Annual Report Template for Organized Research Units

Annual reports for the Organized Research Units (ORUs) are to be prepared using the following format. The guidelines included in this template are provided for preparing the ORU Annual Report for fiscal year May 1, 2024 to April 30, 2025, due no later than **May 30, 2025. Board Meetings will be scheduled from June onwards through the summer.**

ORU Directors are advised to review the Terms and Expectations of their current charter, their last Annual Report and address steps to fulfilling their mandate when completing the annual report. *Please note that the major purpose of the Annual Report and the Board Meeting is to review the mandate, record progress towards achieving goals, and strengthen your research centre. These reports are also used to inform external reviewers of your progress toward meeting the mandate at the time of rechartering.*

Institutional ORUs, please submit your Annual Reports to the Office of the VPRI (to the attention of the ORU Research Manager. **Faculty-based** ORUs submit their reports to the Dean's Office of their home Faculty, with a copy to the Office of the VPRI (c/o ORU Research Manager).

[When filling out the template, please delete the instructional portion of the text (highlighted in grey) and fill in with your ORU information along with the charted info, adding lines as required.]

Muscle Health Research Centre (MHRC)
Annual Report
2024-2025

SECTION 1: Details & Narratives

1. **Contact Information**: Include the following:

Name of Director(s)	Dr. Christopher Perry
Telephone number	Ext. 33232
Email address	cperry@yorku.ca
Campus address	352 Farquharson Bldg.
Administrative contact	Adam Charnaw
ORU website	www.yorku.ca/ mhrc

2. **Original and Current Charter Dates:** July 1, 2008, re-chartered in 2014 and 2021

   MHRC is coming to the end of its current charter and will be submitting an application for a new charter, October 2025.

Mandate – The MHRC is an organized research unit within the Faculty of Health dedicated to Biomedical Sciences, and more specifically to the study of "muscle", including skeletal, cardiac and vascular muscles, in its broadest terms. Its mandate is to provide a centralized and focused research emphasis on the importance of "muscle health" for the overall well-being of Canadians. The MHRC consists of a strong cohort of well-funded and highly productive scholars (including two Canada Research Chairs and two York Research Chairs) and graduate students from the Faculty of Health and the Faculty of Science. The revised vision statement of the MHRC incorporated following the re-Chartering exercise in 2021 is *"to be Canada's leader in exercise and muscle health research, training and education"*. We are achieving this through 1) innovative research, 2) the education of qualified trainees, and 3) the translation of our findings for the benefit of all Canadians. In 2021 we spent considerable time analyzing and revising the vision and mandate of the MHRC for the purpose of the re-Chartering exercise, and this is reflected in our progress and goals for the future.

Section 2: Accomplishments & Challenges

3. **Outstanding Centre-specific Accomplishments** – 500 words maximum, *for the current year*, describe value-added accomplishments and outputs of the ORU that are a reflective of Centre synergies and resultant collaborations.

   NOTE: For the most part, publications and other creative scholarly contributions of individual members of the ORU are to be summarized in Section 5 and should not be included in this section.

   The MHRC was ranked 4th in the world for 'skeletal muscle' as a research theme by ScholarGPS. 'Skeletal muscle' was also the most highly ranked theme of all themes for York University, thereby positioning the MHRC as a top identity for the Institution (https://www.yorku.ca/yfile/2024/10/30/york-us-muscle-health-research-centre-ranks-fourth-globally/).

   Director Perry co-led a ~$6million CFI-IF and ORF-LIF with the School of Kinesiology & Health Science (Dr. Andrea Josse co-lead; MHRC and KHS member) including 10 co-applicants, 9 of which are MHRC members. The grant will support construction of a 9,000 square foot facility in HNES and contain multiple human physiological testing systems, clinical exercise and nutrition research equipment, and other aspects that will elevate our capacity for clinical trials in numerous health disorders including those that create health inequities. Director Perry formed new industry, academic network, clinical and not-for-profit partnerships to support this initiative through letters of support that highlight how the research in this facility will be translated into health solutions as technologies, health policy and clinical partners. Most of these partnerships were formed in the last year as part of Director Perry's vision and strategy to build networks before grant applications so that future grants are strengthened with numerous partnerships.

The MHRC formed a new partnership with Muscular Dystrophy Canada and the CIHR catalyst grant-funded network Neuromuscular Disease for Canada (NMD4C) to host the 2nd annual NMD4C summer school in May 2025. The partnership meetings and formal agreements were created prior to April 30. MHRC faculty members Drs. Arthur Cheng and Anthony Scime and their labs, as well as a student in Dr. Perry's lab, will lead hands on tutorials for 30 visiting graduate students from across Canada for free exchange of knowledge and skills, thereby forming new networks and relationships. This no-cost activity for the MHRC will be sponsored by NMD4C. A patient partner will share their experience along with clinician and faculty lectures from across Canada.

The 15th Muscle Health Awareness Day (MHAD) in May 2024 attracted ~120 attendees from multiple universities across Ontario. Attendees expressed appreciation of the opportunity to form new relationships and networks at this event, and indicated that they had learned of MHAD through their colleagues who have attended in the past. It is estimated that MHAD is now the 2nd largest muscle physiology meeting in Canada after the Ottawa Neuromuscular Disease Conference (biennial), but the only conference of this size that offers broad lecture topics on many muscle disorders and conditions. This year, the MHRC partnered with a community member to discuss their perspective on 'the aging athlete' (https://www.yorku.ca/yfile/2024/05/12/muscle-health-awareness-day-event-expands-its-scope/)

The MHRC Seminar Series included multiple speakers from across North America through 5 virtual and 3 in-person formats (low cost; no flight or hotel). There were over 250 attendees in total for all seminars including scientists from other institutions across Canada and some from the USA.

The MHRC Student Executive Committee (SEC) grew by ~40% with nearly half of the laboratories of the MHRC represented in this student governance body. The SEC met monthly and initiated a new social media campaign to feature videos of graduate trainees interviews, MHRC member achievements, the creation of a LinkedIn and Bluesky page, and facilitating MHAD activities and selecting invited seminar speakers. They also created the inaugural International Trainee Seminar Series that hosted 1 international, 1 Canadian (outside York), and 1 MHRC graduate student in a ~1hr zoom seminar. Attendees from North and South America as well as Europe attended. Feedback included a faculty member from the US who will now model this initiative in their own research group.

Director Perry met with numerous GTA-based small and medium enterprises through York-OCI industry events and other activities as well as the CIHR catalyst grant funded network Canadian MSK Rehab Research Network to connect MHRC faculty and student members to new opportunities. Several members are in discussions with these partners to create new initiatives, while Drs. Arthur Cheng and Mike Paris are writing a NSERC Alliance grant with a company (Myomar) linked through the MHRC. Dr. Perry has reached out to new networks and companies to identify additional opportunities for other members.

Aurora Scientific, Aurora Ontario, approached the MHRC in 2024 with a proposal for the Centre to become the international headquarters for a biannual workshop whereby Dr. Arthur Cheng provides 2 day courses on measuring muscle force in mice. Graduate students will earn an income and make new networks with courses beginning June 2025.

Director Perry continued to meet with Southlake Regional Health Centre about his proposal from 2023 to build a satellite lab for the Centre. Meetings progressed with Southlake administration indicating the proposal aligns with their emerging vision for expanding their research intensiveness.

The MHRC awarded several trainee scholarships and a seed grant for faculty. Awards were adjudicated by the MHRC Executive Committee.

Director Perry attended the Life Science Ontario event in November 2024 to learn of provincial strategic priorities for developing the life science sector. This information is being included in a new vision for the MHRC's new mandate renewal next year.

Director Perry nominated MHRC Founding Director and member Dr. David Hood for the prestigious Canadian Physiological Society's Sarrazin Award (https://www.yorku.ca/yfile/2025/02/19/york-researcher-recognized-for-advancing-understanding-of-muscle-health/) as well as MHRC member Dr. Ali Abdul-Sater for the York University PERLA award (https://www.yorku.ca/yfile/2025/05/02/york-university-celebrates-excellence-in-research-innovation/) both of which were successful.

The MHRC planned the international conference Canadian Oxidative Stress Consortium over the past year. It will be held June 2025 (https://rame.fluid.events/2025COSC?pgid=55846) sponsored by COSC (low cost to MHRC).

Director Perry formed a new relationship with the Danish Diabetes Academy and linked two MHRC members to their funding mechanisms to support collaborative projects involving joint supervision of PhD students in Denmark. Members applied for funding.

Director Perry received an industry contract for his lab which was facilitated through the MHRC to address a budget shortfall with overhead support ($11k). This one-time solution balanced the budget for the fiscal year.

4. **Challenges and Areas for Improvement** – 500 words maximum. Summarize the major challenge(s) faced by your ORU in the past year. Reflect on the reasons and circumstances that contributed to the situation(s) and describe how you have addressed and/or aim to address the challenge(s) in the future.

There are two major challenges for our ORU:

1. YUSA/YUFA-collective agreement specifies increases to stipend and coordinator salary that cannot be matched with existing revenue streams. Overhead member industry grants are likely insufficient to cover these increases each year.

2. The success of the previous year has created new opportunities for expanding the MHRC's activities with external partners which also strengthens our position for new partner-based team grants such as NSERC CREATE. Maintaining engagement activities with new partners and focusing on new time grants to continue the steep trajectory of the MHRC are not possible without an Associate Director.

   Both challenges require new funding and policy (e.g. Associate Director incentives) to develop and cultivate the extensive growth that occurred in the MHRC last year. Longer term success in team grants may generate revenue to address these challenges, but broader discussions about immediate solutions will be important in order to maximize the benefits of these new opportunities.

5. **Charter Goals** – What progress has been made toward the goals of the ORU's current charter? (500 words maximum) *For the current year* describe any initiatives, events, outputs, and/or projects that show achievement or steps to reaching the research objectives stated in your charter.

   The achievements in the past year align with Director Perry's vision as incoming Director in 2023 that focus on team grant applications, integrating MHRC members to national networks focused on specific diseases, introduce patient partners as keynote speakers at MHAD and seminar for sharing lived experiences that can influence the design of our research questions and experimental design, work with not-for-profit organizations to in these initiatives and summer schools, link our members to clinical collaborators and infrastructure at local hospitals, and introduce our members to national and international academic researchers through new partnerships with parallel muscle research centres abroad. Each of these processes were initiated through discussions between the Director and relevant parties, with some taking action as noted in section 5. These initiatives will continue to be developed in 2025-2026 alongside other initiatives including continued planning for an international certificate program.

6. **Charter Challenges** – What are the challenges your ORU has faced in making progress towards the goals stated in your charter? (500 words maximum) Specify the challenges and how your ORU plans to address them.

   The many achievements this past year were performed largely by the Director with assistance from the MHRC Coordinator. A governance structure will be developed to incentivize and inspired MHRC Executive Committee and member-driven committees to assist with our annual MHAD conference and rapidly growing list of other initiatives and new

team grants that are now enabled by our new partnerships. The progress is not sustainable for the Director alone, but its achievement creates a foundation for realizing new grants and fostering new external opportunities for members that should be enabled by a system that encourages member participation in leadership activities. Developing such a strategy will be a key goal for next year.

7. **Objectives for Upcoming Year** – 500 words maximum. Please describe below your plans and objectives for the coming year.

   Develop an incentivization and governance strategy that encourages MHRC member participations as leaders for new initiatives and existing activities (managing the seminar series, MHAD, other) with the Director focusing on new team grants enabled by the new partnership networks formed last year (eg. NSERC CREATE) and continuing to build new external clinical, industry, academic and not-for-profit partnerships with the same consultative feedback approach from members used this past year. A priority will be the integration of the MHRC with the emerging School of Medicine with existing and new partnerships of local hospitals, such as continuing to develop a clinical research space at Southlake, new industry partners, and working with Y Space to develop systems that commercialize our member discoveries with new industry partners.

Section 3: Grants

Only include grants in this section that are directly connected to the ORU.

8. **GRANT APPLICATIONS SUBMITTED** for tri-council, large scale or team activities in which the PI is an active member of the ORU or the ORU will play a role in the project (for example as grant administrator, research partner, in-kind support (provider of space or other resources), or in some other capacity); indicate outcome of proposals if known; indicate peer reviewed or non-peer reviewed.

Funding Proposal Submitted (Name of Project & Amount requested)	**Name of Member** (PI)	**Type** (tri-council, other grant, contract, etc.)	**Status** (Accepted, Rejected, under review)	**Role of ORU** (Grant administrator, research partner, in-kind support, other) and **Amount going to the ORU** (% or $)	**Peer Reviewed** Y/N

1. Faculty of Health Industry Partnered Collaborative Research Seed Grant	Dr. Arthur Cheng	Faculty of Health	accepted	In kind support	Y
2. Canadian Foundation for Innovation-Infrastructure Operating Fund	Dr. Arthur Cheng	CFI	accepted	In kind Support	Y
3. CFI-IF and ORF-LIF	Dr. Christopher Perry and Dr. Andrea Josse in partnership with KHS and Faculty of Health	CFI-IF, ORF-LIF	Submitted	Director time in writing grant	Y
4. CIHR Network Catalyst Grant	Dr. Christopher Perry	Co-Applicant, CIHR-ICanCME 2.0 Network Grant Title: CanCME: Interdisciplinary Canadian Collaborative Myalgic Encephalomyelitis Research Network PI: Alain Moreau, Professor, Université de Montreal **Total: $2,000,000 CAD**	Awarded (no funds to MHRC; builds new partnerships and activities with members)	Director time in writing grant, in-kind coordinator time for attending planning meeting.	Y

9. **GRANTS CURRENTLY SUPPORTED BY ORU:** Any ongoing grants that are being run through the ORU or that the ORU is directly involved in (if applicable).

Name of Grant (Name of Project)	**Name of Member** (PI)	**Type** (tri-council, other grant, contract, etc.)	**Role of ORU** (Grant administrator, research partner, in-kind support, other)	**Total Amount & Amount going to the ORU**
1. MHRC Collaborative Research Grant	Dr. Michael Paris	Internal	MHRC administered	$5000.00
2. Exerkine industry grant	Dr. Christopher Perry	External, industry	MHRC administered	$ 39,211.20 $ 7,469.20 to MHRC. All funds retained in MHRC.

10. **ANTICIPATED GRANT SUBMISSIONS**: for submission by **April 30, 2026** by active members of the ORU

Funding Proposal (with tentative title)	**Name of Member** (PI)	**Type** (tri-council, other grant, contract, etc.)	**Role of ORU** (Grant administrator, research partner, in-kind support, other)	**Total Amount**
1. Cancer cachexia	Dr. Christopher Perry	CIHR	in-kind support with CV preparation, arranging team meetings	$1 million
2. NSERC CREATE iNOI	Director Christopher Perry	Tri-council, NSERC	Director time to prepare iNOI to VPRI early 2026	$1.6 million

Section 4: Events & Activities

11. **SUMMARY OF EVENTS HOSTED OR ORGANIZED IN 2024-2025:** list totals below using the categories

Total Count – Events:		
Category	**Total Number Hosted/ Organized**	**Total Attendees**
Conference	1 (Muscle Health Awareness Day MHAD)	~120
Workshop		
Short Course		
Lecture	8 (MHRC Seminar)	25- 40
Exhibit		
Mentorship/Professional Development	1 (Career Day- every other year)	80- 100
Other Research Leadership	International Trainee Seminar	>50
Other		

12. **DETAILED LIST OF EVENTS & ACTIVITIES 2024-2025**

Detailed Summary of Events & Activities:				
Name/Title	**Category** (Conference, workshop, KMb, course, etc.)	**ORU Role** (hosted, co-hosted, sponsored, etc)	**Speaker(s) –** Include whether they are International or domestic	**# of Attendees**
MHRC Muscle Health Awareness Day (MHAD)	Conference	Hosted	Dr. Nicolas Dumont (McGill University), Dr. Daniel Keir (University of Western Ontario), Dr. Robert Bently (University of Toronto), Zach Weston (Canadian Society of Exercise Physiologists), Dr. Tom Hazell (Wilfred Laurier University), Dr. Lora Giangregorio (University of Waterloo), Dr. Andrea Josse (York University), Dr. Julia Creet (York University), Dr. Tara Haas (York University).	~120
MHRC Seminar	Seminar	Hosted	Dr. L. C. Cameron (University Health Network)	35

MHRC Seminar	Seminar	Hosted	Dr. Man- Sau Wong (Hong Kong Polytechnique University)	30
MHRC Seminar	Seminar	Hosted	Dr. Michael De Lisio (University of Ottawa)	30
MHRC Seminar	Seminar	Hosted	Dr. Maline Lindholm (Stanford University)	30
MHRC Seminar	Seminar	Hosted	Dr. Thomas Hawke (McMaster University)	35
MHRC Seminar	Seminar	Hosted	Dr. Kristen Boyle (University of Colorado)	35
MHRC Seminar	Seminar	Hosted	Dr. Dennis Jensen (McGill University)	35
MHRC Seminar	Seminar	Hosted	Dr. Terence Ryan (University of Florida)	35
MHRC Career Day	Professional Development for MHRC graduate students	Hosted	Dr. Andrew Huntley (30 Forensic Engineering), Dr. Efa Pasieka (Princess Margaret Hospital), Dr. Megan Hughs (Amgen Canada), Dr. Tara MacDonald (University of Toronto) & Kaitlyn Beyfuss (AstraZeneca)	>70
MHRC International Trainee Seminar Series	Seminar	Hosted	Lauren Turner (PhD student, York University), Rachel Handy (PhD student, University of Guelph) and Edziu Franczak (PhD student, University of Kansas Medical Centre)	>50

13. **ANTICIPATED EVENTS & ACTIVITIES 2025-2026**

Events: List conferences, workshops, exhibits or other events to be hosted or organized by **April 30, 2026**, and target audience(s).

	Events & Activities	**Target Audience(s)**
1.	Neuromuscular Disease Network of Canada (NMD4C) Summer School	30
2.	Muscle Health Awareness Day (MHAD 16)	>120

3.	Canadian Oxidative Stress Consortium Conference	~80
4.	MHRC Seminar Series (8x)	30-45/seminar
5.	MHRC International Student Seminar	>75
6.	MHRC Muscle Health Career Day	70-80

Section 5: Value-added Scholarly Accomplishments and Outputs

This section (**see table below)** is a space to highlight **research outputs** that relate directly to the ORU besides grants and events/activities. You can use your charter as a guide for what outputs are important to include. Examples can include the following:

- Publications (specify refereed articles, books, book chapters)
- Invited Talks
- Public Engagement
- Policy Impact
- Creative outputs / Exhibitions
- Other

Name of ORU Member(s) Involved[1]	**Category** (Publication, Invited talk, Public Engagement, Policy Impact, Creative Outputs/ Exhibitions, other)	**Details of Achievement** Include up to 5 outputs or invitations per active member (if applicable), prioritizing the most relevant outputs.
Dr. Arthur Cheng	Publications	1. Flewwelling, L.D.*, Hannaian, S.J., Cao, V., Chaillou, T., Churchward-Venne, T.A., Cheng, A.J.# (2025). What are the potential mechanisms of fatigue-induce skeletal muscle hypertrophy with low-load resistance exercise training? American Journal of Physiology – Cell Physiology. Epub ahead of print. 2. Roussel, O.P., Pignanelli, C., Hubbard, E.F., Coates, A.M., Cheng, A.J., Burr, J.F., Power, G.A. (2024). Effects

[1] **Please note that a faculty member may only submit a research output to one ORU.**

		of intensified training with insufficient recovery on joint level and single muscle fibre mechanical function: the role of myofibrillar Ca2+ sensitivity. Applied Physiology Nutrition Metabolism. Accepted. 3. Cheng, A.J.#, Andrews, N.J.*, Hawke, T.J. (2024). Unlocking the mechanisms of muscle fatigue: Insights from the Marion J. Siegman Award Lectures: Editorial Focus. Accepted. 4. Delfinis, L.J., Ogilvie, L.M., Khajehzadehshoushtar, S., Gandhi, S., Garibotti, M.C., Thuhan, A.K., Matuszewska, K., Pereira, M. Jones, R.G., Cheng, A.J., Hawke, T.J., Greene, N.P. Murach, K.A., Simpson, J.A., Petrik, J., Perry, C.G.R. (2024). Muscle weakness and mitochondrial stress occur before severe metastasis in a novel mouse model of ovarian cancer cachexia. Molecular Metabolism. 86:1-18. 5. Herskind, J., Ortenblad, N., Cheng, A.J., Pedersen, P., Overgaard, K. (2024). Piperine enhances contractile force in slow- and fast-twitch muscle. The Journal of Physiology. 602(12):2807-2822.
Dr. Heather Edgell	Publications	1. Effects of neck compression on chemoreflex sensitivity and cardiorespiratory hemodynamics in patients with

		postural orthostatic tachycardia syndrome (POTS). Ranada SI, Baker JR, Wong C, Karalasingham K, Wilson RJA, Phillips AA, Sheldon RS, Edgell H, Raj SR. Clin Auton Res. 2025 Feb 26. doi: 10.1007/s10286-025-01119-7. Online ahead of print. 2. Inspiratory muscle training improves autonomic function in myalgic encephalomyelitis/chronic fatigue syndrome and post-acute sequelae of SARS-CoV-2: A pilot study. Edgell H, Pereira TJ, Kerr K, Bray R, Tabassum F, Sergio L, Badhwar S. Respir Physiol Neurobiol. 2025 Jan;331:104360. doi: 10.1016/j.resp.2024.104360. Epub 2024 Oct 6. 3. Pilot Assessment of Piezoelectric Transducers as a Cost-Effective Alternative to EndoPAT. Ramraj O, Badhwar S, Pereira TJ, Edgell H. J Vasc Res. 2024;61(5):252-259. doi: 10.1159/000540200. Epub 2024 Jul 29. PMID: 39074454 4. The influence of oral contraceptives on the exercise pressor reflex in the upper and lower body. Pereira TJ, Edgell H. Physiol Rep. 2024 Jul;12(13):e16144. doi: 10.14814/phy2.16144. 5. Women, orthostatic intolerance, and POTS: a

		narrative review (2025) Autonomic Neuroscience: Basic & Clinical. Fitzgibbon-Collins L, Pereira TJ, and Edgell H
Dr. David Hood	Awards/ Recognitions & Publications	1. Michel Sarrazin Award, the highest honour bestowed by the Canadian Physiological Society 2. 2024 ScholarGPS rankings: Highly Ranked Scholars are the most productive (number of publications) authors whose works are of profound impact (citations) and of utmost quality (h-index). https://scholargps.com/highly-ranked-scholars 3. Champsi, S. and D.A. Hood. Sulforaphane mimics contractile activity-induced mitochondrial adaptations in skeletal muscle myotubes. Am. J. Physiol. Cell Physiol. (in press, Feb. 2025). 4. Moradi, N., S. Champsi and D.A. Hood. Sulforaphane, Urolithin A, and ZLN005 induce time-dependent alterations in antioxidant capacity, mitophagy, and mitochondrial biogenesis in muscle cells. Sports Medicine and Health Science. 7:16-27, 2025. 5. Moradi, N., V.C Sanfrancesco, S. Champsi and D.A. Hood. Regulation of lysosomes in skeletal muscle during exercise, disuse and aging.

		Free Radical Biology & Medicine 225:323-332, 2024.
Dr. Jennifer Kuk	Publications	1.Cheung Q, Wharton S, Josse A, Kuk JL: Ethnic Variations in Cardiovascular Disease (CVD) Risk Factors and Associations with Prevalent CVD and CVD Mortality in the United States. (PLOS ONE – In Press) 2.Bonder R., Kuk JL, Ardern CI, Wharton S, Kamran E, Davis C. Grazing and food addiction: Associations between varied patterns of overconsumption and addictive-like eating. Appetite. 2025 Jan 1;204:107768. doi: 10.1016/j.appet.2024.107768. Epub 2024 Nov 14. PMID: 39547531 3.Mirzadeh P, Kuk JL, Wharton S, Ardern CI. Overweight and obesity code (E66) trends and predictors in Canada: Cross-sectional analysis of Discharge Abstract Data (DAD), 2018-2022. Obes Res Clin Pract. 2024 Sep-Oct;18(5):322-327. doi: 10.1016/j.orcp.2024.09.275. Epub 2024 Sep 30. PMID: 39353811. 4.Mirzadeh P, Kuk JL, Wharton S, Reid RA, Ardern CI. Healthcare outcomes and dispositions in persons with obesity within emergency departments in Ontario, Canada: A cross-sectional analysis of the National Ambulatory Care Reporting System (NACRS), 2018-2022. PLoS One. 2024 Sep 26;19(9):e0311190.

		doi: 10.1371/journal.pone.0311190. eCollection 2024. PMID: 39325773
Dr. Michael Paris	Funding and Publications	Chauhan D, Aruneethan T, Tran T, Zarnett-Klein J, Shah E, Behnia S, Paris MT. Voluntary activation of maximal single and all finger power grip contractions. *Journal of Applied Physiology*. 2025; 138: 45-54. Basile DC, Paris MT, McNeil CJ, Rice CL. Investigating premotor corticospinal excitability in fast and slow voluntary contractions of the elbow flexors. *Journal of Neurophysiology*. 2024; 132: 1670-1679. Paris MT, Zero AM, Rice CL. Influence of stimulation frequency on early and late phase rate of torque and velocity development. *Journal of Applied Physiology.* 2024; 137: 349-356. Faculty of Health Industry Partnership Grant – Evaluating skeletal muscle health during weight loss Paris MT (C.I.), Perry C (C.I.), Cheng AJ (P.I.) $15 000 Collaborative Research Grant Muscle Health Research Centre – dynamic motor unit firing rates Paris MT (P.I.), Cheng AJ (C.I.), Flewwelling (C.I.) $5 000
Dr. Devin Phillips	Funding and Publications	**Grants** Canadian Lung Association, COPD Catalyst Grant ($30,000)

		Title: The Impact of Pulmonary Vascular Dysfunction on Breathlessness in COPD 2025 Role: Principal Investigator Canadian Lung Association, Allied Health Grant ($20,000) Title: Characterizing the physiological impact of electronic cigarette use in healthy young adults 2024 Role: Principal Investigator **Textbook chapter and research articles (^ indicates corresponding author)** Phillips DB^, Ramsook AH, Dempsey JA. Exercise hyperpnea: the first step of oxygen delivery. In: On Oxygen: From Air to Tissues. Publisher: Elsevier. January 2025 Shekarloo P#, Darko CD#, Adibmoradi G#, Jamal-Zadeh P#, Pereira T, Edgell H, Phillips DB^. Determining operating lung volumes during a CO2 rebreathing test: Does the inspiratory capacity maneuver influence the hypercapnic ventilatory response? J Appl Physiol. Epub ahead of print.
Dr. Christohper Perry	International ranking, publications, invited presentations	Ranked top 0.07% Highly Ranked Scholar in the world for contributions to 'Skeletal Muscle' and top 0.93% for 'mitochondrial biogenesis' in the last 5 years, Scholar GPS Publications:

		1. Ferguson EJ, Pacitti LJ, Bureau J, Pufahl CJ, Menezes E, Stokes T, Gandhi S, Delfinis LJ, Simpson CA, Perry CGR, Gurd BJ, McGlory C. Biological sex does not impact intrinsic mitochondrial respiration supported by complexes I and II in human skeletal muscle. *Exp Physiol*, 2025 Feb 11 (In Press). 2. Tsitkanou S, Morena da Silva F, Cabrera AR, Schrems ER, Muhyudin R, Koopmans P, Khadgi S, Lim S, Delfinis LJ, Washington TA, Murach KA, Perry CGR, Green NP. Mitochondrial antioxidant SkQ1 attenuates C26 cancer-induced muscle wasting in males and improves muscle contractility in female tumor-bearing mice. *Am J Physiol Cell Physiol*, 2024 Nov 1;327(5):C1308-C1322. 3. Hughes MC*, Ramos SV*, Brahmbhatt AN, Turnbull PC, Polidovitch NN, Garibotti MC, Schlattner U, Hawke TJ, Simpson JA, Backx PH, Perry CGR. Mitohormesis during advanced stages of Duchenne muscular dystrophy reveals a redox-sensitive creatine pathway that can be enhanced by the mitochondrial-targeting peptide SBT-20. *Redox Biology*, 2024 Aug 20; 76: 103319. 4. Perry CGR. Improving mitochondrial phenotypes with pharmaceuticals. *Henry Stewart Talks (HSTalks)*, 2024 July 31; 2024(7): e1006398. doi: 10.69645/vcej7127. 5. Gandhi S, Sweeney HL, Hart CC, Han R, Perry CGR. Cardiomyopathy in Duchenne

		muscular dystrophy and the potential for mitochondrial therapeutics to improve treatment response. *Cells*, 2024 July 9; 13(14):1168. • Invited Review 6. Delfinis LJ, Ogilvie LM, Khajehzadehshoushtar S, Gandhi S, Garibotti MC, Thuhan AK, Matuszewska K, Pereira M, Jones 3rd RG, Cheng AJ, Hawke TJ, Greene NP, Murach KA, Simpson JA, Petrik J, Perry CGR. Muscle weakness and mitochondrial stress occur before severe metastasis in a novel mouse model of ovarian cancer cachexia. *Mol Metab*, 2024 Aug;86:101976. 7. Gandhi S, Sweeney G, Perry CGR. Recent advances in pre-clinical therapy development of adiponectin receptor agonist therapies in Duchenne muscular dystrophy. *Biomedicines*, 2024 June 25; 12(7):1407. • Invited Review 8. Gottlieb D, Abushamat LA, Nadeau KJ, Regensteiner JG, Reusch JEB, Tommerdahl KL, Rice J, Knaub LA, Monaco CMF, Hawke TJ, Perry CGR, Cree-Green M, Schauer IE. Muscle mitochondrial function is impaired in adults with type 1 diabetes. *J Diabetes Complications*, 2024 Aug; 38(8):108798. 9. Ogilvie LM, Delfinis LJ, Coyle-Asbil B, Vudatha V, Alshamali R, Garlisi B, Pereira M, Matuszewska K, Garibotti MC, Gandhi S, Brunt KR, Wood GA, Trevino JG, Perry CGR, Petrik J. Cardiac atrophy,

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		Summit, Baltimore, **USA** (April 26, 2025) 2. Pre-clinical development of mitochondrial therapeutics for Duchenne muscular dystrophy and cancer cachexia • Department of Pharmacology, ***Dalhousie University***, Halifax, Canada (April 1, 2025) 3. Muscle heterogeneity in pre-clinical models of myopathies: considerations for experimental design and interpretations • Neuromuscular Disease For Canada (NMD4C) Summer School, McGill University, Montreal, **CANADA** (May 27th, 2024) 4. Pre-clinical therapy development for Duchenne muscular dystrophy • August Krogh Club Symposium, Crossroads in metabolism: Talents and Trailblazers, University of Copenhagen, **DENMARK** (May 24th, 2024) 5. Training in mitochondrial technologies: Assessment and Interpretation • MITO2024 Conference, University of Toronto, Toronto, **CANADA** (May 6, 2024)

APPENDIX A: Financial Position[2]

Complete fully the "Financial Position" template for your ORU (the excel file consists of 4 worksheets total) and attach as **"Appendix A"**

NOTE: Any funds allocated by the VPRI must be used for the intended purpose of funding a coordinator and essential operating expenses. Any deviation from the intended purpose must be discussed and approved **prior to** the use of the funds by the office of VPRI. The committed financial support from VPRI to the ORUs is subject to review on an annual basis. For example, an ORU budget surplus at year end will be discussed prior to allocation of annual/new funding.

Chandra Persaud (cpersaud@yorku.ca), Senior Financial Officer, is available to assist ORUs in preparing worksheets as needed. If you or your Coordinator have any questions or concerns, please do not hesitate to contact her.

APPENDIX B: Membership & Governance

Active Membership: List active faculty members (as defined by your ORU) by Name, Faculty, and Department/School.

Active Member Name	Faculty	Department
1. Dr. Chris Perry	Health	KAHS
2. Dr. David Hood	Health	KAHS
3. Dr. Olasunkanmi Adegoke	Health	KAHS
4. Dr. Angelo Belcastro	Health	KAHS
5. Dr. Olivier Birot	Health	KAHS
6. Dr. Rolando Ceddia	Health	KAHS
7. Dr. Arthur Cheng	Health	KAHS
8. Dr. Michael Connor	Health	KAHS
9. Dr. Janessa Drake	Health	KAHS
10. Dr. Heather Edgell	Health	KAHS
11. Dr. William Gage	Health	KAHS

[2] The Annual Report financial template is directly related to the Statement of Operations, submitted for budget review in April each year. You will notice that the expense categories correspond directly to the expense subtotals on the Statement of Operations. The only figures not found in the Statement of Operations are some revenue items, which may have been received through journal entries, e.g. grants and contracts.

When inputting the funds received from grants and contracts in the Revenue section, the corresponding amount must be added to the expense line so that the balance (Revenue - Expense) remains the same as in the Statement of Operations. ORUs can determine the amounts received from grants and contracts by looking at their recovery journals.

12. Dr. Sharri Grace	Health	KAHS
13. Dr. Tara Haas	Health	KAHS
14. Dr. Mazen Hamadeh	Health	KAHS
15. Dr. Lorianne Hynes	Health	KAHS
16. Dr. Andrea Josse	Health	KAHS
17. Dr. Jennifer Kuk	Health	KAHS
18. Dr. Michael McDermott	Science	Biology
19. Dr. Michael Paris	Health	KAHS
20. Dr. Devin Phillips	Health	KAHS
21. Dr. Michael Riddell	Health	KAHS
22. Dr. Emilie Roudier	Health	KAHS
23. Dr. Anthony Scime	Health	KAHS
24. Dr. Gary Sweeney	Science	Biology
25. Dr. Peter Backx	Science	Biology
26. Dr. John McDermott	Science	Biology
27. Dr. Robert Tsushima	Science	Biology

Other Members: List all other members, designating the ORU's own categories and criteria for membership (e.g. members- affiliate or associate, student, external or community, non-active).

Other Member Name	Department/ Unit	Department	Membership category
1. Dr. Imogen Coe	TMU	Chemistry & Biology	Adjunct
2. Dr. Thomas Hawke	McMaster U	Pathology & Molecular Medicine	Adjunct
3. Dr. Ira Jacobs	U of Toronto	Kinesiology & Physical Education	Adjunct
4. Dr. Robert Laham	Appletree Medical Clinic	Sole Practitioner	Adjunct
6. Dr. Sean Wharton	Wharton Medical Clinic	Sole Practitioner	Adjunct

Governance: List members of the Executive Committee, sub-committees of the Executive (if any), other special committees, any external advisory body or other governance bodies, indicating their affiliation (e.g. faculty member, student of York University, community representative, fellow, etc.). Including meetings dates for 2024-25. Please copy and paste tables as needed for additional committees. Refer to your Terms and Expectations document to see expected governance bodies.

Executive Committee	
Meeting Date(s):	
Member	**Affiliation**

1. Dr. Christopher Perry (Director)	Faculty of Health, KAHS
2. Dr. David Hood	Faculty of Health, KAHS
3. Dr. Janessa Drake	Faculty of Health, KAHS
4. Dr. Rolando Ceddia	Faculty of Health, KAHS
5. Dr. Michael Connor	Faculty of Health, KAHS
6. Dr. Peter Backx	Faculty of Science, Biology
7. Ms. Emily Fraschetti	Student Representative
Sub-Committee Type: Student Executive Committee	
Meeting Date(s): Monthly	
Member	**Affiliation**
1. Emily Fraschetti	Graduate Student
2. Daniel Da Eira	Graduate Student
3. Stephen Mora	Graduate Student
4. Matthew Russell	Graduate Student
5. Tania Pereira	Graduate Student
6. Priyanka Khemraj	Graduate Student
7. George Nader	Graduate Student
8. Aris Kheirandish	Graduate Student
9. Sabrina Champsi	Graduate Student
10. Stephen Boulanger	Graduate Student
11. Nathaniel Andrews	Graduate Student
12. Madison Garibotti	Graduate Student
13. Shahrzad Khajehzadehshoushtar	Graduate Student
14. Victoria Sanfrancesco	Graduate Student

ORU Visitors – Only list those whose duration was over 1 week in length.

In addition, list all visitors hosted by the ORU during the report period in this section (indicate each visitor's home institution, whether they are faculty, student, community representative, or other category, the duration of their visit and whether the ORU provided space to the visitor).

	Visitor	**Home Institution**	**Position**	**Visit length**	**Space provided Y/N**
1.	Dr. Daiki Watanabe	Osaka University of Sport & Health Sciences	Associate Professor	6 months	Y
2.					
3.					

APPENDIX C: Space

Office Space – fill out the table below indicating the utilization of office space within your ORU.

Room #	Name of Occupant	Occupant Affiliation[1]	Type of Workspace[2]	Length and Frequency of Occupancy[3]	Notes[4]
332 Farq	Dr. Daiki Watanabe	Visiting Scholar	Office	5 days a week	
333 Farq	Dr. Christopher Perry	Director	Office	5 days a week	
429 HNES	Adam Charnaw	Centre Coordinator	Office	2.5 days a week	
[1] Choose from the following: faculty, staff, graduate student, undergraduate student, visiting scholar, post-doctoral fellow, volunteer, other (please specify).					
[2] Choose either open workspace or closed office.					
[3] Choose either unspecified or list a *realistic* period (starting and ending) regarding how often this room gets used (e.g. 4 days a week, 3 days a week, etc.)					
[4] Explain if there is an agreement in place and how this room is being utilized.					

Shared Spaces/Equipment – fill out the table below indicating the utilization of shared space and equipment within your ORU.

Room # [5]	Type of Space/Equipment[6]	Access[7]	Length and Frequency of Occupancy[8]	Notes[9]
043 Farquharson	Lab, Vivarium	MHRC Members, key	Unspecified, key access 5/d week	Shared space agreement in place
320 Farquharson	Core Facility, Large shared equipment lab	MHRC Members, key	Unspecified, key access 5/d week	Shared space agreement in place
322 Farquharson	Exercise and Biopsy lab	MHRC Members, key	Unspecified, key access 5/d week	Shared space agreement in place
330 Farquharson	Meeting/ Seminar room	MHRC Members, key	Unspecified, key access 5/d week	Shared space agreement in place
[5] If no room number, indicate where it is located.				
[6] Choose the type of space: meeting room, cubicle, reception, open space, resource centre, supply room, storage, coat closet, kitchen, photocopier room, break room, lab, etc.				
[7] Choose type of access: open access, key badge, key, etc.				
[8] Choose unspecified or list a *realistic* period (starting and ending) regarding how often this room gets used (e.g. 4 days a week, 3 days a week, etc.)				

[9] Explain if there is an agreement in place and how this room is being utilized.

Suggestions regarding space - If additional ORU space is required, please indicate below a detailed statement of need, with rationale related to academic, administrative and/or strategic goals.

APPENDIX D: Graduate Diplomas and Non-Degree Activities (If Applicable)

Provide a brief list of all graduate diplomas, courses, non-credit, and/or non-degree activities whether revenue generating and "other" offered by the ORU in the chart below. Be sure to indicate the home Faculty of any credit-assigned courses or diplomas. Please see related Senate policies for non-degree activities.

As Director, I attest that I have liaised with the lead and sponsoring Faculties of the ORU re: suitability and quality of our non-degree activities (yes, no, n/a): _____

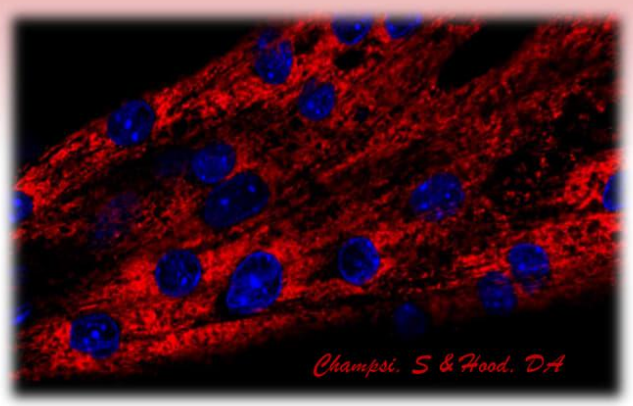
List all Graduate Diplomas and Non-Degree Activities (2024-2025):

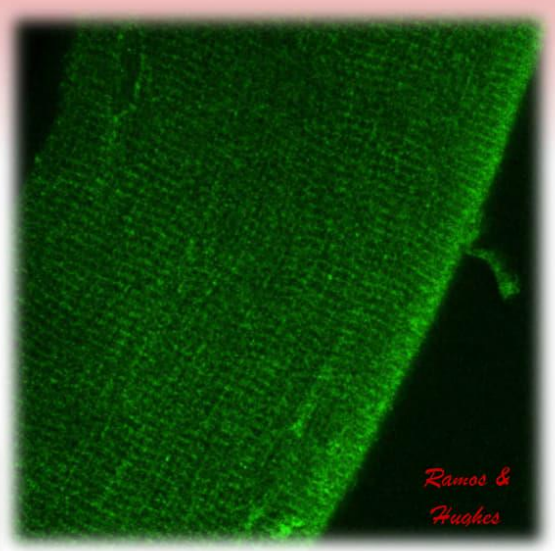
	Title/ Name
1.	
2.	
3.	

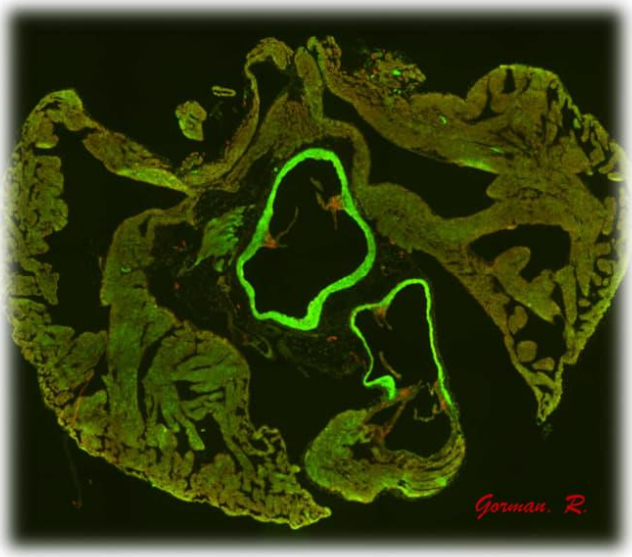
16th Annual

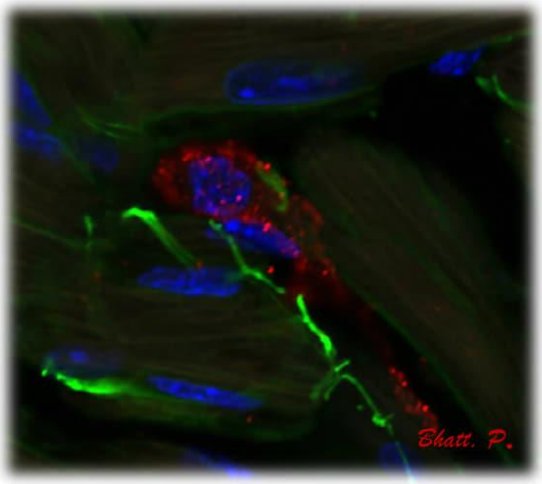
Muscle Health Awareness Day

York University









Muscle Health & Research Centre
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