

# Persephone McCrae (Greco-Otto)

P.O. Box C-11

RAS 105

Alpine, TX 79832

(432)837-8465

persephone.mccrae@sulross.edu

## EDUCATION

### **Doctor of Philosophy (Veterinary Medical Science)**

University of Calgary, 2015 - 2019

### **Bachelor of Science (Animal Biology)**

University of Guelph, 2012 - 2015

## ACADEMIC

### **Assistant Professor**

Department of Animal Science, *Sul Ross State University*

### **Equine Lameness and Rehabilitation (ANSC 3313)**

Fall 2020 – Current

- This course is designed to provide students with an understanding of the common causes of lameness in sport horses.
- Topics include: fundamentals and advanced principles of injury prevention, physical rehabilitation and regenerative medicine.

### **Applied Animal Behavior and Welfare (ANSC 3315)**

Fall 2020 – Current

- This course covers the principles of animal behavior and how it relates to welfare.
- Topics include: normal animal behavior, stereotypic behaviors, enrichment, welfare in production animal species.

### **Equine Conditioning and Rehabilitation (ANSC 4311)**

Fall 2020 – Current

- This directed studies course allows students to pursue an internship in equine sports medicine, conditioning and rehabilitation as applied to a variety of different equestrian disciplines.

### **Equine Exercise Physiology (ANSC 3312)**

Spring 2020 – Current

- This course investigates the physiological and environmental factors associated with equine athletic performance.
- Topics include: the adaptation of the respiratory, cardiovascular, musculoskeletal, and support systems to training and exercise; common athletic injuries; conditioning programs.

# Persephone McCrae (Greco-Otto)

## **Animal Physiology (ANSC 5324)**

Spring 2020 – Current

- This course is designed for graduate students to build upon the basic and fundamental concepts of domestic animal physiology using a scientific and clinical framework.
- Topics include: physiology systems of domestic animal species, physiological impacts of disease, emerging scientific and veterinary literature.

## **Anatomy and Physiology of Domestic Animals (ANSC 3311)**

Spring 2020 – Current

- This course is designed to introduce students to the basic and fundamental concepts of domestic animal anatomy and physiology.
- Topics include: species differences as related to various organ systems structure and function.

## **Horse Production and Management (ANSC 3305)**

Spring 2020 – Current

- This course investigates the principles of scientific horse production and horse management.
- Topics include: equine reproduction, nutrition, health, stable management and commercial aspects of equine enterprises.

## **Graduate Teaching Assistant**

Faculty of Veterinary Medicine, *University of Calgary*

## **Professional Skills for Health Science Research (VETM 601)**

Fall 2018

- This course covers skills essential for success in health science research (mandatory course for all MSc and PhD students).
- Topics include: research integrity, ethics, grants and grant writing, verbal and written communication of research findings, career development, career opportunities in health sciences.

## **PEER-REVIEWED PUBLICATIONS**

P. McCrae, M. Bradley, C. Rolian, R. Leguillette. (2020). **Water height modifies forelimb kinematics of horses during water treadmill exercise.** *Comparative Exercise Physiology*. In press.

P. McCrae, L. Warlick, J. Jones, W. Bayly, R. Léguillette. (2020). **Effects of furosemide, blood depletion, and exercise on body fluid compartments in Thoroughbreds.** *Canadian Veterinary Journal*. In press.

P. Greco-Otto, S. Bond, R. Sides, W. Bayly, R. Léguillette. (2020). **Conditioning equine athletes on water treadmills significantly improves peak oxygen consumption ( $\dot{V}O_2$ peak).** *The Veterinary Record*. 186 (8), 250-257.

- S. Bond, P. Greco-Otto, J. MacLeod, A. Galezowski, W. Bayly, R. Léguillette. (2020). **Efficacy of dexamethasone, salbutamol, and reduced respirable particulate concentration on aerobic capacity in horses with smoke-induced mild asthma.** Journal of Veterinary Internal Medicine. 34 (2), 979-985.
- P. Greco-Otto, M. Baggaley, W.B. Edwards, R. Léguillette. (2019). **Water treadmill exercise reduces equine limb segmental accelerations and increases shock attenuation.** BMC Veterinary Research. 15 (1), 329-336.
- P. Greco-Otto, R. Léguillette. (2019). **Assessment of body fluids and blood parameters associated with rapid weight change in heavy horses.** The Canadian Veterinary Journal. 60 (7), 721-724.
- R. Léguillette, P. Greco-Otto, R. Sides, S. Bond, S. Alami, W. Bayly. (2019). **Relative aerobic and anaerobic energy contribution in race fit endurance and Thoroughbred racehorses during strenuous exercise.** Comparative Exercise Physiology. 15 (5), 299-306.
- S. Bond, P. Greco-Otto, R. Sides, G. Kwong, R. Léguillette, W. Bayly. (2019). **Assessment of two methods to determine the relative contributions of the aerobic and anaerobic energy systems in racehorses.** Journal of Applied Physiology. 126 (5), 1390-1398.
- S. Bond, P. Greco-Otto, R. Sides, R. Léguillette, W. Bayly. (2019). **Assessment of high-intensity over-ground conditioning and simulated racing on aerobic and anaerobic capacities in racehorses.** Comparative Exercise Physiology. 15 (3), 199-207.
- P. Greco-Otto, R. Léguillette. (2018). **Determination of body proportion factor in draft horses for the use of bioimpedance spectroscopy.** The Canadian Veterinary Journal. 59 (6), 650-654.
- P. Greco-Otto, S. Bond, R. Sides, G. Kwong, W. Bayly, R. Léguillette. (2017). **Workload of horses on a water treadmill: Effect of speed and water height on oxygen consumption and cardiorespiratory parameters.** BMC Veterinary Research. 13 (360), 1-9.
- P. Greco-Otto, S. Massie, R. Léguillette, E. Shields, E. Pajor. (2016). **High intensity, short term pulling in heavy horses: The physiological effects of competition and rapid weight change.** BMC Veterinary Research, 13 (1), 317.
- K. Mizen, J. Woodman, S.R. Boysen, C. Wagg, P. Greco-Otto, R. Léguillette, M.-F. Roy. (2016). **Evaluation of the Effect of Dexamethasone on Resting Blood Lactate Levels in Horses.** Journal of Veterinary Internal Medicine, 31(1), 164-169.

# Persephone McCrae (Greco-Otto)

## AWARDS

American College of Veterinary Sports Medicine and Rehabilitation 1<sup>st</sup> place podium presentation (\$500.00) – 2019

American Association of Veterinary Anatomists Podium Presentation Award 1<sup>st</sup> place (\$500.00) – 2019

Alexander Graham Bell Canada Graduate Scholarship Doctoral (\$105,000.00) – 2018

Queen Elizabeth II Graduate (Doctoral) Research Scholarship (\$15,000.00) – 2018

Veterinary Medical Sciences Internship Award (\$2500.00) – 2018

University of Calgary Vet-U-Can Best Oral Presentation Award (\$200.00) – 2018

University of Calgary Veterinary Medicine Graduate Research Day Poster Award (\$200.00) – 2018

Veterinary Medical Sciences Travel Award (\$1000.00) – 2018

Alberta Graduate Citizenship Award for Excellence in Community Service (\$2,000.00) – 2017

Shannon Burwash Award for Leadership and Excellence in Equine Studies (\$2,000.00) – 2017

Alberta Graduate Student Scholarship (\$3,000.00) – 2017

University of Calgary Eyes High: Up Your Game (\$1,300.00) – 2017

Schrader-Turner Memorial Scholarship for Excellence in Communication (\$1,000.00) – 2016

University of Calgary Faculty of Graduate Studies Travel Award (\$500.00) – 2016

Queen Elizabeth II Graduate Scholarship (\$10,800.00) – 2016

University of Calgary Eyes High: Top Flight (\$1,500.00) – 2015

University of Calgary Veterinary Medicine Clinical Research Fund (\$8,145.00) – 2015

University of Calgary Eyes High: Learn from the Best (\$1,500.00) – 2015

University of Calgary Graduate Professional Development Grant (\$750.00) – 2015

**ORAL PRESENTATIONS**

**Water treadmill exercise alters limb joint range of motion, but prolonged water treadmill training does not alter on-land kinematics – 2019**

American College of Veterinary Sports Medicine and Rehabilitation, Las Vegas, United States

**Water height modifies forelimb kinematics of horses during water treadmill exercise – 2019**

Calgary International Equine Symposium, Calgary, Canada

**The effect of water height during water treadmill exercise on forelimb range of motion – 2019**

American Association of Veterinary Anatomists, Banff, Canada

**Equine gait during water treadmill exercise – 2019**

University of Calgary Faculty of Veterinary Medicine Research Day, Calgary, Canada

**Water treadmill exercise reduces equine limb segmental accelerations – 2018**

International Conference on Equine Exercise Physiology, Lorne, Australia

**Water treadmill training improves cardiorespiratory fitness of Thoroughbreds – 2017**

American Association of Equine Practitioners, San Antonio, United States

**Assessing the workload of horses on a water treadmill – 2017**

University of Calgary Veterinary Medicine Research Day, Calgary, Canada

**Conditioning equine athletes on water treadmills significantly improves maximal oxygen consumption ( $\dot{V}O_2\text{max}$ ) – 2016**

Veterinary Comparative Respiratory Society, Lansing, United States

**POSTER PRESENTATIONS**

**Kinematic effects of water treadmill exercise of sport horses – 2019**

Calgary International Equine Symposium, Calgary, Canada

**Effects of furosemide, blood depletion, and exercise on body fluid compartments measured by bioimpedance spectroscopy – 2018**

International Conference on Equine Exercise Physiology, Lorne, Australia

**Assessment of weight change and body fluid compartments during the Heavy Horse Pull competition – 2018**

Calgary International Equine Symposium, Calgary, Canada

# Persephone McCrae (Greco-Otto)

## **Water treadmill exercise reduces equine distal limb shock – 2018**

University of Calgary Veterinary Medicine Graduate Research Day, Calgary, Canada

## **Physiological effects of pulling competition in heavy horses – 2016**

University of Calgary Veterinary Medicine Research Day, Calgary, Canada

## **Surface effects on sport horse locomotion – 2015**

University of Guelph Undergraduate Research Program Presentations, Guelph, Canada

## **Risk factors for the development of soft tissue damage in sport horses – 2015**

University of Guelph Undergraduate Research Program Presentations, Guelph, Canada

## **MENTORSHIP**

### **McNair Scholars Program – 2019 – present**

Sul Ross State University

- Supervised one undergraduate research student in equine exercise physiology.

## **SERVICE**

### **Sul Ross State University IACUC board – 2020 - present**

Sul Ross State University (Alpine, USA)

### **Quality Enhancement Navigator – 2020 - present**

Sul Ross State University (Alpine, USA)

### **Academic Sub Task Force – 2020 - present**

Sul Ross State University (Alpine, USA)

### **Promotion Secretary – 2017 - 2019**

Equine Foundation of Canada (Calgary, Canada)

### **President – 2017 – 2019**

University of Calgary Veterinary Medicine Graduate Students Association (Calgary, Canada)

### **Student Representative – 2017 - 2019**

University of Calgary Graduate Education Council, Faculty of Veterinary Medical Sciences Admissions Committee, Graduate Representative Council, College of Foothills Departmental Graduate Student Associations, Faculty Tenure and Promotion Committee (Calgary, Canada)

# Persephone McCrae (Greco-Otto)

## **Swim Instructor – 2016 - 2017**

Calgary Dolphins Swim Club (Calgary, Canada)

## **First Responder & Office Manager – 2013 - 2015**

University of Guelph First Response Team (Guelph, Canada)

## **PROFESSIONAL DEVELOPMENT**

### **Equine reproductive ultrasound course – 2019**

Attended 18 hours of lecture and hands-on experience provided by the Breeder's Assistant.

### **Utilizing frozen semen, uterine flushing and deep horn insemination of horses course – 2019**

Attended 18 hours of lecture and hands-on experience provided by the Breeder's Assistant.

### **Canine Exercise Physiology Continuing Education Course – 2019**

Attended 18 hours of lecture and hands-on experience provided by Dr. Davis (Oklahoma State University) on canine exercise physiology.

### **Innovation 4 Health Medical Hackathon – 2018**

Received the "Collaboration Award" of \$4000.00 to further the development of an equine oral scope.

### **Campus Alberta Neuroscience Trainee Professional Development – 2018**

Attended two weekend-long workshops on "Leadership Purpose" and "Designing your Future."

### **Business in Leadership in Medicine Seminar Series – 2017 - 2018**

Attended six lectures on a variety of topics on business development in medicine.

### **Innovation 4 Health Medical Hackathon – 2017**

Placed 4<sup>th</sup> overall for the development of a "biobullet" to be used in the vaccination of wildlife.