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The focus of Dr. Burelle's laboratory is to integrate multiple facets of mitochondrial biology to gain a global understanding of the importance of these organelles in physiological homeostasis, and development of human diseases, including acquired cardiac and skeletal muscle pathologies as well as genetic mitochondrial diseases. Some of the recent work from his laboratory focuses on mechanisms involved in mitochondrial quality control (mQC) in muscle, and their implication in the maintenance of mitochondrial health and tissue homeostasis. A postdoctoral position is currently available in the laboratory to investigate mitophagy in muscle stem cells and define its importance for muscle regeneration. Candidates will also have the opportunity to get involved in projects investigating the therapeutic potential of stem cell and stem cell-derived biologicals for the treatment of mitochondrial diseases. The ideal candidate will have a solid background in mitochondrial research and/or neuromuscular and stem cell research. Please send a CV, a letter of interest, and the names and contact information of three references to: yburell2@uottawa.ca.

Recent publications:

Gouspillou G, Godin R, Piquereau J, Picard M, Mofarrahi M, Mathew J, Purves-Smith FM, Sgarioto N, Hepple RT, Burelle Y, Hussain SNA. Protective role of Parkin in skeletal muscle contractile and mitochondrial function. J Physiol. 2018 Jul;596(13):2565-2579.

Cuillerier A, Honarmand S, Cadete VJJ, Ruiz M, Forest A, Deschênes S, Beauchamp C; LSFC Consortium, Charron G, Rioux JD, Des Rosiers C, Shoubridge EA,Burelle Y. Loss of hepatic LRPPRC alters mitochondrial bioenergetics, regulation of permeability transition and trans-membrane ROS diffusion. Hum Mol Genet. 2017 Aug 15;26(16):3186-3201.

Matheoud D, Sugiura A, Bellemare-Pelletier A, Laplante A, Rondeau C, Chemali M, Fazel A, Bergeron JJ, Trudeau LE, Burelle Y, Gagnon E, McBride HM, Desjardins M. Parkinson's Disease-Related Proteins PINK1 and Parkin Repress Mitochondrial Antigen Presentation. Cell. 2016 Jul 14;166(2):314-327.

Cadete VJ, Deschênes S, Cuillerier A, Brisebois F, Sugiura A, Vincent A, Turnbull D, Picard M, McBride HM, Burelle Y. Formation of mitochondrial-derived vesicles is an active and physiologically relevant mitochondrial quality control process in the cardiac system. J Physiol. 2016 Sep 15;594(18):5343-62.