Mark W. Lowerison

Curriculum Vitae

(403) 608 5157
(403) 210 6375
mwloweri@ucalgary.ca

Education

2004–2008 **Master of Science**, *Quantitative Genetics*, University of Guelph, Ontario Agricultural College.
Guelph, Ontario

1997–2001 **Bachelor of Agricultural Sciences**, *Animal Science*, Dalhousie University, Nova Scotia Agricultural College.
Truro, Nova Scotia

Masters Thesis

Title *Genetic Improvement and Prediction of Dry Matter Intake in Beef Bulls*

Supervisor Dr. Stephen P. Miller and Dr. James W. Wilton

Description This thesis examined the utility of genetic merit estimates for dry matter intake generated from predicted phenotypes when compared to observed phenotypes.

Experience

Employment

2011–Present **Director**, *Clinical Research Unit*, University of Calgary.
Calgary, Alberta

2008–Present **President**, *Cumberland Genetic Ltd.*.
Calgary, Alberta

2009–2011 **Technical Lead**, *Clinical Research Unit*, University of Calgary.
Calgary, Alberta

2004–2009 **Research Associate**, *Comparative Orthopedic Research Unit*, University of Guelph, Ontario Veterinary College.
Guelph, Ontario

2002–2004 **Breed Improvement Manager**, *Canadian Charolais Association*.
Calgary, Alberta

Student Research Positions

2004–2008 **Graduate Student Researcher**, *Animal and Poultry Science*, University of Guelph, Supervisor: Dr. Stephen P. Miller.

Description During my time in Guelph I actively participated in the execution of my supervisors other research projects. These activities ranged in scope from data collection and animal handling experiences through analytics support roles. Notable experiences include the development of a central database for the storage of livestock performance information, and analytics code to transform feed intake data-logger records into daily phenotypes.

1997–2001 **Undergraduate Student Researcher**, *Agriculture and Agri-Food Canada*, Dalhousie University, Supervisor: Dr. Ed Charmley.

Description I was fortunate to be selected as a summer research student at Agriculture Canada's Nappan Experimental Farm during each summer semester of my undergraduate program. This position represents my first sustained exposure to research. My responsibilities included feed and biological sample collection, proximal analysis of feed and biological samples and livestock management duties associated with the daily operations of a beef nutrition research program.

Grants

2014 **Alberta Innovates Health Solutions Knowledge-to-Action Grant**,
University of Calgary,
Increasing usability of administrative healthcare data through a web-based tool for systematic exploration of medical coding ontologies.

Publications

Peer Reviewed Publications

2015

Mayank Goyal, Andrew M. Demchuk, Bijoy K. Menon, Muneer Eesa, Jeremy L. Rempel, John Thornton, Daniel Roy, Tudor G. Jovin, Robert A. Willinsky, Biggya L. Sapkota, Dar Dowlatshahi, Donald F. Frei, Noreen R. Kamal, Walter J. Montanera, Alexandre Y. Poppe, Karla J. Ryckborst, Frank L Silver, Ashfaq Shuaib, Donatella Tampieri, David Williams, Oh Young Bang, Blaise W. Baxter, Paul A. Burns, Hana Choe, Ji-Hoe Heo, Christine A. Holmstedt, Brian Jankowitz, Michael Kelly, Guillermo Linares, Jennifer L. Mandzia, Jai Shankar, Sung-Il Sohn, Richard H. Swartz, Philip A. Barber, Shelagh B. Coutts, Eric E. Smith, William F. Morrish, Alain Weill, Suresh Subramaniam, Alim P. Mitha, John H. Wong, Mark W. Lowerison, Tolulope T. Sajobi, and Michael D. Hill. Randomized Assessment of Rapid Endovascular Treatment of Ischemic Stroke. *New England Journal of Medicine*, 2015

2014

Tolulope T Sajobi, Lisa M Lix, Gurbakhshash Singh, Mark W Lowerison, Jordan D T Engbers, and Nancy E Mayo. Identifying reprioritization response shift in a stroke caregiver population: a comparison of missing data methods. *Quality of Life Research : An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, October 2014

Mike A Steele, F Garcia, Mark W Lowerison, Karen Gordon, J A Metcalf, and Mark B Hurtig. Technical note: Three-dimensional imaging of rumen tissue for morphometric analysis using micro-computed tomography. *Journal of Dairy Science*, 97(12):7691–6, December 2014

2013

Angela D Bell, Viorica Lascau-Coman, Jun Sun, Gaoping Chen, Mark W Lowerison, Mark B Hurtig, and Caroline D Hoemann. Bone-Induced Chondroinduction in Sheep Jamshidi Biopsy Defects with and without Treatment by Subchondral Chitosan-Blood Implant 1-Day, 3-Week, and 3-Month Repair. *Cartilage*, 4(2):131–143, 2013

Megan Johnston, Craig Campbell, Rachel Hayward, Mark W Lowerison, Vanessa K Noonan, Ted Pfister, Colleen Maxwell, Claire Marie Fortin, Eric E Smith, Jean K Mah, Moira K Kapral, Nathalie Jetté, Tamara Pringsheim, and Lawrence Korngut. Registry Data Storage and Curation. *The Canadian Journal of Neurological Sciences*, 40(4 Suppl 2):S35—-S40, July 2013

Jean K Mah, Janet Warner, Ruth Hall, Eric E Smith, Thomas Steeves, Elizabeth Donner, James Marriott, Megan Johnston, Mark W Lowerison, Paula de Robles, Vanessa K Noonan, Essie Mehina, Nathalie Jetté, Tamara Pringsheim, and Lawrence Korngut. Evaluation of Neurological Patient Registries. *The Canadian Journal of Neurological Sciences*, 40(4 Suppl 2):S60—-S61, July 2013

James Marriott, Vanessa K Noonan, Elizabeth Donner, Mark W Lowerison, Darren Lam, Lundy Day, Janet Warner, Eric E Smith, Jean K Mah, Paula de Robles, Nathalie Jetté, Megan Johnston, Tamara Pringsheim, and Lawrence Korngut. Neurological Registry Quality Control and Quality Assurance. *The Canadian Journal of Neurological Sciences*, 40(4 Suppl 2):S47—-S50, July 2013

Eric E Smith, Janet Warner, Megan Johnston, Kristin Atwood, Ruth Hall, Jean K Mah, Colleen Maxwell, Claire Marie Fortin, Mark W Lowerison, Moira K Kapral, Vanessa K Noonan, Ted Pfister, Gail Mackean, Lisa Casselman, Tamara Pringsheim, Nathalie Jetté, and Lawrence Korngut. Neurological Registry Data Collection Methods and Configuration. *The Canadian Journal of Neurological Sciences*, 40(4 Suppl 2):S27—-S31, July 2013

2012

Tristan Knight, Thomas Steeves, Lundy Day, Mark W Lowerison, Nathalie Jetté, and Tamara Pringsheim. Prevalence of tic disorders: a systematic review and meta-analysis. *Pediatric Neurology*, 47(2):77–90, August 2012

2010

Richelle H Neundorf, Mark W Lowerison, Antonio M Cruz, Jeff J Thomason, Beverley J McEwen, and Mark B Hurtig. Bone, Joint, and Cartilage-Determination of the prevalence and severity of metacarpophalangeal joint osteoarthritis in Thoroughbred racehorses via quantitative macroscopic evaluation. *American Journal of Veterinary Research*, 71(11):1284, 2010

John Z Srbely, James P Dickey, David Lee, and Mark W Lowerison. Dry needle stimulation of myofascial trigger points evokes segmental anti-nociceptive effects. *Journal of Rehabilitation Medicine*, 42(5):463–468, May 2010

John Z Srbely, James P Dickey, Leah R Bent, David Lee, and Mark W Lowerison. Capsaicin-induced central sensitization evokes segmental increases in trigger point sensitivity in humans. *The Journal of Pain*, 11(7):636–643, July 2010

2008

John Z Srbely, James P Dickey, Mark W Lowerison, A Michelle Edwards, Paul S Nolet, and Leonard L Wong. Stimulation of myofascial trigger points with ultrasound induces segmental anti-nociceptive effects: a randomized controlled study. *Pain*, 139(2):260–6, October 2008

2007

Antonio M Cruz, Zvonimir Poljak, Catherine Filejski, Mark W Lowerison, Kyle Goldie, S Wayne Martin, and Mark B Hurtig. Epidemiologic characteristics of catastrophic musculoskeletal injuries in Thoroughbred racehorses. *American Journal of Veterinary Research*, 68(12):1370–5, December 2007

2006

Adelle Changoor, Mark B Hurtig, R John Runciman, André J Quesnel, James P Dickey, and Mark W Lowerison. Mapping of donor and recipient site properties for osteochondral graft reconstruction of subchondral cystic lesions in the equine stifle joint. *Equine Veterinary Journal*, 38(4):330–6, July 2006

2004

Denny H Jr. Crews, Mark W Lowerison, Nicolas Caron, and Robert A Kemp. Genetic parameters among growth and carcass traits of Canadian Charolais cattle. *Canadian Journal of Animal Science*, 84(4):589–597, 2004

Published Abstracts

2013

Kirsten M Fiest, Scott B Patten, Jonathan Dykeman, Samuel Wiebe, Mark W Lowerison, Andrew G M Bulloch, Callie Atta, Laura Blaikie, C Carroll, and Nathalie Jetté. The Neurological Disease and Depression Study (NEEDS): Challenges in Epilepsy. In *Epilepsia*, volume 54, pages 108–109, 2013

Mark W Lowerison, Nathalie Jetté, Khara Sauro, Sophie Macrodimitris, Stafford Dean, Caroline De Coster, and Samuel Wiebe. Admission to a Seizure monitoring unit reduces health care utilization in patients with epilepsy in a large health region. In *Epilepsia*, volume 54, page 352, 2013

2012

Jonathan Dykeman, Mark W Lowerison, Tanvir Choudery Turin, Peter Faris, Nathalie Jetté, and Samuel Wiebe. Addressing multicollinearity in the prediciton of antiepileptic drug side effects. In *American Journal of Epidemiology*, volume 175, pages S129—-S129, 2012

Jonathan Dykeman, Mark W Lowerison, Peter Faris, Nathalie Jetté, Neelan Pillay, Brian Klassen, Alexandra Hanson, William Murphy, Paolo Federico, and Samuel Wiebe. Prediction of Antiepileptic Drug Side Effects in Patients with Epilepsy. In *Neurology*, volume 78, 2012

2010

Sarah Allendorf, Mark W Lowerison, Angela D Bell, Caroline D Hoemann, Paul Bursac, and Mark B Hurtig. Interaction of Microfracture awl design with subchondral bone in early osteoarthritis. In *Proceedings, 9th World Congress of the International Cartilage Repair Society*, volume 204, page 60, 2010

Angela D Bell, Mark W Lowerison, Jun Sun, V Lascau-Comain, Mark B Hurtig, and Caroline D Hoemann. Presolidified chitosan-based implants for osteochondral repair. In *Proceedings, 9th World Congress of the International Cartilage Repair Society*, volume 204, page 165, 2010

Mark B Hurtig, Sarah Allendorf, Angela D Bell, Mark W Lowerison, and Caroline D Hoemann. Depth-wise analysis of subchondral bone properties: Implications in osteoarthritis and cartilage repair. *Osteoarthritis and Cartilage*, 18 Supplim:S134, 2010

Mark B Hurtig, Mark W Lowerison, Sarah Allendorf, and Angela D Bell. Can Animal Models Approcimate the Characteristics of Human Subchondral Bone. *Osteoarthritis and Cartilage*, 18 Supplim:S51–S55, 2010

Mark B Hurtig, Mark W Lowerison, and Paul Marks. Depth-wise measurement of subchondral bone characteristics: Implications for Microfracture surgery. In *Proceedings, Canadian Orthopedic Association*, volume 135, page 57. British Editorial Society of Bone and Joint Surgery, 2010

Mark W Lowerison, Sarah Allendorf, Angela D Bell, Larry White, Robert Whiteside, Paul Marks, and Mark B Hurtig. Subchondral bone plate characterisitcs in human and animal bone: Implications for cartilage repair. In *Proceedings, 9th World Congress of the International Cartilage Repair Society*, volume 204, page 58, 2010

2009

Mark W Lowerison, Matthew Kelly, Stephen P Miller, James W Wilton, and Robert A Kemp. Correlated response to selection in five residual feed intake phenotypes. In *Proceedings, Canadian Society of Animal Science*, volume 89, pages 123–183, Guelph, 2009

2006

Mark W Lowerison, Stephen P Miller, James W Wilton, Robert A Kemp, and Charles B Williams. Comparing predictions of feed intake in performance tested beef bulls, for use in determining residual feed intake. In *Canadian Journal of Animal Science*, volume 86, page 578, 2006

Mark W Lowerison, Robert A Kemp, Sean McGrath, and James W Wilton. The relationship between Canadian Charolais sire calving ease EPD and commercial progeny phenotypes for birth weight, calving ease and gestation length. In *Proceedings, 8th World Congress on Genetics Applied to Livestock Production*, Belo Horizante, Brazil, 2006

2004

Denny H Jr. Crews, Mark W Lowerison, Nicolas Caron, and Robert A Kemp. Genetic correlations of growth with carcass traits from Charolais field data. In *Proceedings, American Society of Animal Science*, pages 74–77, 2004

Thesis

2008

Mark W Lowerison. *Genetic Improvement and Prediction of Dry Matter Intake in Beef Bulls*. University of Guelph (Canada), 2009