

Our
knowledge
is your
Advantage





Mission Statement:

To serve the community through excellence in teaching & research in:

- efficient & sustainable agricultural production
- value-added processing
- food safety
- human health

to improve the health & quality of life.





Our Fast Growing Reputation

This year has been an exciting and rewarding one for AFNS. Many of our successes in teaching, research and community outreach are described in the following pages. From finding ways to tackle clubroot disease in canola to improving infant nutrition, our unique combination of agricultural, nutritional and food science continues to play a major role in addressing issues of provincial, national and international importance.

You'll also find several examples of how AFNS is strengthening links with academic, government and industry partners. Building partnerships is key to teaching and research excellence. I am proud that 2007 proved a watershed year in demonstrating the wisdom of this course. The Department succeeded in attracting funding for world-class research programs, and our researchers attained international recognition in such areas as diabetes, trans-fats and bioactive oils.

The \$25-million Agri-Food Discovery Place, officially opened in June 2006, increasingly fulfills our vision of advancing innovative research in meat safety and processing, crop utilization and advanced materials and bioprocessing. As you'll note in our "Newcomers" section, the Department has also built on its growing reputation to recruit top researchers in areas ranging from poultry science to immunology. Welcome all!

Important as our research is, AFNS also places a high priority on teaching excellence and community outreach. You'll learn here about a few of the stimulating learning experiences available in the Department to undergraduate and graduate students.

I look forward to building on our strong foundation. The best is yet to come!

Dr. Erasmus Okine – Chair
Department of Agricultural, Food and Nutritional Science (AFNS)
afns-chair@ualberta.ca



A Department with a Focus on Innovation & Sustainability

The AFNS Department experienced an outstanding year in 2007. As the challenges facing agricultural, food and nutritional sciences become ever more complex, so has the Department's commitment to expanding opportunities for learning, research and service.

The Department established its reputation for innovation early on, becoming the first university department in North America to offer a multidisciplinary, integrative approach to learning, research and service. We've built on this foundation in numerous ways over the year, as you'll read in these pages. By fostering rich and varied learning environments, we're "growing" the excellent crop of young farmers; food, nutrition and agricultural scientists and highly qualified personnel who are so greatly needed.

I'm particularly proud that during the last year, in an increasingly challenging recruitment market, the Department attracted some of the brightest minds anywhere. New areas of training for students and for highly qualified personnel were also developed. Strong partnerships forged with government agencies and industry continued to expand the Department's research capacity in areas ranging from value-added meats and poultry to bio-plastics. Our commitment to service gained prominence as such challenges as childhood obesity and diabetes gained a higher national profile.

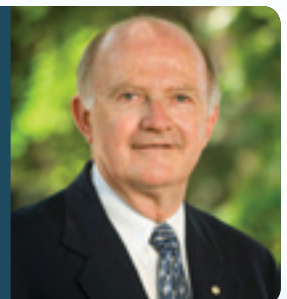
I look forward to the coming year as we continue to strive for even greater levels of excellence and innovation.

Dr. John Kennelly – Dean
Faculty of Agricultural, Life & Environmental Sciences
john.kennelly@ualberta.ca



Welcome Dr. Babiuk!

Dr. Lorne Babiuk, one of Canada's outstanding leaders in research, has been appointed the new Vice-President of Research at the University of Alberta. Dr. Babiuk, previously CEO and director of the University of Saskatchewan-based Vaccine and Infectious Disease Organization (VIDO), began his duties July 1, 2007. He holds the Canada Research Chair in Vaccinology and Biotechnology, and led the development of the world's first genetically engineered vaccine for animals. The Department of Agricultural, Food and Nutritional Science is his home department.



IFASA

Partnership Cultivates Innovation

From meat safety to biorefining, research excellence in AFNS is being advanced by the Institute for Food and Agricultural Sciences, Alberta (IFASA).

IFASA was established in 2003 through a Memorandum of Agreement among the University of Alberta, Alberta Agriculture and Rural Development and the Alberta Research Council. Agriculture and Agri-Food Canada joined IFASA in 2006.

IFASA's mission is to advance Alberta's agriculture and agri-food industry through innovative science and technology programs in Sustainable Production, Food for Health, and Industrial Biorefining and Bioproducts. It works to build multidisciplinary teams and to forge key partnerships among industry, government and research institutions.

A Funding Consortium, involving the Alberta Crop Industry Development Fund (ACIDF), the Alberta Livestock Industry Development Fund (ALIDF) the Alberta Agricultural Research Institute (AARI) and AVAC Ltd, has been instrumental in supporting the IFASA programs.



The \$4.6 million IFASA Bovine Genomics Program, led by Stephen Moore, Professor, Beef Molecular Biology, is supported by ALIDF and Alberta Advanced Education & Technology. "The research aims to help the Alberta livestock industry be competitive in the world market," says Dr. Moore. "The Alberta Bovine Genomics Program is becoming the very best in the world specific to genomics research, development and technology transfer."



AFNS participates in the \$3.9 million IFASA Value-Added Meats Program, funded by ALIDF and AARI. The program includes support for research programs at Agri-Food Discovery Place which will help the industry and researchers improve the safety of meats for consumers. Dr. Lynn McMullen, Professor, Food Microbiology, says this support will "help us take pathogenic bacteria commonly found in meats and work with them under conditions that simulate those found in the industry."

IFASA

WWW.IFASA.CA



UNIVERSITY OF ALBERTA

ALBERTA RESEARCH COUNCIL



Agriculture and Agri-Food Canada

Agriculture et Agroalimentaire Canada

Alberta AGRICULTURE AND RURAL DEVELOPMENT



ALBERTA LIVESTOCK INDUSTRY DEVELOPMENT FUND

AARI Alberta Agricultural Research Institute

AVAC Ltd.



The Poultry Research Centre is also a major contributor to the IFASA Value-Added Meats Program. Dr. Iwona Pawlina, Executive Director, states "the PRC is well positioned to provide expertise into value-added product development thanks to a \$5 million investment by AARI and ALIDF, and continuous support from Alberta Agriculture and Rural Development and the poultry industry." The PRC value-added researchers focus their research on the development of safe products with added, health promoting functional ingredients (e.g., omega-3 polyunsaturated fatty acids).



Oilseed fats and oils also offer tremendous value-added opportunities. The Alberta Lipid Utilization Program (ALUP) aims to find new food and non-food uses for lipids (such as low trans-fat foods, bio-lubricants, bioplastics and specialty chemicals). The research team is led by Dr. Suresh Narine, Associate Professor of Rheology, Materials Science and Food Physics and NSERC Industrial Research Chair in Lipid Utilization. Funding partners of the \$11.8m program include ACIDF, AARI, Bunge Corp, the Natural Sciences and Engineering Research Council, and the Alberta Canola Producers Commission.



Led by Dr. Randall Weselake, Canada Research Chair and Professor, Agricultural Biotechnology, the Bioactive Oils Program (BOP) is being provided with \$5.3 million by AARI, ACIDF and AVAC Ltd. BOP goals are: to develop a new line of canola with seed oil enhanced in saturated fatty acid content, which will lead to a reduction in trans fatty acids in baking applications of the oil; and to develop flax with increased levels of polyunsaturated fatty acids (PUFAs). "High-saturate canola could provide an alternative to the unhealthy trans-fats now being phased out of the food industry," he explains. "Flax seed that is high in omega-3 and omega-6 PUFAs will create a valuable non-marine source of these beneficial fatty acids, which have been linked to neurological health and reduced cardiovascular disease."



For more information on the IFASA programs in AFNS contact:

Richard Smith
(780) 492-1777
richard.smith@ualberta.ca





Milk Producers Establish Research Fund

“Drink your milk”. That’s been the sound advice Canada’s parents have long dispensed to their growing children. And, not surprisingly, they have had good reasons for doing so. What they know so well - that dairy products are good for you - is being borne out almost daily by researchers in the Dairy Research and Technology Centre at the University of Alberta.

Their work recently received a huge boost, with a donation from Alberta Milk worth over \$1.6 million, augmented by \$500,000 from the Canada-Alberta Livestock Research Trust (CALRT).

John Kennelly, Dean of the Faculty of Agricultural, Life & Environmental Sciences says this sizable donation will enhance research on optimizing production and reproduction efficiency, enhancing the nutritional quality of milk and milk products, and improving animal health.

“The endowment represents a contribution from every dairy producer in the province and we are most grateful for their visionary leadership in supporting dairy research,” said Kennelly. “The endowment will help to ensure the profitability and sustainability of dairying for future generations.”



Coined the Alberta Milk Dairy Research Endowment Fund, its mission will be to better connect industry and university researchers.

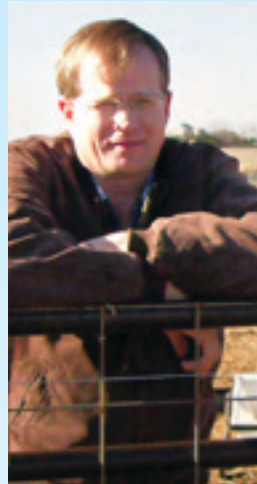
“Our goal is very simple - to transfer information and technology to stakeholders in the dairy industry,” said Erasmus Okine, Chair of Agricultural, Food and Nutritional Science, and one of Canada’s foremost ruminant nutrition and metabolism researchers.

Ongoing dairy research at the U of A includes: development of a biological intervention strategy to reduce carriage of the food-borne pathogen *Escherichia coli* 0157:H7 in cattle; the use of probiotic bacteria and novel immuno-enhancing techniques to prevent or treat uterine infections in dairy cows; investigating strategies to improve ovulation and embryo development in timed insemination programs; and researching the possibility of using fenugreek as a forage alternative.

“The donation represents the ongoing commitment that Alberta dairy producers are making to research in our industry,” said Bruce Beattie, former Chair of Alberta Milk’s research committee and a dairy producer from Sundre, Alberta.

“We are confident that our investment will result in improvements in dairy production and animal health,” said Peter Schuld of CALRT. “That is why we decided to add our \$500,000.”

Steering Collaboration



Barry Irving
(780) 492-9738 or
(780) 492-0183
barry.irving@ualberta.ca

There have been some exciting developments in the beef research arena for the University of Alberta in 2007. Agreements between the U of A, Agriculture and Agri-Food Canada (AAFC), and the Canada-Alberta Livestock Research Trust (CALRT), all strongly supported by Alberta Agriculture and Rural Development (ARD), resulted in a substantial increase in Bovine Genomic research capacity.

The process began with moving 300 purebred cows (180 Angus and 120 Charolais), owned by CALRT, from the AAFC One-Four Research Station at Lethbridge to the U of A Kinsella Research Ranch. The One-Four herd was being dispersed and there was need to find a place to house the

cows and preserve both the genetic resources and the research programs that the herd represented. CALRT agreed to maintain ownership of the purebred cattle, but granted the U of A all revenues while the cows are housed at the Kinsella Research Ranch, with the intent that the herd would be managed as a long term research resource.

The U of A and AAFC subsequently agreed on provisions for monetary support of the research herd, mechanisms for co-appointed AAFC and U of A researchers to move between the organizations, and guidelines for the management of the cattle herd (which including the Kinsella cows is to grow to 850 head). A final, but critically important, piece of the puzzle was put in place by Alberta Agriculture and Rural Development. ARD provided funds to increase the size of the Kinsella Research Ranch to support the additional animals. A land acquisition initiative came to a close on March 31, 2008; 5300 acres of land immediately adjacent to the Kinsella Research Ranch was purchased and is currently being integrated into the Kinsella operation. Together, the four organizations involved, have doubled the capacity of the Kinsella Research Ranch.





Partnering to Expand AFNS

Partnering to build research capacity and expand research excellence is a key strategy of AFNS and Alberta Agriculture and Rural Development (ARD). Through secondments, collaboration of staff and funding of scientific positions at the U of A; ARD and AFNS are partnering to support eight positions at the U of A.

Dr. Linda Hall, former Adjunct Professor, Alberta Agriculture and Rural Development and recent Associate Professor, AFNS is a shining example. "In support of the initiative to build a bioproducts industry for Alberta, AFNS and ARD are partnering to support research in Environmental Biosafety of Novel Crops," she explains.

Dr. Hall leads the Environmental Biosafety team and is supported by ARD through research funding, technical assistance, field and laboratory research equipment and research land. "AFNS assists with laboratory research space, research land, office space for the program and providing access to great graduate students," she says. "Together ARD and AFNS will move the bioproducts industry forward." Other ARD staff co-located at the U of A, include Drs. Rong-Cai Yang (Statistical Genomics) and Laki Goonewaardene (Biometrics), who both contribute to AFNS teaching programs.



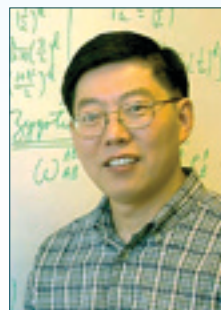
Dr. David Bressler

Dr. David Bressler, Assistant Professor, Fermentation & Bio/Food Engineering at AFNS, receives joint support through his cross-appointment with the Bio-Industrial Technology Division (BTD) of Alberta Agriculture and Rural Development. "Partnering with AFNS presents enhanced opportunity to meet the challenges of bioproduct development, for the benefit of the agriculture industry in Alberta," says Don Noot, former Acting Branch Head of BTD. Staff from AFNS and BTD work together at Agri-Food Discovery Place, where pilot scale development provides the critical link between a good idea on the lab bench and full scale commercialization.

Alberta Agriculture and Rural Development also supports a position in Dairy Nutrition filled by Dr. Masahito Oba and a position in Agriculture Entomology filled by Dr. Lloyd Dossdall. Additional funding support has allowed the hiring of a Feed Industry Chair, Dr. Ruurd Zijlstra, and assisted in funding two academic positions at the Poultry Research Technology Centre currently filled by Drs. Gaylene Fassenko and Robert Renema.



Dr. Linda Hall



Dr. Rong-Cai Yang



Dr. Laki Goonewaardene



Dr. Lloyd Dossdall



Dr. Masahito Oba



Dr. Ruurd Zijlstra



Dr. Gaylene Fassenko



Dr. Robert Renema



Making a Difference



When Dr. Betty Donald was a young woman studying food and nutrition, she was “fortunate enough” to receive financial support.

“What I want to do now is to give something to others because I was helped along the way,” says the retired U of A nutrition professor.

Julie Laverdiere and Eva Monterrosa are just two of many AFNS students to benefit from Dr. Donald’s generosity.

Julie received the first Dr. Elizabeth Donald MSc Fellowship in Human Nutrition in 2002, valued at \$10,000. “The scholarship allowed me to pursue my MSc degree while reducing the stress of trying to ensure financial support during the studies,” she says.



Eva Monterrosa

Julie is now an information specialist with the Centre for Health Evidence at the U of A, a job she loves. “The money helped me get through the degree financially, but it’s friendship with Betty that has helped me develop as a person and in my career,” she says.

Eva received \$11,000 from the Dr. Elizabeth A. Donald MSc Fellowship in Human Nutrition in 2004. The scholarship funded field work in Mexico and other MSc work at AFNS.

Eva’s research topic, on the effects of infant feeding practices on infant health outcomes, “opened numerous doors” including those to the PhD program in International Nutrition at Cornell University. Eva plans to conduct her dissertation field research in Mexico. “I will explore the biological and cultural effects of maternal obesity on infant and young child feeding.”

AFNS students who received graduate student scholarships from Dr. Donald in 2007 are: Bobbie Nicole Barbarich; Heather Louise Hurdle; Meghan Brie Watson; and Jing Lu.



Donald Betty with Marc Bomhof
(current AFNS graduate student)

Human Nutrition Relocates

In October 2007 several members of the Human Nutrition and Metabolism group moved across campus to part of the newly constructed world class Health Research Innovation Facility (HRIF) East.



HRIF (East) home of the Alberta Diabetes Institute (ADI)

Dr’s Bell, Field and Wright and their associated staff and graduate students along with Dr. Clandinin’s research lab are now located on the 4th floor of the Alberta Diabetes Institute (ADI).

Researchers within ADI are focused on understanding the specific mechanisms leading to the development of both Type 1 and Type 2 diabetes and how these debilitating diseases can be prevented and treated.

A major advantage of being located in ADI is the cross disciplinary and collaborative research environment. Located just upstairs from the Human Nutrition group are international research leaders in the fields of immunology, molecular biology, and physiology.

In combination with clinicians at the University of Alberta Hospital, the research being conducted in the ADI takes a truly “bench top to bedside approach.”

In addition to facilitating world class cross disciplinary research the ADI offers a tremendous training environment for graduate students. For example, students present their research findings in an informal “research in progress” seminar series that allows students to receive constructive feedback from international leaders in the field of diabetes research.

Powerhouse Pair Pioneer Insulin Research

AFNS researchers have discovered a new link between high insulin levels and heart disease.

Drs. Spencer Proctor and Donna Vine have been the first to establish a connection between high insulin levels and dysfunction of intestinal lipid metabolism in an animal model. This finding supports the researchers' belief that impaired metabolic function plays an important role in the development of cardiovascular disease.



Spencer Proctor
(780) 492-4672
spencer.proctor@ualberta.ca



Donna Vine
(780) 492-4393
donna.vine@ualberta.ca

High insulin levels are caused by excessive consumption of sugar and fatty foods. Perpetually high insulin levels can lead to insulin resistance, which predisposes people to develop Type 2 diabetes and increased risk of cardiovascular disease.



"The ultimate goal is to learn more about the intestine's role in health and disease states, such as diabetes and cardiovascular disease, and to develop interventions that can prevent disease onset and progression," says Dr. Donna Vine, Assistant Professor, Human Nutrition.

The research is one of many contributions by Dr. Vine and Dr. Spencer Proctor, Assistant Professor, Nutrition, who leads the Metabolic and Cardiovascular Diseases Laboratory. The pair recently received a prestigious Medical School Grant Award from Merck-Schering Canada to investigate the potential benefits of reducing dietary cholesterol absorption during the early stages of diabetes and insulin resistance.



Discovering New Facts about Fats

What role do gangliosides - fats contained in milk and dairy products - play in guarding against intestinal inflammation in infants?

That's the focus of some of the latest research by Dr. Tom Clandinin, an internationally renowned researcher and Professor of Human Nutrition at AFNS. Up to now, little research has focused on gangliosides. His experiments with young rats fed diets with or without gangliosides suggest that these fats help to develop intestinal tissue.



Tom Clandinin
(780) 492-5188
tom.clandinin@ualberta.ca

Dr. Clandinin's research found that gangliosides protect against acute inflammation of the intestine in both rats and humans. "My research group is now investigating in a clinical study whether gangliosides also protect against chronic inflammation," he says.

Recently the U of A awarded Dr. Clandinin with the title of University Professor, one of the highest honours the university can bestow. In May 2007 he received the prestigious Ed and Peggy Tyrchniewicz Award for Innovation in Teaching. Dr. Clandinin's many other awards include the Chang Award from the American Oil Chemists Society, the Earle Willard McHenry Award from the Canadian Society of Nutritional Sciences in July 2007, as well as the Nutrim Award and the Borden Award.



Good fats, bad fats: what's the difference, anyway?

That's one of the questions addressed at "All About Fat 2007," the second annual symposium hosted by AFNS's Nutrition 440 class with the Alberta Institute for Human Nutrition. The symposium rewarded participants with an informative and enjoyable afternoon that better equipped them to understand fats and their place in the diets of consumers.



New Chair Boosts Lipid Research

Dr. Suresh Narine has been named the NSERC-Bunge-ACPC Industrial Research Chair in Lipid Utilization.

The research chair represents a \$1.52 million investment from the Natural Sciences and Engineering Research Council (NSERC), \$1.25 million from canola and oilseed processor Bunge, and \$500,000 from the Alberta Canola Producers Commission (ACPC).



Suresh Narine
(780) 492-9081 or (780) 492-8671
suresh.narine@ualberta.ca

Dr. Narine is Associate Professor and Director of the Alberta Lipid Utilization Program, launched at the U of A in 2005 to revolutionize the use of the world's oilseed crops and oils. Lipid science focuses on issues ranging from dietary health risks associated with trans-fats to the rising cost of gas, he explains.



"Our team has developed some novel ways to create zero trans-fats in margarines and shortenings, without increasing the level of saturated fat, which has been a problem in other technologies," Dr. Narine says.

His team is also transforming vegetable oils into materials such as plastics and industrial lubricants. The research has already resulted in a patent for biodegradable plastic.

The research chair brings the five-year funding of the Lipid Utilization Program to more than \$10 million.

The breadth of Dr. Narine's achievements is amply reflected in other recent awards: the 2005 Growing Alberta Leadership Award for Innovation, the 2005 AFNS Salute Award for leadership in undergraduate teaching, and Trent University's Distinguished Alumni Award. He was also awarded the Government of Guyana Special Achievement Award for his pioneering work in the development and commercialization of biodiesel in Guyana.

Clubroot Free Conola - A Challenge

Two AFNS researchers are working hard to get to the root of root diseases that threaten canola and other field crops.



Habibur Rahman
(780) 492-3869
habibur.rahman@ualberta.ca

Clubroot, a disease in which roots become distorted and swollen, is a research focus of Dr. Stephen Strelkov, Associate Professor of Plant Pathology, and Dr. Habibur Rahman, Associate Professor of Canola Breeding.

Work is underway on the development of integrated management strategies for dealing with the root diseases of field crops in general. Introgression of clubroot resistant gene(s) into

canola (*Brassica napus*) from its allied species and other sources; and development of resistant germplasm and DNA marker(s) for the resistant gene(s) is one of the important areas of research in the Canola Breeding program.

Alberta produces about 34 percent of Canada's canola, so preventing or reducing disease in this important crop is a high priority.



Stephen Strelkov
(780) 492-1969
stephen.strelkov@ualberta.ca

"Given the recent occurrence of this disease in the province, the scope of our research on clubroot has ranged from the basic to the applied," says Dr. Strelkov. The team is also examining the composition and diversity of the disease-causing pathogen throughout Canada.



Professor Encourages Creativity



Frank Robinson
(780) 492-2908
frank.robinson@ualberta.ca

The two key skills that Dr. Frank Robinson hopes students will learn are: the desire to inquire, and to know how to carry out this quest.

His success in teaching these skills and others wins high praise from students – and he was recently recognized with a 3M National Teaching Fellowship.

The award, the only one of its kind in Canada, is presented by the Society for Teaching and Learning in Higher Education and 3M Canada to acknowledge up to ten exceptional contributions to teaching and learning at Canadian universities each year.

Dr. Robinson, Associate Dean (Academic) and Professor, Poultry Management/Physiology, says he tries to encourage creativity by allowing students “to do what they want and by putting up very few boundaries.”

As an example of Dr. Robinson’s innovative approach, groups of students in his entry-level animal science course are given a research project and assigned to present ten scientific facts in



less than four minutes to a lay audience. The reports are staged publicly under the title of “There’s a Heifer in Your Tank.”

Dr. Robinson was recently inducted into the Alberta Agriculture Hall of Fame in recognition of his leadership in teaching and outstanding contribution to the development of the agricultural industry in Alberta. Dr. Robinson’s passion for agriculture and natural ability to bring people together has also led to the creation of the world-class Poultry Research Centre.

Companion Animal Course: A Purr-fectly Great Idea

Dr. Gaylene Fasenko (Associate Professor, Poultry Embryology & Chick Quality) has developed her passion for the positive role that animals play in human’s lives into an innovative course.



Gaylene Fasenko (left) with Ana Franco (right)
(780) 492-5130 or (780) 492-7460
gaylene.fasenko@ualberta.ca

In 2006 Animal Science 120, “Animals and Society” was introduced. The course looks at the physiology and behavior of different breeds of companion animals. The human-animal bond is also examined. “As far as I know this is the only course like this being offered in Canada,” says Dr. Fasenko. The course is open to anyone who wants to learn about the changing roles of companion animals in society. Laboratory sessions include demonstrations by the Canadian Search Dogs Association, the Edmonton Humane Society, Northlands Park and the Pet Therapy Society of Northern Alberta.



“We still use dogs in jobs such as police work, but now the value of dogs to human social well-being is also being recognized.” Dogs are used in animal assisted therapy including at the U of A where certified assistance dogs visit students to relieve stress during exam times. More recently, the medical community has been investigating the ability of dogs to detect specific kinds of cancer.

Dr. Fasenko sees the positive impact of animals on human well-being first hand as she and her two dogs currently volunteer at the Stollery Children’s Hospital.



Program Aims to Reduce Food Hazards



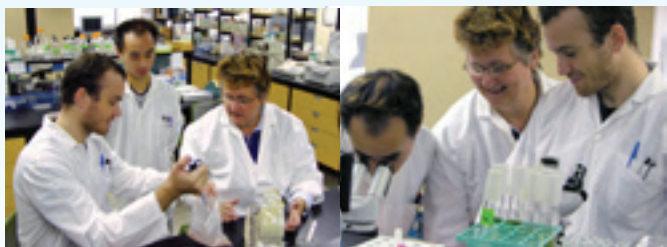
Lynn McMullen
(780) 492-6015
lynn.mcmullen@ualberta.ca

When it comes to food safety, it makes sense to use real-life situations as your laboratory.

That's one reason why an outreach initiative by AFNS that focuses on a risk-reducing program used by industry has been so successful. About 30 groups of four or five students in Food Microbiology and Quality Assurance courses are sent annually to work in the food industry to help them learn how Hazard Analysis Critical Control Point (HACCP) programs are developed.

"The students are put in contact with a willing industry partner who provides them with the basic information on a specific product (ingredients, packaging, storage, etc.) and information on how the product is made in the processing environment (production flow)," explains Lynn McMullen, Professor of Food Microbiology.

Students learn how to do an assessment of the hazards in the ingredients, which may be microbiological, chemical and physical. They also learn how to assess hazards in the process and



in the final product. Students must identify the risks throughout the process and show where risks can be controlled through use of "critical control points."

"Over the past 10 years, we have had over 1,000 students complete this project," says Dr. McMullen. "It gives students a glimpse of the food processing industry and prepares them to help industry with something that is now an expectation if you are processing food."



Here's a Tasty Teaching Recipe!

Take 15 undergraduate students and one graduate student, add Dr. Noreen Willows, Assistant Professor, Community Nutrition, at AFNS, sprinkle in Italian language training and water colour instruction, and place them all in Vico Equense, Italy in May and June!



Those were the ingredients of two new courses Dr. Willows taught in spring 2007 in Nutritional Food Science 401, entitled "Food Culture in Italy" and "The Mediterranean Diet." The courses focused on current and historical Italian culinary traditions and cultural attitudes, with excursions to such renowned sites as the city of Naples and Capri.



"Student feedback was excellent," says Dr. Willows.

Excellent!

Noreen Willows
(780) 492-3989
noreen.willows@ualberta.ca



DID YOU KNOW?

Nutrition Courses offered on line, include NUTR 100 Introduction to Nutrition and NUTR 468 Clinical Nutrition which was introduced in Spring 2007. NUFS 377 Nutrition in the Community, NUFS 461 Food Service Systems Management and NUTR 476 Advanced Clinical Nutrition are planned to be offered in 2008 and 2009.



Professor Lends Hand in Thailand



When Dr. Buncha Ooraikul took early retirement as a food scientist at AFNS in 2002, he went back to Thailand to take care of his ailing mother.

He did that – and more. “My mother lived near the Prince of Songkla University, where I have helped to establish a linkage between their Faculty of Agro-Industry and AFNS,” explains Dr. Ooraikul.

The university president soon asked Dr. Ooraikul to be his advisor on Research and Graduate Studies. He also organized the 10th World Congress on Clinical Nutrition in Phuket in December 2004 as the then-President of the International College of Nutrition.



In addition, he helped to develop a science park and coordinate Tsunami relief and rehabilitation funds from Thai associations in Edmonton and Calgary.

Dr. Ooraikul returned to Edmonton last spring to help take care of his two new granddaughters.



“AFNS has 27 Professor Emeriti - many of who continue to do research, teaching and community service on the local, national, and international stage”

Iran Benefits from AFNS Expertise

Iran has benefited from Dr. Mak Makarechian’s expertise before and after his retirement as an AFNS Animal Science Professor.

His activities there included teaching animal genetic to students at the University of Tehran, reporting on the Iranian Animal Research Institute’s major research facilities



for the Ministry of Agriculture, reviewing research proposals and preparing a textbook on applying genetic principles to improve efficiency in animal production. The book was published by the Shiraz University Press in Shiraz.

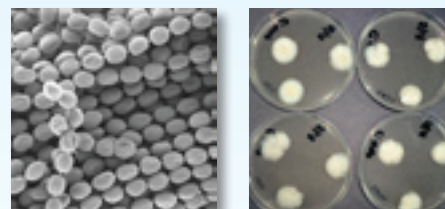
He and his wife now live in Toronto to be close to their two children and to help care for their three grandchildren.

Professor Emeritus Combats Candida

After retiring as an AFNS Professor of Plant Pathology in 2003, Dr. Jalpa Tewari has gone on to pursue an active career combating Candida, the “Dr. Jekyll and Mr. Hyde” of the human fungal world.



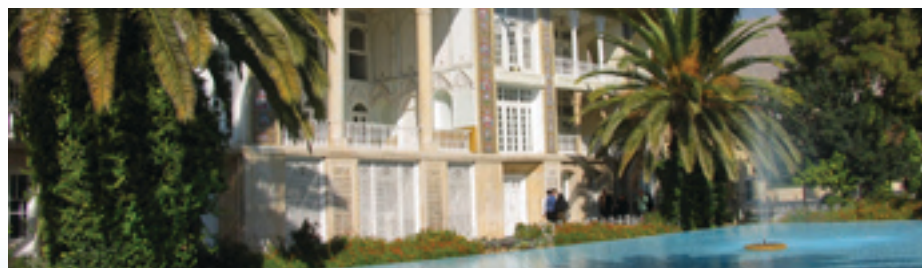
In October 2005 he was invited to become a Research Professor at the Department of Microbiology, Immunology and Biochemistry at the Northeastern Ohio Universities College of Medicine in Rootstown, Ohio for two years.



Dr. Tewari’s research focuses on developing biomarkers to combat the Candida species of fungus. “This fungus is challenging from a diagnostic standpoint because it usually lives innocuously on the skin and in the mucosal membranes, but can turn deadly once the host defenses are down,” he explains.”

Lack of early, rapid and definitive diagnosis has been a major barrier to successful treatment.

Dr. Tewari has since returned to Edmonton where he is continuing to do research in AFNS.



Iran, Shiraz University

Learning about Lipids

Dr. Jonathan Curtis
Associate Professor
 Analytical Lipid Chemistry
 (780) 492-6364
 jonathan.curtis@ualberta.ca



Interest is high in finding better ways to refine, store and transform oils and fats. That's where Dr. Curtis has much to contribute.

Before arriving at AFNS in June 2007, he was Director of Analytical and Functional Food Technology at Ocean Nutrition Canada in Dartmouth, Nova Scotia, the world's largest supplier of fish oil concentrates.



At AFNS, his particular interest is to improve accuracy in measuring individual lipids or classes of lipids. "These measurements will lead to a better understanding of how fats and oils differ as a result of primary production methods, refining, storage conditions and during industrial transformations," Dr. Curtis explains.



Better Diet, Less Diabetes?

Dr. Cathy Chan
Professor
 Human Nutrition
 (780) 492-9939
 cathy.chan@ualberta.ca

Dr. Chan's focus is on obesity and Type 2 diabetes, among the world's most prevalent chronic diseases.

"Their incidence is increasing as developing countries adopt 'westernized' lifestyles," says Dr. Chan, who accepted a joint position with AFNS and Medicine in November 2006 after 18 years at the Atlantic Veterinary College, University of Prince Edward Island.

Her two-pronged research program studies the effects of various diets and genetic factors on insulin secretion. "We also develop and evaluate the effectiveness of physical activity interventions."

Asked what drew her to the U of A, Dr. Chan replies: "The chance to work with the excellent colleagues in the Human Nutrition Group and the new Alberta Diabetes Institute."



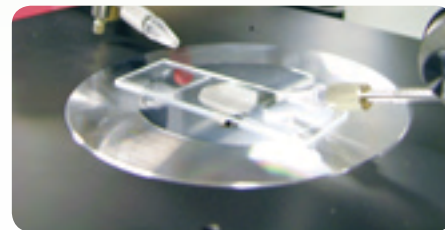
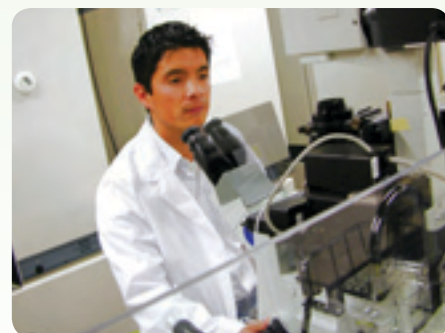
Naturally a Good Idea!

Dr. Daniel Barreda
Assistant Professor
 Immunology
 (780) 492-0375
 dan.barrera@ualberta.ca

Dr. Barreda leads a new research program on the impact of nutritional products on animal health.



The program fills a central niche in the agri-food sector, he explains. "The natural products industry seeks to add value to agricultural commodities, and the livestock industry increasingly seeks the highest standards of health and safety for its products."



Dr. Barreda cites the "huge potential for interdisciplinary collaboration" and provincial support for his research initiatives as key factors in attracting him from the University of Pennsylvania. He holds joint appointments with AFNS and the Department of Biological Sciences, and is sponsored by the Alberta Veterinary Research Institute.

Talk about “Beefy” Research!

Dr. Leluo Guan
Assistant Professor
Bovine Functional Genomics
(780) 492-2480
leluo.guan@ualberta.ca



Dr. Leluo Guan rounds up information about beef cattle – at the molecular level.

She studies the molecular mechanisms of various traits in beef cattle by identifying functional genes. Over time, the research is expected to corral valuable knowledge that will result in more productive cattle.

Before joining the faculty in October 2006, Dr. Guan worked as a research associate with Dr. Stephen Moore in the Bovine Genomics Group.

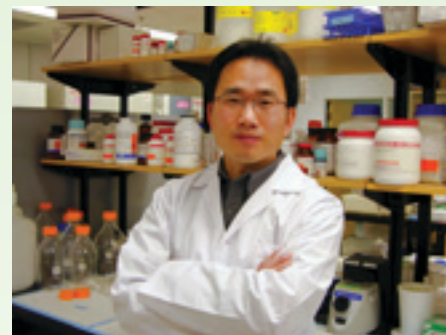


She was attracted to AFNS because of “the diversity of the research field, the excellence of teaching and research, and the people.” Her goal is to be a valuable researcher, and to pass on the knowledge and the passion of research to the younger generation.



Hatching Bright Ideas

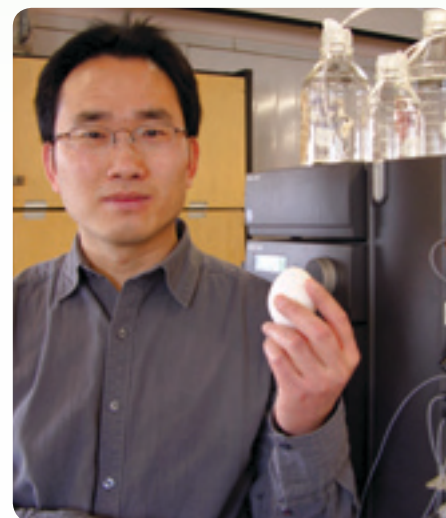
Dr. Jianping Wu
Assistant Professor
Protein Chemistry - Egg
(780) 492-6885
jianping.wu@ualberta.ca



If you think the ordinary table egg doesn't have much value beyond the kitchen and the breakfast table, you haven't met Dr. Wu.

A former research associate at Iowa State University, he arrived at AFNS in December 2006 to focus on finding more uses for eggs. His investigations explore novel bioactive peptides within egg proteins that can be used as functional foods and nutraceuticals, promoting human health. Dr. Wu's other research includes developing high-value egg components through fractionation and bioprocessing, and new egg products.

He was attracted to AFNS because it is “an exciting place with excellent research and teaching reputations.”



Growing Value in Poultry



Dr. Rob Renema
Assistant Professor
Value-Added Poultry Science
(780) 492-3234
rob.renema@ualberta.ca

Dr. Renema's research focus is on hatching ways to add value to egg and poultry products.

Before joining AFNS in 2006, he worked as a Research Associate at the Poultry Research Centre, with Dr. Frank Robinson. That experience provided an excellent foundation for his current position.

“The poultry industry is rapidly expanding into the value-added arena,” Dr. Renema explains. His research area ranges from optimizing growth efficiency to studying the functional properties of meat and eggs. “By exploring the biology of nutrient uptake and transfer into muscle or eggs, I hope to improve the efficiency of poultry product enrichment.”

No More Misbehaving!

Dr. Derek Haley
Assistant Professor
 Applied Ethology
 (780) 492-0105
 derek.haley@ualberta.ca

Dr. Haley leads a new research program studying the behaviour and welfare of farm animals.

“Exploring the behavioural biology of the animals that we raise for food offers us many opportunities to improve productivity, by reducing stress on our animals and improving the ways that we manage and care for our animals.” says Dr. Haley.

Consumers expect that farm animals should experience a fair and reasonable quality of life and exploring their behavioural needs is one way to work towards that end.



Creating Future Crops

Dr. Linda Hall
Associate Professor
 Environmental Biosafety and Agronomy
 (780) 492-3281
 linda.hall@ualberta.ca

Genetically modified crops increase the opportunities to reduce pesticide use in crops and increase the value of commodities and bioproducts. Dr. Hall works with a wide range of crops; including triticale, camelina, canola, wheat and pulse crops to determine the agronomic and environmental impacts of new crops and GM crops before they are widely grown.

Dr Hall says “I am part of the team of crop breeders, molecular biologists, agronomists and product developers attempting to improve the diversity and utility of the crops grown in Alberta.”

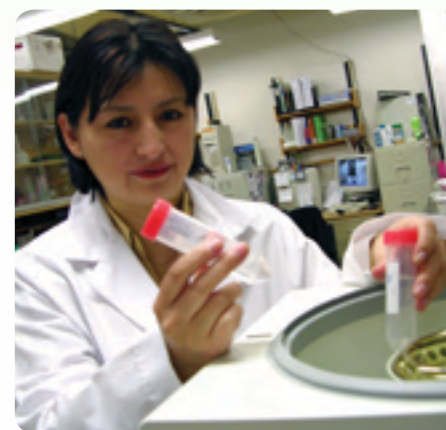
Adding Value by Food/Bio-Processing

Dr. Marleny Aranda Saldana
Assistant Professor
 Food/Bio Engineering Processing
 (780) 492-8018
 marleny@ualberta.ca

Dr. Saldana’s novel research focuses on emerging processing technologies to add value to agricultural commodities. The research is expected to provide valuable knowledge to scale up processes, decrease the cost of production, and minimize environmental impact.

Before joining AFNS in January 2008, Dr Saldana worked at top Research Centers and Universities in Japan, The Netherlands, Germany, Canada and Brazil. That experience provided an excellent foundation for her current position.

“The industry is looking for new technologies for value-added utilization of agricultural commodities,” Dr. Saldana explains. Her research area ranges from process development, optimization and scale up of processes using near and super-critical fluid technology as well as other emerging technologies to the use of modeling/simulation approaches for optimization of unit operations. “By exploring different technologies and optimizing processing conditions, I hope to develop new value added products targeting nutraceutical, food and industrial applications.”



Where's the Beef?

Dr. Heather Bruce

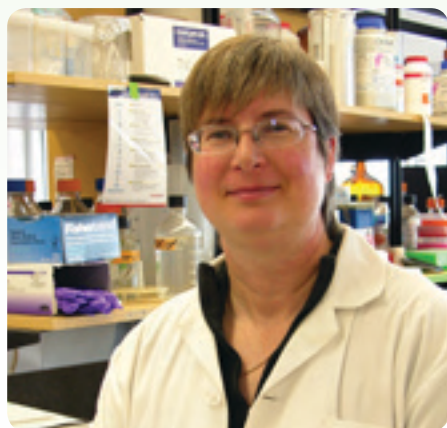
Associate Professor
Carcass and Meat Science
(780) 492-9871
hbruce@ualberta.ca

Dr. Bruce, who joined AFNS in April 2008 brings a strong industry and strategic science focus to the department.

Dr. Bruce led Muscle Food Quality research at the Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia's premier scientific body, before moving to Shur-Gain, Guelph, Ontario where she was Research Manager.

She will be focusing on improving the tenderness and flavor of meat, two of the most common quality complaints voiced by consumers today. "Because meat is a commodity with slim profit margins, attention to its quality has declined as the meat industry focused out of necessity on production efficiency."

Dr. Bruce explains, "To differentiate meat in such a competitive market, new animal management and carcass processing protocols need to be developed to address consumer concerns."



Dr. Bruce's previous research at CSIRO pointed to animal nutrition and growth as key factors affecting meat flavor and to connective tissue content as defining the use of various muscles. Dr. Bruce is enthusiastic about exploring strategies to improve meat quality, particularly that of beef, and looks forward to training the next generation of meat industry personnel.

Plant Protein, Healthy Lifestyle?

Dr. Lingyun Chen

Assistant Professor
Plant Protein Chemistry and Technology
(780) 492-0038
lingyun.chen@ualberta.ca



Dr. Chen's research focuses on value-added processing to develop novel functionality and bioactivity from plant proteins with particular interest in nano/micro delivery systems based on plant protein for nutraceutical compounds.

Once regarded a poorer quality, plant proteins demonstrate interesting health benefits to lower blood cholesterol levels, protect kidney function and promote bone strength. By studying structure-function relationships of plant proteins, she hopes to develop innovative functional foods to improve public health.

Before joining AFNS in October 2007, Chen was a Postdoctoral Fellow in the Department of Food Science and Nutrition at Laval University. She was attracted to AFNS because "it provides an excellent platform to build the interdisciplinary research collaborations."

By-Products - a Cornucopia of Bioactive Compounds!

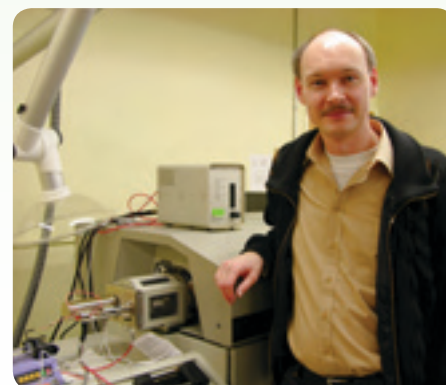
Dr. Andreas Schieber

Associate Professor and Canada Research Chair
Functional Foods and Nutraceuticals
(780) 492-2912
andreas.schieber@ualberta.ca



Dr. Schieber's focus is on the utilization of by-products from food processing as a source of functional compounds, with a particular interest in their characterization and application in food and feed.

He accepted a position at AFNS after 10 years at the University of Hohenheim, Stuttgart, Germany, where he worked on functional foods, nutraceuticals, and food quality and authenticity.



"It is fascinating to work at the borderline of food chemistry and food technology, nutritional sciences, and at the same time addressing environmental and health issues which are of increasing importance to the province," says Dr. Schieber.



For Undergraduate Program Information:

ALES Student Services Office at (780) 492-4933 or 1 800-804-6417 (Western Canada) or questions@ales.ualberta.ca

Back To Grassroots

After graduating in 2002 with a BSc in Agricultural Science, Charles Ruechel went back to the family ranch at Lumby, B.C. Together with his family, he established a certified organic beef and lamb operation.



Lorna Church (left) Charles Ruechel (right)

"Business is growing exponentially," says Charles. Vale Farms Grassroots Meats produces and markets certified organic beef and lamb exclusively in the Okanagan, at farmers' markets, at the farm gate, or through retailers and wineries.

All the meat comes from 100% grass-fed animals, which Charles believes results in healthier, more flavourful meat and healthier land and animals. Fueled by his passion for adventure and nature, he has travelled to Namibia and New Zealand working on various organic and biodynamic farms and ranches. In 2007, Charles spent six weeks studying ranching on grasslands in South Africa, Botswana, and Zambia.

Charles credits the independent studies he undertook through Professor Mick Price, Professor, Livestock Growth and Meat Production, for "teaching me about thinking critically and challenging conventional wisdom, which were a very big part of leading me down this path."

Dr. Price says Charles exemplifies what he means when he tells students "don't be a job taker, be a job maker."

Research 'Clicked' with Undergraduate

Talk about catching the "research bug"!

While completing her research placement as a dietetic intern in 2005, Jessica Lieffers developed expertise in the use of highly precise computed tomography (CT) imaging to measure body composition and nutritional status in patients with cancer. The Nutrition and Food Science undergraduate worked with a research group led by Dr. Vickie Baracos, Adjunct Professor, Department of AFNS.



"I credit the research experience in my undergraduate degree program for introducing me to research," says Jessica. When the project finished, she decided that research "clicked" with her and that she would pursue her MSc degree at AFNS with a focus on CT work.

"Jessica is an excellent student and a critical thinker," says her supervisor Dr. Linda McCargar, Professor, Clinical Nutrition. "She is very dedicated to and enthusiastic about nutrition research."

Jessica recently received two scholarships in honour of her achievements: the Alberta Cancer Board Legacy Graduate Studentship and the CIHR Canada Graduate Scholarship Masters Award.

Undergraduate

AFNS students benefit from a rich interdisciplinary environment in an integrated approach to the study of the food chain. Specialized classes enable individualized instruction. Endowed scholarships are available. AFNS courses are a significant part of Faculty programs for:

- BSc Agriculture
- BSc Agriculture/Food Business Management
- BSc Nutrition and Food Science
- Dietetic Internship
- Pre-Veterinary Medicine Program

The degrees satisfy the professional requirements of the Alberta Institute of Agrologists, the Institute of Food Technologists and the Dietitians of Canada.

AFNS Opens Doors to Harvard

Four years after arriving at AFNS to pursue his PhD, Sanjeeva Srivastava was Harvard-bound.

In July 2007 he began postdoctoral research at the Harvard Institute of Proteomics, Harvard University, after receiving a Canadian NSERC post-doctoral fellowship of \$80,000 and a research fellowship from Harvard Medical School. While in the AFNS doctoral program, the super-achiever received 28 scholarships and awards.

At Harvard, Sanjeeva's research will focus on the interaction of human protein "kinases" (enzymes) with the goal of expanding understanding of their role in protein biochemistry as well as for cancer biology and drug discovery.

Sanjeeva credits AFNS with providing a strong foundation for his research career. "The significance of my research and training at AFNS was well-recognized by the world's leading institutions such as Harvard, Massachusetts Institute of Technology (MIT) and Oxford University (UK)," he says.



Sanjeeva also praises his PhD adviser at AFNS, Dr. Nat Kav, Associate Professor, Plant Biotechnology & Biochemistry, who "always motivated me to achieve the very best."

Graduate

Over 200 graduate students from around the world are enrolled in AFNS degree programs which include:

- MEng Course-based Program
- MAg Course-based Program
- MSc Course-based Program
- MSc Thesis-based Program
- PhD

The Department of Agricultural, Food and Nutritional Science offers the MSc and PhD degrees under the following specializations:

- Animal Science
- Biosource and Food Engineering
- Food Science and Technology
- Plant Science
- Nutrition and Metabolism
- Rangeland and Wildlife Resources

For Graduate Program Information:

Janice Lokhorst
Graduate Admissions Assistant
(780) 492-8641 or afns.grad@ualberta.ca

Exchange Fosters Taste for Travel

If you have a taste for travel, studying Food Science at AFNS can take you to some surprising places. Just ask Kylie Kidd.



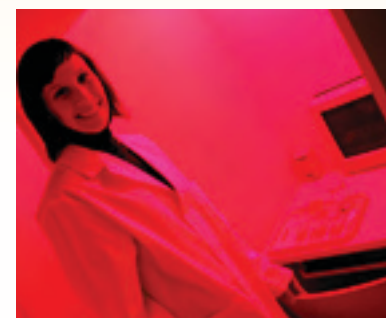
In the summer of 2003, she spent three months in Prague, Czech Republic working at the Chemical Institute of Technology. The trip was arranged through IAESTE, the International Association for the Exchange of Students for Technical Experience.

In Prague, Kylie completed a group project examining the antimicrobial effects of medium-chained fatty acids on a strain of *Bacillus cereus*.

"The relevance of this work is that as naturally occurring components of food, these fatty acids could be used in place of adding preservatives to foods susceptible to this strain of bacteria" explains Kylie.

The exchange also gave her the opportunity to live alongside other international students in a "beautiful city which is uncharacteristic of anything in Canada."

Kylie obtained an undergraduate degree through AFNS and an MSc in Food and Technology in 2006. Kylie is currently working as a member of the Sensory Team at Alberta Agriculture and Rural Development's Consumer Product Testing Centre.



Kylie in sensory lab under red light which is used to disguise food colours when testing taste.



AFNS Honours Non-Academics 2006 and 2007

From assisting in laboratories to helping to train students, non-academic staff contribute greatly to the AFNS teaching and research environment. The following non-academic staff members received AFNS Outstanding Achievement Awards at the 8th and 9th Annual Celebration of Teaching and Research.



Left to Right: Linda Callan, John Collier, Crystal Snyder, Len Steele, Joan Turchinsky, Brenda Murdoch (right picture)



Left to Right: Dana Wilkinson (left picture), Laura Smith, Cindy Rowles, Erin Christopher, Steve Melnyk, Bruce Alexander

2006 Recipients

AFNS Outstanding Support of Research:

Crystal Snyder, Technician, 2 year employee, Alberta Lipid Utilization Program led by Dr. Randy Weselake, "does whatever needs to be done at the technical level to keep our research lab productive."

Brenda Murdoch, Technician, 10 year employee, Bovine Genomics Program led by Dr. Steve Moore, "trains members to perform tasks independently."

AFNS Outstanding Support of Administration:

Linda Callan, Department Senior Research Financial Administrator, 17 year employee, "an excellent resource and highly dedicated."

AFNS Outstanding Support of Teaching:

Len Steele, Food Chemist Technologist, 33 year employee, teaches laboratory sessions in Food Chemistry and Quality Assurance, "enjoys meeting new students each year."

AFNS Booster Award:

Joan Turchinsky, Laboratory Technologist, 13 year employee; "the work I do brings fulfilment – I get to learn, interact with people in various fields and meet diverse challenges."

AFNS Go-To Award:

John Collier, Animal Technician, Dairy Research & Technology Centre, 20 year employee, "brightens everyone's days, is one of those people that you can go to when you need to."

2007 Recipients

AFNS Outstanding Support of Research:

Dana Wilkinson, Research Coordinator, 5 year employee Human Nutrition Research Unit (HNRU), "things run smoothly because of Dana's organizational skills...she is always finding ways to obtain new resources."

Steve Melnyk, Unit Manager, Metabolic Unit, 31 year employee, "strongest asset is his fine tuned attention to detail and patience."

Erin Christopher (*nee O'Dea*), Research Technician, 3 year employee Alberta Poultry Research Centre, "has an uncanny ability to anticipate the needs of people in our research group."

AFNS Outstanding Support of Administration:

Cindy Rowles, Administrative Assistant, Main Office, 2 year employee, "always greets you with a smile and is very efficient."

AFNS Outstanding Support of Teaching:

Bruce Alexander, Greenhouse Supervisor, 25 year employee, "Bruce is always professional, cheerful and considerate and makes the greenhouse a pleasant and collegial place in which to work."

AFNS "Booster" Go to Award:

Laura Smith, Stores Manager, 33 year employee "very helpful, and can always be counted on to make ordering supplies run more smoothly."

AFNS Non-Academic Staff

The Department of Agricultural, Food and Nutritional Science has 280 administrative and technical non-academic staff; 80% supported by research funds.



Summary of funds

2007/08
Operating Budget \$8,707,452

Distribution of Operating Budget

- 66% Academic & Teaching Support
- 9% Administration & Computing Support
- 11% Central Laboratories
- 14% Research Stations

2007/08
Research Funding \$24,679,160

Academic Staff

- 63 Professors
- 38 Adjunct Professors
- 32 Postdoctoral Fellows
- 19 Research Associates

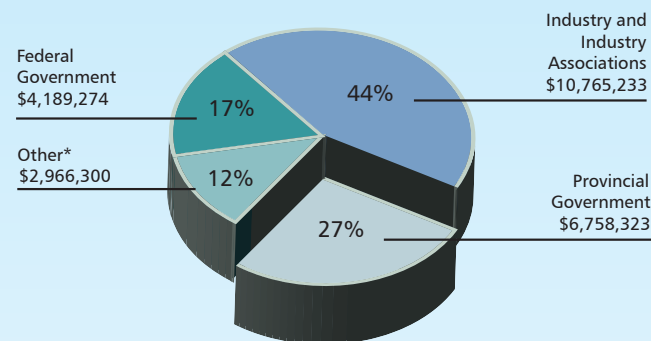
Undergraduates enrolled in degree programs:

- 278 BSc Agriculture (Includes Pre-Veterinary Medicine)
- 23 BSc Agricultural/Food Business Management
- 537 BSc Nutrition & Food Science
- 838 Total



The former Horse Barn at the Edmonton Research Station is a historical landmark which was moved in 1930 from north campus to the Edmonton Research Station where it is now.

Source of Research Funding



* Non-Profit, Research Endowment, and Other Government

Graduate Student Enrolment

- 102 Masters
- 93 Doctoral
- 195 Total

Central Laboratories include:

- Agri-Food Materials Science Unit
- Agricultural Genomics & Proteomics Unit
- Food Science facilities
- Nutrition & Metabolism facilities
- Human Nutrition Research Unit
- Plant Growth facilities

Research Stations include:

- Edmonton Research Station
 - Agri-Food Discovery Place
 - Alberta Poultry Research Centre
 - Crops & Land Resources Unit
 - Dairy Research & Technology Centre
 - Laird W. McElroy Metabolism & Environment Research Unit
 - Swine Research & Technology Centre
 - Enclosed Composting Facility
 - Feedmill
- Ministik Field Station
- University of Alberta Kinsella Research Ranch



ERS - Museum

Jack Francis, a former long term employee of the Metabolic Unit of Agricultural, Food and Nutritional Science, has been keeping history preserved for future generations by establishing and operating the ERS-Museum in the above barn.



Dr. Burim Ametaj
Ruminant Nutritional Immunology



Dr. Ronald Ball
Swine and Human Nutrition



Dr. Daniel Barreda
Immunology



Dr. Marleny Aranda Saldana
Food/Bio Engineering



Dr. Rhonda Bell
Human Nutrition



Dr. Mirko Betti
Meat Processing Technology



Dr. Peter Blenis
Forest Pathology



Dr. David Bressler
Fermentation & Bio/Food Engineering



Dr. Heather Bruce
Carcass & Meat Science



Dr. Edward Bork
Range Management



Dr. Cathy Chan
Human Nutrition



Dr. Lingyun Chen
Plant Protein Chemistry and Technology



Dr. Tom Clandinin
Human Nutrition



Dr. Walter Dixon
Molecular Biology



Dr. Lorraine Doepel
Dairy Nutrition and Metabolism



Dr. Jonathan Curtis
Analytical Lipid Chemistry



Dr. Lloyd Dossdall
Agricultural Entomology



Dr. Michael Dyck
Reproductive Physiology/Biotechnology



Dr. Anna Farmer
Community Nutrition



Dr. Catherine Field
Nutrition and Metabolism



Dr. George Foxcroft
Reproductive Physiology - Swine



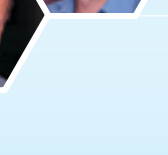
Dr. Gaylene Fasenko
Poultry Embryology and Chick Quality



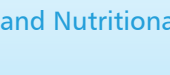
Dr. Michael Gänzle
Food Microbiology and Probiotics



Dr. Leluo Guan
Bovine Functional Genomics



Dr. Derek Haley
Applied Ethology



Dr. Robert Hudson
Wildlife Production/Management



Dr. Nat Kav
Canola Biotechnology, Proteomics

Dr. Linda Hall
Environ. Biosafety & Integrated Weed Management

Dr. Johh Kennelly
Dairy Cattle Nutrition & Metabolism

Dr. Jane King
Physiology of Forage Crops

Dr. Douglas Korver
Poultry Nutrition

Dr. Changxi Li
Bovine Genomics

Dr. Jeremy Leonard
Bioresource Engineering



Dr. Diana Mager
Clinical Nutrition

Dr. Vera Mazurk
Human Nutrition

Dr. Lynn McMullen
Food Microbiology

Dr. Suresh Narine
Rheology, Materials Science and Food Physics

Dr. Masahito Oba
Feed Utilization/Dairy Nutrition

Dr. Jocelyn Ozga
Biochemistry/Physiology/Horticultural Crops

Dr. Habibur Rahman
Canola Breeding

Dr. Robert Renema
Value-Added Poultry Science

Dr. Andreas Schieber
Functional Foods and Nutraceuticals

Dr. Stephen Strelkov
Plant Pathology

Dr. Feral Temelli
Food Processing and Quality

Dr. Donna Vine
Human Nutrition

Dr. Noreen Willows
Community Nutrition

Dr. Wendy Wismer
Sensory Science/Postharvest Physiology

Dr. Jianping Wu
Protein Chemistry - Egg

Dr. Linda McCargar
Clinical Nutrition

Dr. M. Anne Naeth
Applied Ecology, Land Reclamation & Restoration Ecology

Dr. Stephen Moore
Beef Cattle Genomics

Dr. Erasmus Okine
Ruminant Nutrition and Metabolism

Dr. Spencer Proctor
Metabolic and Cardiovascular Diseases

Dr. Lech Ozimek
Dairy Science

Dr. Frank Robinson
Poultry Management/Physiology

Dr. Paul Stothard
Bioinformatics

Dr. Dean Spaner
Crop (Wheat) Breeding

Dr. Thavaratnam Vasanthan
Cereals, Fats and Oils

Dr. Randall Weselake
Agricultural Biotechnology

Dr. Zhiquan Wang
Beef Quantitative/Statistical Genetics

Dr. David Wright
Human Nutrition

Dr. Ruurd Zijlstra
Ingredient Evaluation and Feed Processing

Dr. Rong-Cai Yang
Statistical Genomics and Quantitative Genetics



Our knowledge is your Advantage



Designed by Brian Klein
Photographs courtesy of Agricultural, Food and Nutritional Science, University of Alberta and Alberta Agriculture and Rural Development



Contact Information:

Department of
Agricultural, Food and Nutritional Science

Faculty of Agricultural, Life & Environmental Sciences
Room 410 Agriculture/Forestry Centre
University of Alberta, Edmonton, Alberta T6G 2P5

Tele: 780-492-3239
Fax: 780-492-4265
Email: afns-chair@ualberta.ca

