Armin Makki, Diane M. Sepa-Kishi, Rolando B. Ceddia, Christopher G.R. Perry, Emilie Roudier, Tara L. Haas. (2018). Endothelial-specific Foxo1 depletion prevents obesity-related disorders by increasing vascular metabolism and growth. *Elife*. 2018 Dec 4;7. pii: e39780. doi: 10.7554/eLife.39780.

Tsushima, Robert G.

Liu J, Bayer JD, Aschar-Sobbi R, Wauchop M, Spears D, Gollob M, Vigmond EJ, Tsushima R, Backx PH, Chauhan VS. Complex interactions in a novel SCN5A compound mutation associated with long QT and Brugada syndrome: Implications for Na⁺ channel blocking pharmacotherapy for de novo conduction disease. PLoS One. 2018 May 23;13(5):e0197273. doi: 10.1371/journal.pone.0197273

Appendix 5: Published Abstracts and Conference Proceedings by MHRC Faculty members between May 1, 2018 – April 30, 2019

Adegoke, Olasunkanmi

Olasunkanmi Adegoke and Gagandeep Mann. (2018). Effects of Inflammation and Ketoisocaproic Acid on Glucose Metabolism in Muscle Cells. Current Developments in Nutrition. Nutrition 2018 (American Society for Nutrition), Boston, United States. June 2018

Stephen Mora and Olasunkanmi Adegoke. A Chemotherapy Drug Cocktail Negatively Regulates Myotube Morphology and Protein Metabolism. Canadian Society for Exercise Physiology, Niagara Falls, Ontario Canada. October 2018.

Abstracts/Poster Presentation

Stephen Mora* and Olasunkanmi Adegoke (2019). Myotube Morphology and Protein Metabolism are Negatively Regulated by Chemotherapy Drugs. Experimental Biology 2019, Orlando, United States, April 2019.

Gagandeep Mann* and Olasunkanmi Adegoke. (2018). Effect of ketoisocaproic acid on insulin stimulated glucose transport in muscle cells is modulated by inflammation. Muscle Health Awareness Day 9. Muscle Health Awareness Day 9, 2018, Toronto, Canada. May 2018.

Stephen Mora* and Olasunkanmi Adegoke. (2018). Effect of a chemotherapy drug cocktail on myotube morphology and protein metabolism. Muscle Health Awareness Day 9. Muscle Health Awareness Day 9 (2018), York University, Toronto, Canada. May 2018.

Drake, Janessa D.M.

Peer Reviewed Conference Proceedings

DiMonte, S., Desroches, D., Simone, M.S., **Drake, J.D.M.** Motion and muscle activation patterns during extreme conditioning protocol. Proceedings of the Twentieth Biennial Conference and Symposia of the Canadian Society for Biomechanics. Halifax Nova Scotia, Canada, August 2018, Poster.

Johnston, H., Wanninayake, S., **Drake, J.D.M.** Differences in back muscle co-contraction during prolonged standing due to breast size. Proceedings of the Twentieth Biennial Conference and Symposia of the Canadian Society for Biomechanics. Halifax Nova Scotia, Canada, August 2018, Poster.

Mayberry, G., McKinnon, C., Nairn, B.C., **Drake, J.D.M.**, Callaghan, J.P., Spinning out low back pain: Facet spacing responses to lumbar axial twist. Proceedings of the Twentieth Biennial Conference and Symposia of the Canadian Society for Biomechanics. Halifax Nova Scotia, Canada, August 2018, Podium.

Simone, M.S., Nairn, B.C., **Drake, J.D.M.** Comparison of spinal curvature in seated and standing postures using the flexicurve. Proceedings of the Twentieth Biennial Conference and Symposia of the Canadian Society for Biomechanics. Halifax Nova Scotia, Canada, August 2018, Poster.

Stafford, M., Desroches, D., **Drake, J.D.M.** Smartphone use and its effect on gait, posture, and muscle activity. Proceedings of the Twentieth Biennial Conference and Symposia of the Canadian Society for Biomechanics. Halifax Nova Scotia, Canada, August 2018, Podium.

Non-Peer Reviewed Conference Proceedings

Desroches, D., **Drake, J.D.M.** Potential error in ultrasound-based kinematics. Sixteenth Annual Ontario Biomechanics Conference, Alliston, Ontario, March 2019: Podium Presentation.

Power, C., Kiriella, J., **Drake, J.D.M.**, Gage, W. Adaptability of human gait and an entrainment threshold to red noise auditory stimuli. Sixteenth Annual Ontario Biomechanics Conference, Alliston, Ontario, March 2019: Podium Presentation.

Simone, M., **Drake, J.D.M.** Impact of chair type on promoting quality sitting behaviours. Sixteenth Annual Ontario Biomechanics Conference, Alliston, Ontario, March 2019: Poster Presentation.

Vasilounis, S., **Drake, J.D.M.** Quantifying the difference in time and reliability of an ultrasound identification program versus human identification. Sixteenth Annual Ontario Biomechanics Conference, Alliston, Ontario, March 2019: Poster Presentation.

Mayberry, G., **Drake, J.D.M.**, Callaghan, J. Quantifying the effects of hip flexor stretches on the lumbar spine and lifting kinematics. Sixteenth Annual Ontario Biomechanics Conference, Alliston, Ontario, March 2019: Poster Presentation.

Hynes, Loriann.

Biafore C, Belcastro A, Boni M, Jamnik V, Hynes L. “The effects of a Specific Exercise Program On Shoulder Function for Breast Cancer Survivors, 6 to 9 Months Post-Surgery: A Pilot Study.” Athletic Training and Sports Health Care | Vol. 10 No. 3 2018. Canadian Athletic Therapists Association Annual Conference, Quebec City, QC, Canada.

Hurtubise JM, Gorbet DJ, Rogojin A, Echlin HV, Hynes LM, Macpherson AK, Sergio LE. “Relationship between cerebellum volume and self-reported symptoms in females with post-concussion syndrome.” Athletic Training and Sports Health Care | Vol. 10 No. 3 2018. Canadian Athletic Therapists Association Annual Conference 2018, Quebec City, QC, Canada.

Kuk, Jennifer L.

High S, Wharton S, Kamran E, Christensen RAG, **Kuk JL**. The Effect of a Low Carbohydrate High Fat diet and Intermittent Fasting on Weight Loss. Canadian Obesity Summit. Ottawa, 2019

Kuk JL, Ain't your grandma's obesity anymore. Canadian Obesity Summit. Ottawa, 2019.

O'Neill M, Browne N, Kebbe M, Gehring N, Ho J, Virtanen H, Hinkley C, Spence N, O'Connor K, Srikameswaran S, Zelichowska J, Morrison K, Gokiart R, Mâsse LC, Holt N, **Kuk J**, Carson V1, Geller J, Ball G. Youth and Parent Motivation to Change Lifestyle Habits: Preliminary Findings from the Readiness and Motivation Interview for Families (RMI-Family) Study. Canadian Obesity Summit. Ottawa, 2019.

Kuk JL, Rotondi M, Sui X, Blair SN and Ardern CI. Metabolic Healthy Obesity Is Not Significantly Associated With Elevated All-Cause Mortality Risk. The Obesity Society – Obesity Week, Nashville Nov 11-15, 2018.

Randhawa AK, Fung MDT, Fogel AS and **Kuk JL**: No differences in the predicted body fat after violating traditional bioelectrical impedance assumptions. The Obesity Society – Obesity Week, Nashville Nov 11-15, 2018.

Lee SJ, Libman I, Hughan K, **Kuk JL**, Jeong JH, Zhang D, Arslanian S: Effects of Exercise Modality on Insulin Resistance in Adolescents With Obesity: A Randomized Trial. The Obesity Society – Obesity Week, Nashville Nov 11-15, 2018.

N. Browne, Geller J, Spence N, O'Connor K, Srikameswaran S, Zelichowska J, Ho J, Gokiart R, Carson V, Gehring N, Virtanen H, Hinkley C, Mâsse L, Morrison K, **Kuk JL**, Holt N, Ball G: Examining Motivation in Pediatric Weight Management: The Readiness and Motivation Interview for Families (RMI-Family). Dietitians of Canada National Conference, Vancouver, June 6-9, 2018.

Bonder R, Davis C, **Kuk JL**, Loxton N: Compulsive 'Grazing' and Addictive Tendencies Towards Palatable Foods. Society for the Study of Ingestive Behaviors. Bonita Springs, Florida, July 2018. Villani V and **Kuk JL**: Stress, physical activity, and sleep is associated with BMI cross-sectionally, but not weight changes longitudinally in an African American Population. COSM, London ON. June 2018.

Randhawa A, Fung MDT, Fogel A and **Kuk JL**: No differences in the predicted body fat after violating traditional bioelectrical impedance assumptions. COSM, London ON. June 2018.

Wharton S, Christensen RAG, Bui LT, Elia S and **Kuk JL**: Characteristics of Patients Who Self-Selected to Enroll in a Medically Supervised Out-Patient Food Addiction Program. COSM, London ON. June 2018.

Parikh J, Randhawa A, Edgell H, **Kuk JL**: Individuals with obesity have a lower blood pressure than normal weight individuals when using certain antihypertensive medications; COSM, London ON. June 2018.

Edgell, Heather

Sympathetic changes through the menstrual cycle are absent in women with diabetes (2019, Experimental Biology) Joshi H, McGaugh S, and **Edgell H**. Published in The FASEB Journal

Comparison of noninvasive peripheral vascular function to invasive measures of coronary function in patients with suspected coronary microvascular dysfunction (2019, Experimental Biology) Nardone M, Miner S, McCarthy M, and **Edgell H**. Published in The FASEB Journal

Examining associations between concussion history and heart rate variability in collegiate female athletes. (2019, World Congress on Brain Injury). Hall M, **Edgell H**, Echlin H, Melcohe T, Sergio L, and Wojtowicz M.. Published in Brain Injury.

Ventilatory and cerebrovascular response to metaboreflex activation while supine or upright in men and women (2018, American Autonomic Society). Joshi H and **Edgell H**. Published in Clinical Autonomic Research.

Non-published Conference Abstracts

Nardone M, Miner S, McCarthy M, and **Edgell H**. Exercise-induced myocardial ischemia is not associated with coronary microvascular function in patients with suspected coronary microvascular dysfunction. (2019, Ontario Exercise Physiology)

Wasef S, Ivry I, Assadpour E, Adeyinka B, and **Edgell H**. Effects of cyclic sex hormones on central chemoreflex. (2019, Ontario Exercise Physiology)

Assadpour E, Ivry I, Wasef S, Adeyinka B, and **Edgell H**. Effect of female sex hormones on mechanoreflex activation during passive leg movement. (2019, Ontario Exercise Physiology)

Adeyinka B, Wasef S, Ivry I, and **Edgell H**. Effect of menstrual cycle on cardiac baroreceptor sensitivity during hypercapnia. (2019, Ontario Exercise Physiology)

Ivry I, Wasef S, Assadpour E, Adeyinka B, and **Edgell H**. Cardiorespiratory and ventilatory responses to metaboreflex activation between phases of the menstrual cycle. (2019, Ontario Exercise Physiology)

Edgell H, Papadhima I, and Robertson AD. Sex differences in cerebrovascular resistance indices during upright tilt. Accepted by the Pan-American Congress of Physiological Sciences 2019.

Hamadeh, Mazen J.

38th Annual Conference on The First-Year Experience (FYE), Las Vegas, NV, February 2019

Hood, David A.

Dovijarski, N., and D.A. Hood. The effect of chronic contractile activity and retinoic acid on muscle cell mitochondrial biogenesis. Appl. Physiol. Nutr. Metab. 43: (Suppl 2), 2018.

Triolo, M., Oliveira, A.N., and D.A. Hood. The effect of age and acute exhaustive exercise on skeletal muscle mitochondria and lysosomal biogenesis. Appl. Physiol. Nutr. Metab. 43: (Suppl 2): S100, 2018.

Memme, J.M., Oliveira, A.N. and D.A. Hood. Denervation-induced hindlimb atrophy in skeletal muscle-specific p53 KO mice. Appl. Physiol. Nutr. Metab. 43: (Suppl 2): S80, 2018.

Oliveira, A.N., Memme, J.M., Tamura, Y. and D.A. Hood. Role of TFEB and TFE3 in mediating stimulation-induced adaptations in C2C12 myotubes. Appl. Physiol. Nutr. Metab. 43: (Suppl 2): S86, 2018.

Kim, Y., M. Triolo, A. Erlich, J. Lai and D.A. Hood. Autophagy and mitophagy flux in skeletal during chronic contractile activity. FASEB J. 2018.

Perry, Christopher G. R.

Turnbull PC, Wallace HE, Davidson LR, Samson E, Graham A, Bell MCW, Brebner K, **Perry C GR**, Kane DA (April 2019). H1/H2 histamine receptor blockade differentially alters glutathione redox status in hindlimb skeletal muscle following a bout of prolonged exercise. *Experimental Biology, Orlando, USA*

Ramos SV, Hughes MC, Bellissimo CA, Perry CGR (April 2019). Mitochondrial Dysfunction and Disorganized Microtubules in Duchenne Muscular Dystrophy are Not Related to Altered α Tubulin-Voltage Dependent Anion Channel (VDAC) 2 Interactions. *Experimental Biology, Orlando USA.*

Turnbull PC*, **Dehghani AC, Hughes MC**, Perry CGR (April 2019). Fatty acid-induced hepatocellular carcinoma growth is mediated by decreasing mitochondrial H_2O_2 emission coupled to increased glutathione levels. *Experimental Biology, Orlando, USA.*

- ***Winner of American Society of Biochemistry and Molecular Biology Travel Award**

Hughes MC, Ramos SV, Perry CGR (March 2019). In Duchenne muscular dystrophy, in vitro treatment with the mitochondrial-targeted peptide SBT-20 rescues impairments in creatine-dependent energy exchange and protects mitochondrial creatine kinase from oxidative modifications. *Advances in Skeletal Muscle Biology in Health and Disease meeting, University*

of Florida, Gainesville, FL, USA. Also shown at Ontario Exercise Physiology meeting, Barrie, ON, Jan 2019.

- ***Winner of Aurora Scientific Award**

Hughes MC*, **Ramos SV**, **Bellissimo CA**, Dial AG, Tin E, Hawke TJ, Perry CGR (March 2019). The mitochondrial-targeting peptide SBT-20 improves diaphragm force and hind-limb muscle volume in Duchenne muscular dystrophy. *Advances in Skeletal Muscle Biology in Health and Disease meeting, University of Florida, Gainesville, FL, USA.*

Turnbull PC*, **Dehghani A**, Perry CGR. (Jan 2019). Application of mitochondrial bioenergetics to cancer: fatty acid-induced hepatocellular carcinoma growth is mediated by decreasing mitochondrial H₂O₂ emission and increased glutathione levels. *Ontario Exercise Physiology meeting, Barrie, ON.*

- ***Winner of American Journal of Physiology Cell Physiology award**

Bellissimo CA*, **Delfinis LJ**, **Hughes MC**, **Tadi P**, **Amaral C**, **Dehghani A**, Perry CGR (Jan. 2019). The mitochondrial-enhancing drug Olesoxime improves quadriceps mitochondrial function and force recovery but not diaphragm function in a mouse model of Duchenne muscular dystrophy. *Ontario Exercise Physiology meeting, Barrie, ON.* Also shown *Advances in Skeletal Muscle Biology in Health and Disease meeting, University of Florida, Gainesville, FL, USA, March 2019.*

- ***Winner Ontario Exercise Physiology Award**

Cynthia M. F. Monaco*, **Meghan C. Hughes***, **Sofhia V. Ramos**, Robert Laham, Christopher G. R. Perry, Thomas J. Hawke (*equal contribution) (Jan. 2019). Sex-specific differences in skeletal muscle mitochondrial bioenergetics in Type 1 Diabetes. *Ontario Exercise Physiology meeting, Barrie, ON.*

Bellissimo CA, **Hughes MC**, **Delfinis L**, **Tadi P**, **Amaral C**, **Dehghani A**, Perry CGR (Oct. 2018). Does the mitochondrial-enhancing drug Olesoxime improve muscle mass and function in a mouse model of Duchenne Muscular Dystrophy? *Canadian Society for Exercise Physiology Annual General Meeting, Niagara Falls, ON, Canada.*

Hughes MC*, **Ramos SV**, **Turnbull PC**, Rebalka IA, Cao A, Monaco CMF, Varah NE, Edgett BA, Huber JS, **Tadi P**, Simpson JA, Hawke TJ, Perry CGR (Oct. 2018). Mitochondrial H₂O₂ emission is elevated during oxidative phosphorylation in Duchenne muscular dystrophy. *Canadian Society for Exercise Physiology Annual General Meeting, Niagara Falls, ON, Canada.*

- ***Finalist for CSEP Graduate Student Award**

Ramos SV, Hughes MC, Perry CGR (Oct. 2018). Microtubule destabilizing chemotherapy: implications to muscle health and survival examined through *in-vitro* and *in-vivo* models. *Canadian Society for Exercise Physiology Annual General Meeting*, Niagara Falls, ON, Canada.

Dehghani AC, Turnbull PC, Perry CGR (Aug. 2018). Hepatocellular carcinoma cells are able to withstand mitochondrial activation despite low baseline glutathione. *NSERC Undergraduate Research Conference*, York University, Toronto, ON, Canada.

Turnbull PC, Hughes MC, Perry CGR (May 2018). Cancer-specific cell death in response to palmitoyl-carnitine is caused by elevated H₂O₂ emission and corresponding glutathione depletion. (Also May 2018 *Muscle Health Awareness Day*, York University, Toronto, ON, Canada).

Hughes MC, Ramos SV, Teich T, Perry CGR (May 2018). In Duchenne muscular dystrophy, mitochondrial bioenergetic impairments are linked to dysfunctions in creatine-dependent energy exchange. *Muscle Health Awareness Day*, York University, Toronto, ON, Canada. (Also shown at *Ontario Exercise Physiology meeting*, Barrie, ON, Canada, Jan. 2018)

Ramos SV, Hughes MC, Perry CGR (May 2018). Microtubule destabilizing chemotherapy may prevent the induction of apoptosis in glycolytic muscles utilizing *in-vitro* and *in-vivo* methodologies. *Muscle Health Awareness Day*, York University, Toronto, ON, Canada.

Scimè, Anthony

Till & McCulloch Stem Cell Network meeting November 11, 2018. Debasmita Bhattacharya and Anthony Scimè. “A metabolic control mechanism that regulates myogenic stem cell fates”, Ottawa, Canada

Appendix 6: Invited Presentations by MHRC Faculty members between May 1, 2018 – April 30, 2019

Abdul-Sater, Ali A.

How to train an immune system: The role of exercise in regulating inflammation – Keynote speaker - *7th Annual Research Day - Collaborative Program in Musculoskeletal Research, University of Toronto, ON - April 2019*

The Role of TRAF1 in Regulating Inflammation. *Federation of Clinical Immunology Societies (FOCIS), Boston, MA - 2016*

A new function for TRAF1 in regulation of TLR signaling underlies the role of TRAF1 in rheumatic disease. *BD-Biosciences Immunology Post-Doctoral Seminar, University of Toronto, ON - 2016*

A new function for TRAF1 in regulation of TLR signaling underlies the role of TRAF1 in rheumatic disease. *Canadian Society for Immunology, Ottawa, ON - 2016*

A new function for TRAF1 in regulation of TLR signaling underlies the role of TRAF1 in rheumatic disease. *International Congress of Immunology, Melbourne, Australia - 2016*

Control of B lymphoma through regulation of TRAF protein degradation. *Canadian Society for Immunology, Quebec City, Canada – 2014*

Ceddia, Rolando B.

Mechanisms of energy dissipation in beige and brown adipocytes. Symposium entitled Adipose Tissue Biology in Exercise and Disease. Canadian Society for Exercise Physiology Annual General Meeting – Niagara Falls, Canada, Oct 31st – Nov 3rd – 6th, 2018.

Cheng, Arthur

MHRC Seminar Series – Invited Speaker, March 22, 2019

Edgell, Heather

Mount Sinai Hospital – Cardiac and Circulatory Physiology Rounds – May 11, 2018 – Cardiovascular and Autonomic Physiology in Women – Health and Disease

Hood, David A.

MitoNET Symposium, Toronto, ON, Nov 6, 2018.

International Biochemistry of Exercise, Beijing, China, Oct 23, 2018.

Barshop Symposium on Aging, San Antonio, Texas, Oct 20, 2018.

American College of Sports Medicine – Integrative Physiology of Exercise, San Diego, Sept 5 2018.

American Diabetes Association Annual meeting, Orlando, FL, June 23, 2018.

McGill University, Meakins-Christie Labs - Mar. 18 2019

McMaster University, Kinesiology - Nov. 13, 2018

Queen's University, Medicine - July 13, 2018

Hamadeh, Mazen J.

Hamadeh MJ, Rawana J. How Calumet College and Stong College Increased Student Success and Engagement Through In-Class Peer Leaders. Forum on Student Success: Making the case for an integrated approach, York University, Toronto, ON, April 25, 2019 (podium presentation). <https://vp.students.yorku.ca/student-success-forum/schedule>

Hynes, Loriann.

Gill S, Sem M, Edgell H, **Hynes L** "A Comparison of Techniques in Predicting Brain Blood Flow from the Neck" [Poster Presentation] 2018 National Traumatic Brain Injury Conference (UHN), Toronto Rehabilitation Institute, ON, February 2, 2018.

Winner: Best Poster Presentation: Sandeep Gill, MSc Student

Sergio LE, **Hynes LM**. "Integrated Approaches to Assessing Function and Recovery Following Concussion" [Conference Opening Lecture] Canadian Athletic Therapists Association 52nd National Conference, Quebec City, QC, June 1, 2018.

Peisachovich, E. H., Da Silva C., Gal, R., & **Hynes, L** "Understanding the Experiences of Learners Using Simulated Person Methodology in an Athletic Therapy Program" [Poster Presentation] 2018 SIM Expo, Calgary, AB, Canada, November 13-14, 2018

Peisachovich, E. H., Da Silva C., Gal, R., & **Hynes, L**. "Experiences of learners of simulated-person methodology in an athletic therapy program" [Poster Presentation] The 24th World Congress on Medical Law and Ethics, Tel Aviv, Israel September 6, 2018.

Hurtubise JM, Gorbet DJ, Rogjin A, Echlin HV, **Hynes LM**, Macpherson AK, Sergio LE. "The Relationship Between Cerebellum Volume and Self-Reported Symptoms in Females with Post-

Concussion Syndrome” [Poster Presentation] National Athletic Trainers’ Association Clinical Symposia & AT Expo, New Orleans, LA, USA. June 26-29, 2018.

Kuk, Jennifer L.

Efficacy of diet and exercise for preventing/treating obesity and chronic diseases – APNM Workshop – Invited Speaker (Canadian Society for Exercise Physiology, Niagara Falls, Nov 2018).

McDermott, John C.

“Heart failure associated transcriptome dynamics in response to b blockers” XXX Congreso Centroamericano y del Caribe de Cardiología. Havana, Cuba, June 6th, 2018.

“Heart failure associated transcriptome dynamics in response to b blockers” International Academy of Cardiovascular Sciences, N. American Section. Havana, Cuba, June 8th, 2018.

“Strawberry Notch 1 forms a repressor complex with MEF2 to inhibit Myogenesis”

International MADS Box Conference. Lake Placid, USA July 9th, 2018.

“Genomic and Proteomic Analysis of MEF2 Function in the heart”

Institut de cardiologie de Montréal, Département de médecine, Université de Montréal, Canada. Nov 2nd, 2018.

Perry, Christopher G. R.

Trainee development: Invited International Course/Workshop Leader

Saltin International Graduate Course in Clinical & Exercise Physiology 09/2018 Collingwood, ON, Canada

Invited Presentations: National and International Symposia

‘Targeting mitochondrial bioenergetics to treat muscle weakness in Duchenne muscular dystrophy’ Advances in Skeletal Muscle Biology in Health and Disease, Gainesville, Florida, USA (March 2019)

‘Targeting mitochondria to treat muscle weakness in Duchenne Muscular Dystrophy’ Mitochondrial Function, Cell Metabolism & Disease Symposium, University of Toronto, CANADA (Nov 2018)

“The role of mitochondrial dysfunction in Duchenne Muscular Dystrophy” Canadian Society for Exercise Physiology Annual Meeting, Niagara Falls, ON, CANADA (Nov. 2018)

“Targeting mitochondria to improve mobility: can a pill improve muscle function?” Saltin International Graduate Course in Clinical & Exercise Physiology, Collingwood, ON, CANADA (Sept. 2018)

Invited University Seminar Presentations

“The emergence of mitochondrial-targeted therapeutics to treat muscle weakness disorders” Department of Kinesiology, McMaster University, Hamilton, ON, CANADA (Dec. 2018).

“Mitochondrial dysfunction as a potential target for therapy to treat muscle weakness in Duchenne Muscular Dystrophy’ Department of Sport Science and Clinical Biomechanics, University of Southern Denmark, Odense, DENMARK (June 2018).

Conference Organizer

Executive Organizing Planning Committee, International Biochemistry of 06/2018- Exercise Conference (IBEC), Toronto, ON, Canada

Executive Organizing Committee, 10th Meeting - Canadian Oxidative Stress 05/2018 Consortium, Edmonton, AB, Canada

Conference Symposia Chair

Emerging Roles of the Cytoskeleton in Striated Muscle, Experimental 04/2019 Biology, Orlando, FL, USA

Outreach Activities

Invited editorial by Dskate Hockey (dskatehockey.com) on skeletal muscle 05/2018 health in Type 1 Diabetes and the implications for exercise management <https://dskatehockey.com/en/dskate-u/education/physical-activity-and-diabetes/>

Riddell, Michael C.

Exercising More Confidently with Insulin and More Safely. Endocrinology May Day, May 31st, 2019. Toronto Canada.

Leveraging the Sensor to Manage Exercise. Glucose Sensing from Many Perspectives: A Clinical Conference. April 12th, 2019. Toronto Canada.

Exercise & Diabetes. Global Diabetes Summit: Improving outcomes beyond glycaemic control. April 5-6, 2019, Buenos Aires, Argentina.

Ups and Downs with Type 1 Diabetes: My life as a researcher and recreational trekker with type 1 diabetes. Endocrine Fellows Series/Endocrine Society Meeting: Type 1 Diabetes Care and Management, March 19 - 21, 2019. New Orleans, Louisiana.

Strategies for T1D Management with Intense Physical Activity. Endocrine Fellows Series/Endocrine Society Meeting: Type 1 Diabetes Care and Management, March 19 - 21, 2019. New Orleans, Louisiana.

Emerging research and current questions on exercise and T1D. Children's Diabetes Centre Research Symposium March 29th, 2019. University of Western Australia. Perth Australia.

Plenary Lecture- PROMs, Apps and Exercise in Diabetes. Advanced Technologies and treatments for Diabetes, (ATTD). February 22nd, 2019, Berlin, Germany.

Advances in Exercise, Physical Activity and Diabetes Mellitus. The 12th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD 2019) Yearbook Session. Berlin. Germany, February 20-23rd, 2019.

Exercise Prescription in Type 1 Diabetes. Sports Med 2019. The Sports and Exercise Medicine Section, Ontario Medical Association. Toronto. January 25-26th, 2019.

Type 1 Diabetes & Exercise Cases. Sports Med 2019. The Sports and Exercise Medicine Section, Ontario Medical Association. Toronto. January 25-26th, 2019.

Keynote presentation-Exercise and Type 1 Diabetes: Translating Science to Reduce the Burden on Children. Department of Pediatrics 50th Anniversary, McMaster University. November 30th, 2018. Hamilton, ON, Canada

Keynote Address: Updates on the Glycemic Management of Exercise. SickKids' Annual Pediatric Diabetes Update for Health Professionals. Friday, November 16, 2018, Toronto.

Interfaces between Diabetes care, Data Technologies and Exercise. Horizons in Diabetes, Diabetes Study Group (DSG) of the Portuguese Society of Endocrinology Diabetes and Metabolism. October 12th, 2018. Matosinhos, Portugal.

Strategies in Advanced Pumping and Exercise. Pump Therapy: Managing Life's Challenges. Insulet Canada. September 28th, 2018. Toronto Yorkdale, ON, Canada

Type 1 Diabetes and Exercise: Using New Technologies to Improve Exercise Adherence and Glucose Management. Diabetes Technology Symposium for Diabetes Professionals (Park Nicollet International Diabetes Centre), September 21st 2018, Minneapolis, Minnesota.

Sick Kids Endocrinology Rounds: Pediatric Diabetes and Exercise. May 9th, 2018.

Professional Web-Based Resources for Clinicians and Patients

Excarbs: www.excarbs.com by Dr. David Kerr, Dr.Helen Partridge and **Dr. Michael Riddell**

Public, Professional and Corporate Presentations and Continuing Medical Education (CME) Workshops- Selected:

Managing Exercise and Type 1 Diabetes. Host: Stephen Roelofson, Windsor Dec 6th, 2018

Managing Exercise and Type 1 Diabetes. Host: Stephen Roelofson, Nov 19th, 2018. Kitchener

Physical Activity and Diabetes. SickKids' Family Diabetes Day 2018, Nov 17th, 2018. Toronto.

Understanding Exercise & Type 1 Diabetes. Audience: Teen & Siblings. Children with Diabetes Friends for Life Canada 2018 Conference. Nov 3rd, 2018, Niagara Falls.

Exercise & Type 1 Diabetes. Audience: Parents & Adults with Type 1. Friends For Life Conference. Nov 4th, 2018. Niagara Falls.

Diabetes and Physical Activity: Keeping it Fun, Effective and Safe. 2018 Diabetes Canada Type 1 Conference. Diabetes Canada. September 22nd, 2018. Toronto, ON, Canada

Exercise...2 Steps Forward...1 Step Back: A Type 1 Diabetes Perspective. ONE 2018: The ultimate Conference and Retreat for Adults with Type 1, TYCOD. San Diego, California. August 18th, 2018.

Roudier, Emilie

Roudier E. Impact de maladies chroniques et du mouvement sur le phénotype endothélial du lit microvasculaire. Differential impacts of chronic diseases and movement on the endothelial phenotype on the micro-vascular bed. Research talk _ Sciences and techniques of Sport and Physical activities: Section: cardiovascular health, exercise and nutrition, Avignon, France, May 14th, 2018

Roudier E. Plasticité microvasculaire et adaptabilité au mouvement. Microvascular plasticity and adaptability to movement. Research talk _ Sciences and techniques of Sport and Physical activities: Section exercise physiology, Marseille, France, May 15th, 2018

Scimè, Anthony

International Conference on Biotechnology & Biological Sciences, Biospectrum 2018, Kolkata, India, July 27, 2018.

Symposia Session Chair

International Conference on Biotechnology & Biological Sciences, Biospectrum 2018, Kolkata, India

Conference Activities

- i) Judge for poster presentations (6) International Conference on Biotechnology & Biological Sciences, Biospectrum July 2018, Kolkata, India.
- ii) Judge for poster presentations (12) 2018 Till & McCulloch Stem Cell Network meeting, November 11, 2018, Ottawa, Canada

Tsushima, Robert G.

“Dual Regulation of the Cholesterol Synthesis Pathway in Insulin Secretion” September 13, 2018. Department of Physiology. University of Alberta

Appendix 7: Additional Specialized Equipment

Abdul-Sater, Ali A.

- ThermoFisher Attune NxT Flow cytometer – 3-laser, 12 color flow