



MSc or PhD position

The effect of feeding frequency on feline energy metabolism and body composition – A long-term study

Interested in a 2-year MSc position in the Department of Clinical Studies or a 3-year PhD position in the Department of Animal Biosciences?

A graduate student position is available, investigating how feeding frequency affects energy metabolism, body composition, satiety and activity in cats. The position commences May 3, 2021 and is offered in co-supervision between [Dr. Adronie Verbrugghe](#) at the [OVC Pet Nutrition](#) Team in the Department of Clinical Studies and the laboratory of [Dr. Anna Kate Shoveller](#) in the Department of Animal Biosciences.

Research in feline nutrition has largely focused on the effects of diet on feline physiology. Little attention has been paid to feeding management, such as feeding frequency. It is widely recommended that cats' daily food allowances should be divided into multiple small meals fed throughout the day, especially to reduce stress and behavioral problems. However, this recommendation is mainly based on ancestral feeding behavior. Few studies have focused on the physiological impact of meal frequency. [Previous research](#) showed that cats eating one time daily had higher plasma concentrations of anorexigenic hormones, suggesting that cats receiving a single meal are likely more satiated; had increased postprandial plasma insulin and amino acid responses, which could imply enhanced protein synthesis and muscle mass; and had a lower fasting respiratory quotient, suggesting increased fat oxidation and possibly reduced fat mass. Additional research is needed to understand whether the effects observed in 2-3 weeks in this previous study translate into improved body condition in a longer term study. Therefore the objective of the proposed study is to evaluate the physiological impact of feeding frequency; one meal versus four meals; in domestic obese indoor cats over a 4-month study by use of activity monitors, indirect calorimetry, dual energy x-ray absorptiometry, and pre- and postprandial assessment of circulating appetite-regulating hormones, amino acids and glucose. This research will allow for a more accurate feeding regimen to be determined for pet cats, aiming at enhanced body composition and potentially reduce the incidence of feline obesity and sarcopenia.

The ideal candidate will participate fully in all aspects of the research project while collaborating with a dynamic research team in the Department of Clinical Studies at OVC and the Department of Animal Biosciences at OAC. Selection of the successful candidate is based on a combination of academic criteria, relevant interest and experience, referees' evaluations, and an assessment of the candidate's career goals and motivation. An academic background with courses and/or research experience in animal physiology, biochemistry, nutrition, and statistics is preferred. Motivated and ambitious students with a keen interest in pet nutrition would be ideal. Well-developed interpersonal skills are essential. Candidates must be able to work independently and as part of a collaborative team.

Review of applications will begin immediately and continue until the position is filled. Funding for the research project is currently available, yet the candidate is expected to obtain stipend funding through scholarship applications.

Applicants are encouraged to send CV, transcripts, names and contact information of three references, and a cover letter stating interest in the abovementioned title to Dr. Adronie Verbrugghe, Associate Professor, Department of Clinical Studies, Ontario Veterinary College, University of Guelph, at averbrug@uoguelph.ca.

Research-related inquiries should be directed to Adronie Verbrugghe at averbrug@uoguelph.ca

Further inquiries related to general application procedures can be directed to:

MSc Clinical Studies: Ms. Jessie Beer, Graduate Program Assistant, OVC Shared Administrative Services, Ontario Veterinary College, University of Guelph; e-mail: csggrad@uoguelph.ca

PhD Animal Biosciences: Mrs. Wendy McGrattan, Graduate Program Assistant, Department of Animal Biosciences, Ontario Agricultural College, University of Guelph; email: wmcgratt@uoguelph.ca