

## In this Issue

The Empty Nest: Welfare of the Lab Mouse

CCSAW Director Goes Down Under

CCSAW Research Symposium

Animal Advocate Leaves 7.5 Million to OVC/UofG

Poultry Welfare Cluster Established at UofG

Limiting Lameness: Dairy Cattle Welfare

Doing the Donkey Work: Working Equine Welfare

Basil Capes Memorial Lecture: Dr. Peter Singer

MSc. Program Specializing in Animal Welfare a Success

Campbell Centre Welcomes Dr. Derek Haley

CCSAW Students Making a Difference

Upcoming Events

*Promoting animal welfare through research and education*

## The Empty Nest: Time Spent with ‘Mom’ Has Lasting Effect on Welfare of the Laboratory Mouse

By Kimberly Sheppard

Laboratory mice are arguably the most important model organisms in biomedical research today. Worldwide, tens of millions are bred and used as research subjects annually. In order to produce this many mice, however, mouse pups must



Laboratory mouse pups at 16 days of age; they are commonly weaned at 21 days

Photo credit: Naomi Latham



*The welfare of this laboratory mouse may be affected by when it was weaned*

be produced in high numbers – and as frequently as possible. For this reason, the pups are removed (weaned) from their mothers much earlier than would occur naturally, so that she may be bred again.

But, research in primates and rats has shown that weaning babies too early, and depriving them of extra time with their mothers, results in lasting effects on forebrain and central nervous system function; this affects responsiveness to stress and is related to the performance of abnormal behaviour later in life.

These findings led Allison Bechard, recent MSc. graduate, to wonder if early weaning and maternal deprivation might also have lasting negative effects on lab mice. Lab mice are commonly weaned at 21 days of age – weeks earlier than wild house mice would

**“If optimal weaning age standards can be developed there is potential for improving the welfare of many millions of individuals” – Allison Bechard**

begin leaving the nest to investigate the ‘outside world’. Laboratory mice might mature faster than their wild forebears; but if they do not, standard laboratory weaning likely involves maternal deprivation, potentially affecting welfare.

## The Empty Nest: *Time Spent with 'Mom' Has Lasting Effect on Welfare of the Laboratory Mouse*

Lab mice are well known for developing abnormal, repetitive behaviour patterns such as bar-gnawing, back-flipping and route-tracing, all of which may be coping mechanisms that indicate likely welfare issues. If maternal deprivation is associated with this behaviour, pushing back weaning age by a number of days may produce lab mice that not only cope with stress and the lab environment better, but also make more valid research subjects for some mouse-based studies.

Under the supervision of Dr. Georgia Mason, Canada Research Chair in Animal Welfare, Bechard set out to investigate when lab mice voluntarily leave their mothers, or “disperse.” She housed families of mice in two types of commonly used home cages (Ancare ‘shoe-boxes’ and Thoren ‘duplexes’), each fitted with a tunnel that allowed pups, but not their mothers, to pass through to a dispersal cage.

Bechard observed the pups and found that their first visit to the dispersal cage was at approximately 21 days, but that they preferred the company of their mother at this age, and by 35 days of age, were still spending 50% of their time with their mothers. However, she also found that independence was affected by cage type; pups housed in shoe-box cages matured faster, and by 35 days of age, were indifferent to the mother’s presence, while those housed in duplex cages preferred the home cage and also received more maternal care. ‘Weaning’ laboratory mouse pups at 21 days of age therefore deprives them of maternal care, to an extent which varies between different cage types.

To determine if early weaning affected lab mice later in life, Bechard compared adult anxiety and abnormal behaviour (bar-gnawing and barbering or hair chewing) of two types of lab mice weaned at either 21 (early) or 35 (delayed) days of age in a standard research facility. Anxiety was measured using two tests: a startle response test, and a device called an elevated plus maze – in which anxiety is assessed by measuring how much time a mouse spends out on the open arms of an elevated maze, compared to time spent in enclosed “safer” arms.

Bechard found that delayed weaning reduced anxiety responses in the males of one of the two types of mice tested. It also reduced bar-gnawing in one type of mouse, and barbering in females the same type. However, when the experiment was repeated in a commercial facility, delayed weaning had no effect. Bechard noted that the mice in this facility had lower body weights and were developing more slowly, which may have played into the varied results.

Bechard says that further work needs to investigate how pup developmental rates differ across facilities with different husbandry and cage types. She thinks the optimal mouse weaning age may vary across sites according to the ages at which pups achieve adequate levels of body mass. “If optimal weaning age standards can be developed” says Bechard, “there is potential for improving the welfare of many millions of individuals”. †

### Feature

## CCSAW Director Goes Down Under

*Mutual benefit shared through collaboration at the Animal Welfare Science Centre in Melbourne, Australia*



*Dr. Tina Widowski, Campbell Centre Director, second from bottom right, with Dr. Paul Hemsworth, AWSC Director, top right, and AWSC undergraduate and graduate students, technicians and post-docs*

It’s been a busy six months for Campbell Centre Director, Dr. Tina Widowski, who is spending her sabbatical at the Animal Welfare Science Centre (AWSC) in Melbourne, Australia. Widowski traveled, with her entire family, to Australia in January ’09.

The AWSC, a collaborative centre between the University of Melbourne, Monash University and the Department of Primary Industries, has a mandate similar to the Campbell Centre. It leads animal welfare research, trains undergraduate and graduate students, advises government and industry, holds seminar series, and focuses on industry training programs.

Among the variety of AWSC research studies underway, there is a particular emphasis on human-animal interactions.

Students and staff are working on a myriad of projects in this area including investigating the effect of handling on fear of humans in infant dairy calves; the response of orangutans to people at the zoo; the effect of different types of training collars on dog welfare; the responses of dogs to the manner in which people handle and approach them at shelters, vet clinics and quarantine stations; and the relationship between stock-people and laying hen productivity.

“Australians are few people in a big land...their emphasis on the human factor in animal welfare is an important one” – Dr. Tina Widowski

Widowski is thrilled to be working with, learning from, and sharing ideas with this well established and accomplished group of animal welfare scientists. Her trip was supported, in part, by a University of Melbourne Knowledge Transfer Visiting Scholars Grant.

During her stay, Widowski has been involved in project development, has delivered seminars and has led a workshop on graduate teaching in animal welfare. She has also been collaborating with AWSC Director, Dr. Paul Hemsworth, on a review of laying hen welfare which she presented at the Australian Egg Corporation Limited Industry forum in Perth.

“Australians are few people in a big land and they are very friendly and supportive. Their emphasis on the human factor in animal welfare is an important one” says Widowski.

Amidst the busyness of advancing animal welfare and her professional career, Widowski has still found time to enjoy the richness and abundance of Australia’s culture, wild spaces, and wildlife. From sulfur crested cockatoos, crimson rosellas and lorikeets gracing her back yard, to hundreds of fairy penguins burrowing in for the night in a rookery surrounding her weekend Tasmanian cottage, Widowski has had no shortage of encounters with the birds of Australia. Add to that the brushtail possums, irresistible koala bears, and “roos”, it might be difficult getting her back! Nevertheless, we at CCSAW are all anxiously awaiting her return and look forward to welcoming her home. ✨

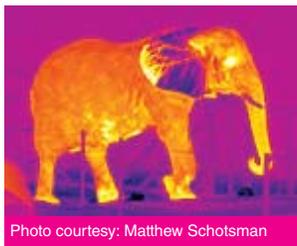
## Feature

# CCSAW Research Symposium

## *Examines Our Complicated Relationships with the Animals We Keep*

By Barry Gunn

### *Can elephants in zoos get too HOT?*



*Infrared images like this one help researchers assess thermal comfort in zoo animals*

Are wild carnivores raised in ‘high welfare’ enclosures more attractive to potential mates than those raised in standard cages? Are cats and dogs our companions, our toys or our children, and does it matter?

The answers to these questions and more were on the

agenda on May 5, 2009, at the second annual CCSAW Animal Welfare Research Symposium at the University of Guelph. The symposium is designed to address a wide range of topics related to animal welfare, ethics and the role of animals in society.

“Our aim is to stimulate thought-provoking discussion that challenges delegates to continually examine, question and study the ways in which we use animals and how this affects them and us” said Kimberly Sheppard, Communications Coordinator for the Campbell Centre.

The 2009 CCSAW Research Symposium addressed profound and practical questions revolving around our complex relationships with animals.

Those relationships are often riddled with contradictions, said Prof. Georgia Mason.

“It’s very complicated – even when we’re talking about pets, we shower them with affection but we also use them,” said Mason, an associated faculty member at U of G’s Campbell Centre for the Study of Animal Welfare, which hosted the symposium. Mason also holds the Canada Research Chair in animal welfare in U of G’s Department of Animal and Poultry Science. “On the one hand, we give some animals cute names

and make them part of the family, while on the other we struggle with the welfare of animals destined for slaughter. How can we live with that contradiction without examining it? And if we do examine it, what happens?”

Each year, the symposium brings together graduate students and faculty members at U of G who deal with animals from a variety of perspectives, from the biological sciences and veterinary medicine to geography and philosophy. Some have a practical focus – how to humanely transport food animals, for example – while others probe deeper into the ways our treatment of animals may be problematic.

## Feature

# Animal Advocate Leaves 7.5 Million to U of G/OVC

U of G News Service

A tireless advocate for animals, a supporter of the arts and a successful business owner, the late Mona Campbell was known for her passion, dedication and philanthropy. She created a legacy of giving that will live on through a \$7.5-million gift to benefit the University of Guelph's Ontario Veterinary College. It is the University's largest-ever single donation.

“We are so grateful for this incredible gift, not only for the financial support and tremendous opportunities it affords but also for the spirit in which it was made,” said president Alastair Summerlee. “It reflects Mona's passion for and dedication to animals.”

OVC dean Elizabeth Stone, who developed a close relationship with Mrs. Campbell after joining U of G in 2005, added: “Mona entrusted us to be her stewards, which tells us that she valued what we do as important. This means a lot coming from her.”

Mrs. Campbell was chairwoman and CEO of Dover Industries, a company she inherited from her father at age 33. At the time of her death in 2008, the company was Canada's largest flour-milling company, with revenues of \$228 million and some 500 employees. She was also the first female director of the Toronto-Dominion Bank.

During her lifetime, Mrs. Campbell was often recognized as an outstanding business leader, but her tenacity in enterprise was matched by her generosity. She was a patron of numerous cultural, educational and business organizations, including the Royal Ontario Museum and the National Ballet School Foundation.

Her relationship with U of G dates back nearly two decades. Over the years, she donated more than \$1 million to various programs and efforts, especially those related to animal welfare and equine issues.

The day's themes included making inferences about how animals feel, examining how animals are perceived and treated, and improving how we treat animals. A highlight of the event was keynote address by Dr. Ed Pajor of Purdue University on the topic “Pregnant, barefoot and nowhere to move: Sow housing research.”

To view the proceedings or for more information on the Campbell Centre, Associated Faculty, or associated projects, please visit: [www.uoguelph.ca/ccsaw](http://www.uoguelph.ca/ccsaw) †

*The 2009 CCSAW Research Symposium was sponsored by The Canadian Farm Animal Care Trust, Egg Farmers of Canada, and the Universities Federation for Animal Welfare.*

She was particularly interested in the work of animal and poultry science professor Ian Duncan, who was one of the first to bring a scientific approach to solving animal welfare problems. “Early on, she recognized Ian's pioneering work, and they remained lifelong friends,” said Stone. In 1991, Mrs. Campbell started an endowment for a chair in animal welfare, which was named the Col. K.L. Campbell Chair in Animal Welfare after her late husband. Later, the University's Centre for the Study of Animal Welfare was renamed the Col. K.L. Campbell Centre for the Study of Animal Welfare.

Mrs. Campbell's Mohill Farms was known for its numerous award-winning show horses and cattle, as well as for her beloved dogs that she had rescued. In 1994, she donated money for U of G to foster partnerships with the equine industry and to support travel grants in equine studies. She was also a strong proponent of OVC's Pet Trust Fund, which raises money to support learning, health care and research to benefit companion animals.

U of G awarded her an honorary Doctorate of Laws in 1994, and she was named to the Order of Canada in 1996.

Her \$7.5-million gift to OVC is directed toward causes in which she strongly believed. Half of the funds will be used to fully endow a chair in companion animal welfare and to provide further support for animal welfare research and initiatives in the name of Col. K.L. Campbell. The other half, which is designated for Pet Trust, will support Canada's first comprehensive animal cancer centre, a priority initiative of Pet Trust.

**“Her legacy will be transformative for OVC,”** said Stone. †

# Poultry Welfare Cluster Established at University of Guelph

*“Virtual centre” made possible through partnership between the University of Guelph, Poultry Industry Council (PIC), Canadian Poultry Research Council (CPRC) and Agriculture and Agri-Food Canada (AAFC)*

This article was originally published in Canadian Poultry Magazine.



Dr. Stephanie Torrey

Canada’s poultry industry, Agriculture and Agri-Food Canada (AAFC) and the Campbell Centre at the University of Guelph are pleased to announce the formation of a “virtual centre” of poultry behaviour and welfare. A cluster of welfare experts at the University of Guelph will provide leadership for the virtual centre, which will consist of scientists across Canada working on all aspects of poultry welfare and behaviour. Development of the cluster is made possible through a four-way partnership between the University of Guelph, Poultry Industry Council (PIC), Canadian Poultry Research Council (CPRC) and AAFC. The partnership agreement includes the assignment by AAFC of a research scientist, Dr. Stephanie Torrey, to the Department of Animal and Poultry Science at Guelph. This assignment represents a significant step forward in AAFC’s support for poultry research in Canada. Each of the four partners will be represented on an Advisory Committee that will help develop the cluster and provide advice regarding its overall research strategies.

The idea is to build the intellectual capacity in Canada to tackle the myriad of issues relating to poultry welfare

Dr. Torrey is a Research Scientist in Behaviour and Welfare with AAFC. A native of Worcester, Massachusetts, she holds a B.Sc. (with distinction) from Worcester Polytechnic Institute (USA), a M.Sc. in animal behaviour from Purdue University (USA), and a Ph.D. from the University of Guelph, where her research focused on abnormal behaviour and feeding and drinking motivation in pigs. Since starting with AAFC in 2005, Dr. Torrey has worked on projects examining ingestion, abnormal and social behaviour, sickness behaviour, transportation, housing and routine management procedures. Dr. Torrey arrived at the University of Guelph in May, 2009, and looks forward to applying her expertise to the poultry industry.

Dr. Torrey’s new position will add to the breadth of behaviour and welfare expertise already at Guelph. Her position also marks the beginnings of a “critical mass” of poultry welfare science that will attract more people to the discipline to work at Guelph and elsewhere in Canada generating a strong network of welfare-related scientists across the country. The idea is to build the intellectual capacity in Canada to tackle the myriad of issues relating to poultry welfare. In addition to her duties as a research scientist, Dr. Torrey will also be involved in graduate teaching and training and will play a leadership role to improve communication and collaboration among the varied welfare-related expertise across Canada. †

# Limiting Lameness: *Evaluating the Pedometer Plus System for Lameness Detection in Dairy Cattle*

By Joey Sablji



*Dairy cows wearing pedometers, which may help with early detection of lameness on farm*

Photo Credit: Janet Higginson

Lameness in dairy cows dramatically reduces milk production while causing drug, veterinary and labour costs to skyrocket. It is also a welfare issue, as lameness can cause pain and discomfort. In light of this costly problem, researchers at the University of Guelph are looking into using accelerometers – electronic devices that measure forward motion – to detect lameness during its earliest stages, allowing producers to intervene and provide care.

Department of Population Medicine Ph.D student Janet Higginson is part of a team evaluating Afikim's Pedometer Plus accelerometer device. It measures steps taken by the animals, plus time spent lying and standing. Her research is focused on using the Pedometer Plus to find a correlation between changes in lying and standing times as well as activity, and the early stages of lameness.

“Lameness is one of the biggest welfare concerns in the dairy industry,” says Higginson. “We’re using this system to see if we can predict or detect lameness before a cow becomes clinically lame.”

To validate the new Pedometer Plus system, the researchers observed a group of cows that had the Pedometer Plus device as well as another activity monitor placed on their legs. As cows prefer lying on one side over another, accelerometers were attached to both hind legs to minimize any inaccurate movement measurements. The cows were also videotaped in stalls so comparisons could be made between their actual movements and the pedometers’ readings.

At the Elora Dairy Research Centre, Higginson and her fellow researchers have been collecting data for three months with pedometers on cows. With this data, they will examine each cow individually for lameness events, such as increased lying or resting times and compare this data to data accumulated when the cow was healthy.

Accelerometers such as the Pedometer Plus are currently being used by dairy farmers to detect when cows are in heat due to their increased movement. Higginson hopes her research findings will lead to farmers using accelerometers more often to detect lameness. There is also potential for other disease detection.

“We’re hoping we can find out whether cows do adjust their behaviour in certain ways,” says Higginson. “Then we can flag similar behaviour so that farmers can take a closer look at these cows.”

Higginson’s research is supervised by Profs. David Kelton and Suzanne Millman from the University of Guelph’s Department of Population Medicine.

Her research is funded in part by the Dairy Farmers of Ontario and Afikim, manufacturer of the Pedometer Plus, which provided the Pedometer Plus equipment for this study. †

# Doing the Donkey Work: *Using Science to Improve Working Equine Welfare in Developing Countries*

By Kimberly Sheppard

## Think of an equine.

Images of an animal peacefully grazing on pasture might come to mind. Or perhaps a relaxing trail ride, or a race at the local track. But images of an animal working long hours under harsh conditions with little in the way of health or veterinary care is not likely to be top of mind for most Westerners. Yet, an estimated 85% of horses, donkeys and mules live in developing countries where they are used for work, often under just such conditions.



*Equines at work, hitched to carts in a marketplace*

Dr. Charlotte Burn of The Royal Veterinary College, together with The University of Bristol and The Brooke Hospital for Animals, UK, has been studying the welfare of working equines. Burn recently shared some of her research results in the CCSAW Animal Behaviour and Welfare Seminar Series.

In developing countries, working horses, donkeys and mules are most often used for heavy labour, whether it be hauling heavy loads of cargo or carrying tourists up and down a mountain side. Conditions are harsh – it may be extremely hot or extremely cold with difficult terrain.

The animals may be suffering malnourishment, dehydration, disease, lameness or injury. Rest and recovery is often not a practical option. The animals have no choice but to continue working despite poor environmental or health conditions, as

the livelihoods of their impoverished owners depend on the steady work they do.

The good news is that many of the welfare problems faced by working equines are treatable and even preventable. This is where Burn's work comes in. Her aim is to identify practical, sustainable solutions and interventions to the various problems, assess their effectiveness, and ultimately have the best solutions applied by equine owners themselves.

Burn and her colleagues conducted a survey of 10,843 equines in Ethiopia, the Gambia, Kenya, and Guatemala. She found that 85% could be classified as thin or very thin. The thinner animals were also lamer, and had more wounds and a greater incidence of diarrhea; 63% of animals had wounds with one quarter of these being deep enough to expose the muscle layer, or even the tendons and bones; 97% of animals had abnormal gaits.

All of these results indicate serious and ongoing welfare challenges that need addressing. One particular study was aimed at addressing a problem noted in tourist donkeys in Petra. These donkeys carry people up and down a mountain-side by saddle – the strap of which wraps under the base of their tails, sometimes rubbing away the skin and causing raw wounds. Burn surveyed the donkeys, and found tail-base lesions in 73% of 86 donkeys studied. She also found that dirty straps and straps padded with cotton or fleece made the problem worse. Simply using clean, synthetic straps and eliminating padding altogether is a realistic, sustainable intervention in this case.

Burn was also curious to know if equine behaviour could be used as a field indicator of physical welfare. She looked at a variety of behaviour, and found unresponsiveness and apathy to be associated with thinness, lesions, pale mucus membranes, diarrhea, old age, parasites, lameness, eye abnormalities, and missing teeth.

Thus, this behaviour can be considered a good first indicator of health conditions that are likely



*Tourist donkey in Petra with a tail-base wound from its saddle strap*



Photo Courtesy: Charlotte Burn

*This horse has severe laminitis, a painful condition of the hooves, and is also 'apathetic'*

painful, or that may contribute to weakness and exhaustion. Such information can assist veterinarians in making quick judgments about animals in need of further assessment and possibly immediate care and intervention.

The results generated from studies such as these can be readily applied in field conditions to immediately improve the lives of working equines. Burn says a key to success is community participation in animal health and welfare initiatives. Two-way exchange of ideas, understanding community priorities, giving participants ownership of ideas, and providing expert feedback on efficacy all ensure the most successful outcome for the animals.

Burn continues to work with the University of Bristol and the Brooke Hospital toward reducing suffering of working equines. †

### Public Lectures

## Basil Capes Memorial Lecture: Ethics and Animals *World famous bioethicist, Dr. Peter Singer, urges us to think about how we use and treat animals and our ethical duties to them*

By Kimberly Sheppard



*Dr. Peter Singer*

Peter Singer, Ira W. DeCamp Professor of Bioethics at Princeton University, delivered the Inaugural Guelph Lecture in Philosophy and The Basil Capes Memorial Lecture in March. Drawing a crowd of over 600, the lecture was a resounding success!

Singer spoke about the ways in which the views of famous philosophers – Thomas Aquinas and Immanuel Kant – have played into modern views on animal use. These philosophers believed that we as humans have no direct duties to animals unless those duties imply indirect duties to humans.

Singer said that we have moved somewhat beyond this, in that most people believe we ought to be kind to animals, yet we continue to give less weight to animal interests than we do to human interests. He asks us, as a society of animal users, to examine how we use and treat animals, and our ethical duties to them.

Singer outlined some views, arguments, and thought exercises to assist the audience in thinking about issues surrounding animal use from an ethical standpoint. During the discussion period, the question was raised several times about whether or not animals have an interest in continuing to live. Singer admitted that originally he thought that they did not – if they had a good life and a painless death, that was acceptable. He now seems to be expressing some doubts about that view.

A podcast of the lecture can be downloaded from the Guelph Lecture in Philosophy website: [www.guelphlectureinphilosophy.ca](http://www.guelphlectureinphilosophy.ca)

This lecture was co-sponsored by The Department of Philosophy and The Campbell Centre for Animal Welfare. Contributing Sponsors included The Office of The Dean and the College of Arts. †



*Captive audience at the Inaugural Guelph Lecture in Philosophy and Basil Capes Memorial Lecture*

# Master of Science Program a Success

*Course-based graduate program equips students to meet the needs of today's animal industries*



*MSc. students, left to right, top row: Katherine Stevenson, Melissa Marshman, Victoria Freitas, Middle row: Adrienne Gosse, Arlene Ali, Vanessa Fazari, Lynn Kavanagh, Bottom: Stephanie Ellison. Missing from photo: Jon Cloud*

The first offering of a new Masters by coursework specializing in animal welfare has been a great success. The program is designed to meet the needs of the various food, laboratory, companion, sport, zoo and entertainment industries, of which animal welfare has become a high priority. Within these industries, there is growing pressure for science-based welfare standards and assurance schemes that help to achieve and promote quality standards.

This unique multidisciplinary program is the first in North America to equip students to meet industry needs by providing a solid foundation in animal welfare science and ethics, combined with practical training and experience that can be applied immediately upon graduation.

“Word is spreading about the Master of Science Program and we’ve received inquiries from students all around the world.” – Dr. Stephanie Yue Cottee

The MSc program combines a core of graduate courses in animal welfare science with electives from fields complementing students’ area of interest. A key component of the program is a supervised major research project which helps to build specialized knowledge and provides hands-on experience.

This year, projects varied in topic and species – from a study evaluating if laying hens are motivated to obtain fresh air when placed in higher-ammonia environments, to a study looking at effects of dominance hierarchy on reproductive capacity of zoo-housed male cheetahs.

Lynn Kavanagh, MSc. program student, found the program practical and rewarding. “The MSc. program broadened my understanding of the science of animal welfare and its application to real-world scenarios,” she says. “The courses offered were diverse and engaging. I would recommend this program to anyone wanting to learn more about the history, science and assessment of animal welfare.”

Dr. Stephanie Yue Cottee, MSc. Program Coordinator, says that interest in the program is growing. “Word is spreading about this program and we’ve received inquiries from students all around the world. Next year’s enrollment has already doubled. I’m so pleased with the way the program is progressing” says Yue Cottee.

Students may be admitted to the Master of Science Specializing in Animal Welfare program from a variety of undergraduate backgrounds, including honours degree programs in animal or agricultural science, environmental biology, wildlife biology and zoology. For more information please visit [www.aps.uoguelph.ca](http://www.aps.uoguelph.ca) and click on “Graduate” then “Animal Welfare”. †

## The Campbell Centre Welcomes Dr. Derek Haley!

### *New CCSAW Associated Faculty Member appointed to the OVC*

CCSAW would like to extend a warm “welcome back” to Dr. Derek Haley! Haley has joined the Department of Population Medicine at the Ontario Veterinary College as Assistant Professor of Farm Animal Behaviour and Welfare.



Haley began his post-graduate academic career at the University of Guelph, completing his MSc degree in 1997 under the supervision of Dr. Ian Duncan from the Department of Animal Science at U of G, and Dr. Anne Marie de Passillé, then with the Lennoxville Research Station of Agriculture and Agri-Food Canada. Haley's masters research focused on understanding the causes of cross-sucking behaviour in dairy calves. After graduating, Haley took a position as a Research Assistant with de Passillé and Dr. Jeff Rushen, studying the effects of stall design on the welfare of lactating dairy cows.

After a few years in this position, Haley moved west to take a Research Assistant post at the Western College of Veterinary Medicine at the University of Saskatchewan. Hoping to delve deeper into solutions to welfare and production problems, Haley soon began work on his PhD, at the same institution, under the supervision of Dr. Joe Stookey. His PhD thesis explored ways to reduce the stress of weaning for beef cattle, and led to the development and marketing of “*Quietwean*”, a two-stage, low-stress method of weaning calves. Before graduating, Haley was hired by Alberta Agriculture, Food & Rural Development, as the province's Livestock Welfare Specialist. There he was involved in several research projects, including on-farm options for the euthanasia of spent laying hens and development of alternative housing systems for sows and laying hens through the modification of existing facilities.

For the past two years, Haley has been an Assistant Professor of Applied Ethology at the University of Alberta. In addition to teaching courses there in food animal behaviour, and animal welfare, he's been continuing his work on reducing weaning stress in beef cattle, examining the mitigation of pain during the disbudding of dairy calves, and using ethology to assess the welfare of horses being kept in feedlots in Alberta.

Haley is looking forward to joining the Ontario Veterinary College and working with everyone within the Campbell Centre. “My program will focus largely on dairy and beef cattle but I am also looking forward to working on research with other species through collaborative projects and student committees” says Haley. Haley joins us in late August. †

# CCSAW Students Making a Difference

*Congratulations to Jamie Dallaire, the 2009 recipient of the OVC Animal Welfare Club's Care-a-Thon Animal Welfare Research Scholarship!*



Jamie Dallaire

The scholarship is awarded to a graduate student whose research is likely to have the most practical application to the improvement of animal welfare. Jamie's project is "Individual predictors of successful environmental enrichment-based rehabilitation for the Asiatic Black Bear (*Ursus thibetanus*)". Asiatic Black Bears, or "bile bears" are kept in small cages and have their gallbladders catheterized so that bile can be collected for Traditional Chinese Medicine. Jamie hopes to use the scholarship to help support his travel to Animals Asia Foundation sanctuary near Cheng Du, Sichuan Province, China, where his bear rehabilitation research will be conducted.

*Congratulations to Becky Meagher, recipient of the Alexander Graham Bell Canada Graduate Scholarship!*



Becky Meagher

This scholarship is awarded to top-ranked applicants in the post-graduate program, by the Natural Sciences and Engineering Research Council of Canada. The funding will assist Meagher to study inactivity in captive mink. Captive environments can foster extreme inactivity and analysis suggests that animals which do not exhibit obvious abnormal behaviours may actually have the poorest welfare. Chronic fear can cause hiding as with felids; stimulus-poor environments may induce 'apathy' or 'boredom' as with sows; and inescapable aversive situations can similarly produce depression-like behaviour. However, inactivity can also reflect good welfare in some contexts. Meagher's project will be the first to investigate multiple mechanisms in a single species.

## Best Student Talk and Poster Awards

Congrats to Laura Warren and Kristi Bovey! Warren was awarded Best Student Talk for "Road Transport Conditions of Slaughter Cattle: Effects on Some Measures of Welfare and the

Prevalence of Dark Cutters" at the CCSAW Research Symposium.

Bovey won Best Student Poster for "The Health and Welfare of Cull Cows

in Ontario". Her poster also won first place at the International Society for Applied Ethology Regional meeting in Montreal in July. Great work!

## Graduate Theses Successfully Defended!



**Sharon Bauer, MSc.**

Thesis title: "A study of overweight body condition and hyperglycemia in cynomolgus macaques (*Macaca fascicularis*)"



**Anita Tucker, Ph.D.**

Thesis title: "Dental ontogeny and its relationship to feeding and abnormal behaviour in commercial piglets"



**Janet Higginson, MSc.**

Thesis title: "Investigation of the effects of *Salmonella* Typhimurium on the behaviour of group housed swine"



**Allison Bechard, MSc.**

Thesis title: "Extended experience in the maternal environment and the welfare of the laboratory mouse"

## Award-Winning Animal Welfare Course Now Available through Distance Education!

The University of Guelph third-year undergraduate course “Principles of Animal Care and Welfare” is now available during the Winter Semester as a Distance Education course. This course was given the inaugural award by the Humane Society of the United States as being the best course in North America dealing with Animals and Society.

The course involves presentations, discussions, debates, role-playing exercises, and simulated field assessments of welfare. It is designed to foster the ability of students to understand the principles of animal care and welfare, appreciate the relationship of ethics to science, justify a moral point of view, interpret and critically evaluate the literature on animal welfare, be sensitive to other people’s values and views, make objective judgments on animal welfare, be creative in solving welfare problems, and present views on animal welfare in a well-structured and convincingly-argued way, through written papers.

Since 90% of animals used by humankind are farm animals, some knowledge of animal production practices is a prerequisite.

The course is open to anyone interested, but approval to take the course must be granted through the Office of Open Learning at the University of Guelph: [www.open.uoguelph.ca](http://www.open.uoguelph.ca)

## Upcoming Events

# 10th Animal Welfare Forum: “One World, One Health”



The 10th OVC Animal Welfare Forum, to be held on Saturday, September 12th, 2009, at the Ontario Veterinary College, will explore the theme “One World, One Health”.

The student run day-long event will examine the bonds that animals and humans share throughout the world, sometimes without even realizing it. It will explore how animal welfare fits into these relationships and how improvements to animal welfare can strengthen these bonds.

Anticipated topics include how animals impact public health concerns, what impact animal well-being has had and will have on public policy, and how animal research has contributed to human/animal health issues worldwide. The master’s degree in Animal Welfare available at the university will also be discussed.

Registration information and the final program will be available closer to the date. Please check the OVC Animal Welfare Club website for details: [www.uoguelph.ca/~awc](http://www.uoguelph.ca/~awc)

## Animal Behaviour and Welfare Seminar Series *Mark your calendars!*

The Animal Behaviour and Welfare Seminar Series resumes in September. The kick-off lecture will be given on September 30th, 2009, by Dr. Derek Haley, newly appointed Assistant Professor of Farm Animal Behaviour and Welfare at OVC.

Haley will be speaking about some of his past research areas and most significant findings (please see page 10 for details).

On October 28th, Brianna Gaskill, a PhD candidate from Purdue University will be talking about her work on the thermo-regulatory needs of laboratory mice, which she suspects are chronically cold in standard laboratory cages.

Animal Behaviour and Welfare seminars are held on the last Wednesday of each month, from 4:00-5:00pm in room 141, Department of Animal and Poultry Science. As the date is subject to change, please check the Campbell Centre website for updates: [www.uoguelph.ca/ccsaw](http://www.uoguelph.ca/ccsaw)

### The Campbell Centre for the Study of Animal Welfare

To learn about how you can support the centre or to join our e-mail list, go to: [www.uoguelph.ca/ccsaw](http://www.uoguelph.ca/ccsaw) or write to:

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