



**Position posting for: Graduate Research Opportunities, 2010**

**Project title: Reversing arsenic toxicity in mammals through biofortified diets**

Faculty mentor: Dr. Judit E.G. Smits  
Ecosystem & Public Health, Faculty of Veterinary Medicine

Position posting date:

Position start date:

**PhD or MSc Opportunity in the Faculty of Veterinary Medicine**

Chronic arsenic toxicity (arsenicosis) is a serious health problem that affects approximately 100 million humans world-wide and our work will explore means of mitigating the associated toxicopathology based on a mammalian model. The research will be done using *in vivo* mammalian toxicology studies to evaluate the effectiveness and potential synergistic effects of micronutrients available through whole food, in mitigating symptoms of chronic arsenic toxicity.

Health variables examined in the animal experiments will be based upon those previously used to study arsenicosis in laboratory rodents and affected human populations. Whole blood, plasma and urine are most commonly analyzed, bile less frequently, whereas hair and nails have also proven useful for measuring chronic arsenic exposure since trace minerals are deposited in these tissues over a longer period. Because this is an animal model concluding with the euthanasia of the test animals, apart from the non-invasive samples available in human subjects, we will analyze tissues collected on necropsy examination known to be targets of arsenic toxicity in rodents as well as humans

Scholarship support depends upon the academic background of the successful applicant. A PhD stipend will range between \$22,000 and \$30,500 per annum, an MSc being \$20,000. Higher levels of funding will be available on a competitive basis to candidates with a post-professional degree, and will be sought through additional grant applications with the supervisor.

\*Research protocol and pilot study results are available on request.

Interested individuals should submit a current curriculum vitae and an outline of their areas of research interest along with the names of three references to:

*Dr. Judit Smits*  
*Faculty of Veterinary Medicine,*  
*University of Calgary*  
*3280 Hospital Drive NW,*  
*Room TRW 2D20*  
*email: [judit.smits@ucalgary.ca](mailto:judit.smits@ucalgary.ca)*  
*Tel: (403) 210-7407 Facs: (403) 210-9740*

*If you have any further questions regarding research, or the Veterinary Medical Sciences Graduate Program, please see <http://vet.ucalgary.ca/graduate> or contact [vmgrad@ucalgary.ca](mailto:vmgrad@ucalgary.ca).*

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