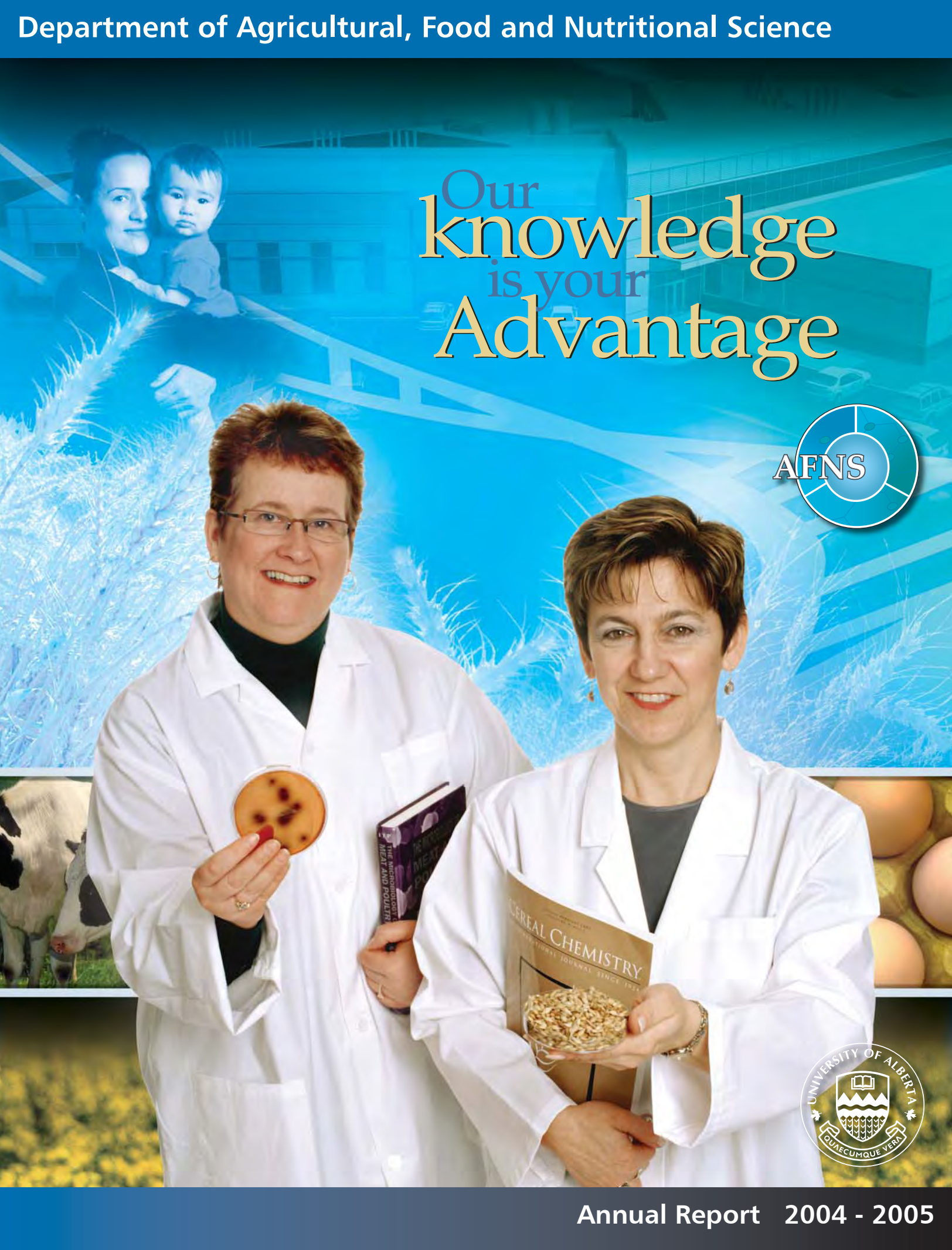


Our
knowledge
is your
Advantage





Success Brings Growth

Growth, diversification, reputation and innovation all contributed to 2004 being a year to remember.

2004 provided AFNS with many challenges, many of its own making, due to continued success in attracting world class researchers and students to its innovative and collaborative programs. We have seen incredible growth in staff and student numbers to the point where we are literally bursting at the seams. Finding funds for a new building is now top of our list of priorities for the coming year.

Dr. Peter Sporns, Acting Chair

Twelve new academic staff members have arrived from all over the world over the last 18 months, and the average age of our professors is now down by 15 years as a new generation of inspired young academics enters our ranks.

It has been an exciting year fuelled by high expectations from the Alberta Provincial Government to come up with value-added products that will contribute to a \$20 billion industry by 2010 and the opportunities that this creates for AFNS.

Our department is now a truly international one and we continue to attract top researchers who work in non-traditional areas that blur the boundaries between plant and animal science, food science and nutrition. Funding sources have begun to recognize the importance of these synergies that can be achieved between these often unconventional comings-together of research areas.

Our undergraduate programs have mushroomed, in the case of nutritional sciences, a doubling from 200 to 400 students in two years.

These are busy and challenging times for everyone at AFNS as we continue to be recognized around the world for our unique blend of disciplines contained within one department.

It's exciting to know that there is virtually no other department like ours in the world!

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Growing for the Future

2004 marked another prosperous year for AFNS. The Department is continuing to experience growth in both staff and students.

Dr. John Kennelly, Dean

The growth of AFNS is not accidental. The Department has been redirecting its resources into areas of strategic importance to Alberta and to the agri-food, agri-industrial and health sectors. AFNS is making many positive contributions in the life sciences as we see increasing emphasis put on the relationship between our food, our land and our health.

As you will see in this report, the Department has aggressively hired researchers and teachers who are leaders in their fields today and will lead their fields into the future. This makes good sense for taxpayers; for every \$1 of core funding that AFNS received from the University in 2004 – industry and government invested an additional \$3 on the basis of the strength and reputation of the AFNS team.

Through this annual report, you will meet a team of people whose focus is on preventing cancer and improving the lives of the sick. You'll meet Canada Research Chairs who are leading the nation in innovative approaches to value-added food. You'll meet teachers who have been recognized as the best in Canada and around the world at their craft. In short, you'll meet many of the members of AFNS who make the Department a national leader in innovation, discovery and education.

John Kennelly – Dean (780) 492-0102

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BREAKING NEWS.....



Dr. Erasmus Okine, Chair

On July 1, 2005 Dr. Erasmus Okine began a five year appointment as Chair of the Department of Agricultural, Food and Nutritional Science. Erasmus joined AFNS in 2001 as an Associate Professor in Ruminant Nutrition. His position is partially supported by Alberta Agriculture, Food and Rural Development.

Bridging the Gap

The start of construction of the AFNS Agri-Food Discovery Place, moved Alberta one step closer to becoming a world leader in research solutions for food safety, value-added food and agri-industrial product development.

Ground breaking began at the U of A research station site in November 2004. Construction of this unique facility, integrating research with industrial processes, is scheduled for completion by spring 2006.

Food scientists, plant scientists, microbiologists and engineers will all work under the same roof in this \$24 million research facility that bridges the gap between what happens in a test tube in a laboratory with what happens in a processing plant.



Agri-Food Discovery Place

Meat safety scientist and project co-leader Dr. Lynn McMullen says there are significant differences between what goes on in a test tube and in a processing plant.

"Agri-Food Discovery Place will provide us with an all-important middle step that has not been possible before now, driving new technology and research ideas," says McMullen.

The building, Canada's only pre-pilot plant with Level II biocontainment and solvent processing capabilities, will enhance Alberta's reputation as a leader in research and technology in agri-food and agri-industrial science.

The facility will create new opportunities for the development of enhanced industrial materials using both animal and plant sources with a focus on food safety and technologies that can be used in value-added food and industrial products.



Dr. Feral Temelli & Dr. Lynn McMullen

"We will be able to maximize value addition to our crops by focusing on separation, conversion and fermentation processes as platform technologies and targeting both food and industrial product applications utilizing the various crop fractions" indicated Dr. Feral Temelli, co-leader of the project.

"AFDP will provide us with a much needed facility that will allow our researchers to develop useful production scale technologies and techniques that simply were not possible within the

confines of our current facilities," says McMullen. We have had great financial support from industry, government and private individuals to make this happen.

Dr. Lynn McMullen (780) 492-6015 or lynn.mcmullen@ualberta.ca
Dr. Feral Temelli (780) 492-3829 or feral.temelli@ualberta.ca

DID YOU KNOW?

Since 1999 AFNS has invested over \$52 million in upgrading its research and teaching infrastructure through major financial support from the provincial and federal governments, industry and industry associations, and the university.

Swine Centre Sets Standard

The Swine Research and Technology Centre's (SRTC) operating theatre matches the highest standards of facilities found in any hospital, according to pioneering diabetes medical researcher Dr. James Shapiro.

In November 2004 Shapiro, who is based at the University of Alberta Hospital, used the SRTC to develop procedures for his islet transplant work, taking pancreatic tissue from a live pig and transplanting this into another pig.

The procedure forms part of the Edmonton Protocol, an international diabetes research program pioneered at the U of A Hospital. Shapiro used pigs from the SRTC as models for human islet transplants in trying to develop directed donation of live pancreatic tissue, instead of tissue from deceased organ donors.

"I was extremely impressed by the knowledge, enthusiasm and attention to detail displayed by staff at the facility," says Shapiro.

The work has allowed his team to accelerate their work in this area, increasing the potential success rate of transplantation and the number of potential donors. For example, if the results of the work with pigs are successful, it means parents of diabetic children could potentially donate a portion of their pancreas. The islet cells could then be isolated and transplanted into the child resulting in him/her no longer being dependent on insulin.

To assist Shapiro, SRTC staff provided technical support on surgery days and also managed all post-operative and daily basic care of the animals as well as collecting data for Shapiro's team.



SRTC Surgical Suite

The facility was upgraded in preparation for Shapiro's work and SRTC academic director Dr. George Foxcroft says it was as a fantastic opportunity for the staff.

"We always knew our facility had the capability to be involved in a wide range of biomedical research, and this is another example of that potential being realized. In addition to the swine based research of Dr. Shapiro, the SRTC already supplies early neonatal pigs for recovery pancreatic insulin-secreting islet cells in the parallel studies by Dr. Ray Rajotte's group, on the isolation and manipulation of pig islet cells prior to transplantation to human patients as another potential source of insulin in people suffering from chronic diabetes".

The innovative research of the Swine Reproduction Development Program that Dr. Foxcroft leads as the Canada Research Chair in Swine Reproductive Physiology, is looking to find "next generation" solutions to improve the efficiency of the pork industry.

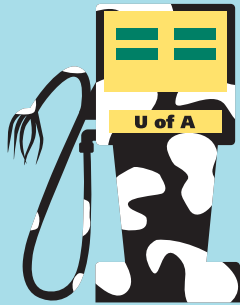
Dr. Ron Ball, Alberta Pork Research Chair in Swine Nutrition, is a world leader in amino acid metabolism. His research team is focused on increasing competitive feed advantages by reducing feed costs and more precise definitions of nutrient requirements.

Dr. George Foxcroft (780) 492-7661 or george.foxcroft@ualberta.ca

Dr. Ron Ball (780) 492-7151 or ron.ball@ualberta.ca

Dr. James Shapiro (780) 492-4656 or shapiro@islet.ca

There's a Heifer In Your Tank



If your car burned methane, how far could you travel on the methane from one cow?

You could travel 3.3 km on the methane produced from one cow in one day or .49 km from the methane produced by a ewe. In fact, you could drive from

Edmonton to Houston, Texas over 4,400 times on the methane produced in a year by the 5.2 million cattle and 180,000 sheep in Alberta.

This bizarre question and answer is Dr. Frank Robinson's solution to getting freshmen to do research in their early undergraduate years: get students to find the scientific answers to questions and then present that information to an interested audience in a special forum entitled



Dr. Frank Robinson

"There's a Heifer in Your Tank". In only two classes, that "interested audience" has totaled over 1,000 people from across Western Canada.

"I was trying to find a way to get students turned on to learning," Robinson explained. "The best way for them to learn was to find answers on their own and then to teach those answers."



Students acting

"The best part of the project was that we blurred the boundaries between the students, the university and industry," explains Robinson. "For students to realize in first year that they are a part of a bigger lifelong learning circle is no small feat. We need to get out into the real world more."

The fall 2005 edition of There's a Heifer In Your Tank will be held at Northlands Park in November during Farm Fair International. The event is sponsored by the Alberta Livestock Industry Development Fund.

Heifer In Your Tank – <http://www.afns.ualberta.ca/hiyt>

A Week of Herbicides



Dr. Linda Hall

An intensive one week school was organized in 2004 by Linda Hall for students from two universities and industry to de-mystify how herbicides work. Hall, who is employed with

Alberta Agriculture Food and Rural Development, holds a cross-appointment as an Associate Professor in Environmental Biosafety with AFNS.

Hall brought in the best weed experts from across North America to present at the intensive course which was held at AFNS. She says having industry, science and students together in the same place was a tremendously rewarding experience for everyone involved. "It was the most efficient way to share the information about the complicated bunch of chemicals we use to control weeds," says Hall.

The week-long course provided 30 participants the chance to network, share information and learn and, according to the feedback Hall received afterwards, it was a phenomenal success.

"It is not often students are able to meet some of the best researchers in North America in one week," says Hall.

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DID YOU KNOW?

Dr. Frank Robinson, creator of "There's a Heifer in Your Tank" received the 2005 Growing Alberta Award for Building Youth Leadership.

U of A's Top Teacher



Dr. Mick Price

Dr. Mick Price, after 30 years of inspiring students at the University of Alberta, has earned the University Cup, the top honour the U of A confers annually on its faculty members.

Price researches livestock growth and meat production. His priority is to enhance the long-term profitability and sustainability of farms. He especially enjoys finding inexpensive solutions to expensive problems.

Price estimates he has taught and supervised more than 3,000 undergraduate and graduate students, and says they're an extended family to him. But for all the lives he has enriched at the U of A, Price says he is the most grateful one, for having been here.

A past winner of other prestigious teaching honours, including a national 3M Teaching Fellowship and a U of A Rutherford Award for Excellence in Undergraduate Teaching, Price was nevertheless surprised to be awarded the University Cup.

"It's been such a joy for me to come to work every day. I've often said that I can't believe they pay me to do this, and I really mean it. Of course, you need money to pay the mortgage and such, but, honestly, I'd have happily done it for free."

"It's a tremendous honour - they don't give this to ordinary folks. I'm just blown away," said Price, a Professor Emeritus in the Department of AFNS.

Dr. Mick Price (780) 492-3235 or mick.price@ualberta.ca



Dr. Barry Irving and Dr. Craig Wilkinson

with animals as part of their research. Everybody involved in using any animal in their research is now thoroughly trained in all aspects of handling and care and Wilkinson is also regularly involved when large animals are used in complex surgical procedures or testing.



Irving designed and constructed a series of animal facilities that is used to safely handle cattle, bison, elk, and deer.

Caring for the Animals

Improving the health and welfare of animals used in research and testing earned Craig Wilkinson and Barry Irving the 2004 Louis D Hyndman Senior Award.

Wilkinson, who was hired as the Department of Agricultural, Food and Nutritional Science's first Director of Animal Care and resident veterinarian, says he was just doing his job, but those who nominated him and Irving for the prestigious award say the pair went out of their way to improve animal welfare.

Irving, who manages the Department's Research Stations, also found time in his busy schedule to coach the U of A range team to success at the North American Championships. The students were required to pit their talents against teams from all over North America in an annual competition that tests their knowledge and identification of rangeland plants at various stages of their life cycle.

Wilkinson developed a wide ranging set of training modules and standard operating procedures for students, staff and researchers to use when working

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

Dr. Craig Wilkinson (780) 492-2934 or craig.wilkinson@ualberta.ca

An Unexpected Career



Sylang Kaneboodtra and Angela Ryder

Angela Ryder never imagined a career in poultry farming when she entered university. Up until she enrolled in the pre-veterinary program at the Department of Agricultural, Food and Nutritional Science,

she had only ever had contact with pet chickens.

Today, however, she advises poultry farmers on how to safely run their operations. Ryder works as a bio security and farm health and safety expert for the British Columbia Broiler Hatching Egg Commission and spends as much time in overalls as she does in an office suit.

Her inspiration to enter the wonderful world of poultry came after meeting the enthusiastic AFNS chicken expert Dr. Frank Robinson who opened Ryder's eyes to the world of these birds. Robinson eventually encouraged the young animal science student to undertake an independent research project investigating the environmental stresses that affect the productivity of chickens.

Despite not getting accepted into veterinary school, Ryder says she was given plenty of encouragement by her teachers to continue in animal science and pursue an independent study as part of her undergraduate degree. She says the project gave her the research, analytical and interpersonal skills that she now regularly uses in her profession.

Ryder's study, which was not compulsory, put her in touch with poultry farms and farmers near Edmonton and gave her the skills that meant after graduation, she virtually walked straight out of the university gates and into her first job with Lilydale Foods.

"My first job was a perfect fit with the research work I had just completed," says Ryder. "My people skills and writing skills were not very good before I entered university, so the opportunities offered and available at AFNS have been a huge help in my work".

For undergraduate program information, please contact Student Services Office at (780) 492-4933 or 1-800-804-6417 (Western Canada) or questions.afne@ualberta.ca

Cookies in the Name of Science



Stephanie Moriartey and Sandra Spence

Years ago AFNS nutritional science student Stephanie Moriartey would drive past fields of barley on her way home to Wetaskiwin, barely taking any notice of Alberta's third largest crop.

As an undergraduate in her final year of study, Moriartey can now rattle off its precise dietary composition and is able to call herself something

of an expert, thanks to a research project that involved donning a hair net and arming herself with a mixing bowl and spatula to whip up protein-rich barley cookies.

Moriartey estimates she may have eaten well over 100 of her own barley cookies in the name of science but being a big fan of food made this a not-too-difficult proposition.

Studying under AFNS barley expert Dr. Feral Temelli, Moriartey was working on a cookie recipe using this protein-rich grain that would deliver tasty and much needed nutrition to a range of patients with special dietary needs.

"People love to eat cookies so if we can create something that is tasty and is able to deliver extra protein to those people who need it most, then that is a great thing to be working on," says Moriartey.

The cookie, once perfected, could help meet the additional protein requirement of burn victims, cancer patients, vegetarians and people suffering from immune deficiency. "Taste is important for people who feel too ill or depressed to eat much," says Moriartey.

75% of Alberta's barley is presently fed to animals so researchers like Moriartey are playing an important role in developing value-added products for barley.

Moriartey presented her work at the Institute of Food Technologists conference in New Orleans, and won second place in the undergraduate research paper competition.

Addressing a Weighty Issue



Geoff Ball

In August 2004, Geoff Ball was appointed the first director of Capital Health's new Pediatric Centre for Weight and Health (PCWH) at the Stollery Children's Hospital in Edmonton.

At 33, Ball has secured his dream job at the University of Alberta and works with researchers

and the community to find solutions for reducing childhood obesity.

After first moving to Edmonton in 1995 to become a registered dietitian, Ball completed his PhD in Nutritional Science under AFNS professor Dr. Linda McCargar in 2002. Shortly afterwards, he headed south to undergo post-doctoral training in Preventive Medicine at the University of Southern California in Los Angeles.

His specialty topic was research into the risks and treatment of childhood obesity and it was this work that caught the attention of Capital Health who singled out the talented Ball specifically for the new position.

Today, Ball is in charge of establishing the PCWH that will develop treatment and management programs for the growing number of overweight children and their families in the Capital Health region who are at increased health risk.

Ball says weight management programs for children have in the past simply been adapted from those for adults. The dietary and activity patterns of children are very different so it makes sense to manage their needs in a different way and to incorporate other family members, especially for younger boys and girls.

Having access to researchers working in relevant areas of human nutrition and metabolism was a particular drawing card for Ball during his time studying at AFNS. His recent appointment as an Adjunct Professor in AFNS will help Ball to maintain close ties with faculty and students alike in the department where it all began.

A Calculated Success



Alana Kelbert

At 15 Alana Kelbert did the books for her parent's 2500 hectare Manitoba wheat farm. At 25 she continues to work with farms and numbers as an agricultural appraiser for the Canadian Valuation Group, but, still finds time to help her parents back home with their books.

Determining the market value of agricultural land for lawyers, farmers, banks and oil companies uses all the communication, research and analytical skills Kelbert gathered during her time at AFNS.

"The flexibility to design my own graduate course load and undertake an independent study was very helpful in developing skills I now use daily."

Kelbert completed a Masters in Plant Science in 2003 under the supervision of Dr. Dean Spaner that included a research project examining the genetics of wheat breeds that have a higher resistance to crop lodging (when crops topple over from environmental forces).

As a graduate student, Kelbert was able to design her own study program tailored to exactly the skills she needed to develop in order to complete her course work and thesis.

"AFNS provided opportunities for me to design my own independent study and was able to offer one-on-one instruction in areas I felt I needed to improve my skills," Kelbert says enthusiastically. "These skills have definitely helped me in my present job," she adds.

An NSERC Graduate Scholarship recipient, the talented Kelbert found time to publish two scientific papers on crop lodging, get married and also finish her MSc in less than two years.

After two years in the workforce Kelbert is back to school again part-time to become an accredited appraiser through the Appraisal Institute of Canada.

For graduate program information, please contact Student Support at (780) 492-5131 or jody.forslund@ualberta.ca

Nutrition and Disease Linkages



Dr. Spencer Proctor

Originally from Western Australia, Spencer Proctor moved to Alberta in 2002 to take up a CJ Martin Overseas Fellowship with the Faculty of Medicine at the U of A. He joined AFNS in mid 2004 as an Assistant Professor in Nutritional

Science. He currently is the principal investigator for the Metabolic and Cardiovascular Diseases Laboratory. Spencer's research focuses on the links between nutrition and the dietary-related chronic diseases such as obesity, diabetes and cardiovascular conditions.

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

The Mexican Connection



Dr. Eryck Silva

Eryck Silva is originally from Mexico and graduated with a PhD in Food Science and Technology from AFNS in 2004. Silva's thesis researched the functional peptides extracted from cow and goat milk. His previous work experience has taken him all over the world working for the United Nations World

Food Program on projects focused on feeding programs in schools. Silva currently works as an Assistant Professor in Dairy Science and Technology at AFNS and also acts as a liaison between the U of A and the University of Veracruz in Mexico.

Dr. Eryck Silva (780) 492-0696 or eryck.silva@ualberta.ca



Dr. Vera Mazurak

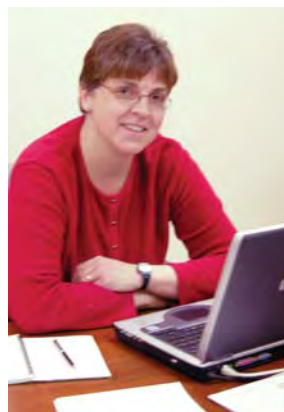
Food for Healing

Vera Mazurak was appointed an Assistant Professor in Nutritional Science in October 2004 after working as a research associate at the Cross Cancer Institute. She obtained her Phd from AFNS in January 2001. Mazurak's areas of interest include defining

the nutritional requirements for people who have cancer and finding ways to prevent or overcome malnutrition during chemotherapy and advanced disease. Mazurak also looks at how specific nutrients alter gene expression and proteins that relate to the ability of cancer to progress to a more invasive form. She is part of a new emerging team that is looking specifically at malnutrition and cancer.

Dr. Vera Mazurak (780) 492-8048 or vera.mazurak@ualberta.ca

The Dairy Cow's Menu Planner



Dr. Lorraine Doepel

Lorraine Doepel completed her PhD at the U of A in 2002 under John Kennelly and has returned to work as an Assistant Professor of Dairy Nutrition and Metabolism. Her primary research areas are amino acid metabolism of lactating dairy cows and the nutritional metabolism of dairy cows after they have calved. Her work in the area of optimizing feed

strategies for dairy cows will improve the well-being and productivity of the animal and reduce the incidence of metabolic disorders during the transition from calving to milking. Doepel's assistant professorship at AFNS is sponsored by Alberta Milk.

Dr. Lorraine Doepel (780)492-4798 or lorraine.doepel@ualberta.ca



Optimizing Feed

Originally from Holland, Ruurd Zijlstra moved to the U of A from the Prairie Swine Centre in Saskatoon where he worked as a research scientist specializing in nutrition. Zijlstra's research interest is in ingredient evaluation and feed processing. Different feed combinations provide different quality characteristics in animals and Zijlstra works on decision modeling that optimizes feed processing by the animal. He moved to AFNS in 2004 to take on responsibility as the Feed Industry Research Chair, which was established through the support of AAFRD.

Dr. Ruurd Zijlstra

Dr. Ruurd Zijlstra (780) 492-8593 or ruurd.zijlstra@ualberta.ca

Feed and Physiology



Dr. Masahito Oba

Masahito Oba specializes in dairy cattle nutrition and physiology and arrived in 2004 from the University of Maryland. Feed utilization and nutrient metabolism in dairy cattle form the main part of Oba's research program, and more specifically improving the nutritional values of common feed ingredients in Alberta such as barley grains and canola meal. Oba says his research philosophy is to explore potential nutritional approaches that will improve productivity of ruminants by integrating what is known about feeds and the physiology of animals. His Assistant Professor position is supported by Alberta Agriculture, Food & Rural Development (AAFRD).

Dr. Masahito Oba (780) 492-7007 or masahito.oba@ualberta.ca

Canada Research Chairs



Dr. Randall Weselake

The Good Oil

Randall Weselake joined AFNS from the University of Lethbridge in September 2004 and is a Professor of Agricultural Biotechnology. His research focuses on the biochemistry and biotechnology of storage lipid synthesis in Brassica and other oilseeds. Weselake is the co-leader of the large-scale "Functional Genomics of Abiotic Stress" project funded by Genome Prairie of Genome Canada. Within this project, Weselake investigates the effect of low temperature and osmotic stress on the relationship between gene expression and oil formation in canola. Randall is also the President of the Canadian Section of the American Oil Chemists' Society (AOCS). Originally from Manitoba, he now holds the Canada Research Chair in Agricultural Lipid Biotechnology.

Dr. Randall Weselake (780) 492-4401 or randall.weselake@ualberta.ca

Bacteria Not All Bad



Dr. Michael Gänzle

Michael Gänzle arrived from Germany in March 2005 and has been named the Canada Research Chair in Food Microbiology and Probiotics. Gänzle's research focuses on both the good food fermenting bacteria that make things taste better and the bad bacteria that deteriorates food. Gänzle is developing cost-effective techniques for food preservation that will deliver safer and better-tasting foods. His study looks at whether the preservation process will improve the taste of food such as cheese, bread, milk and canned pasta by injecting them with various bacteria. Gänzle lectures on food pathogens and current topics in food science.

Dr. Michael Gänzle (780) 492-0774 or michael.gaenzle@ualberta.ca



Dr. Michael Gänzle and Dr. Randall Weselake

Ingenuity Grants to new Faculty Members

Fighting crop disease and increasing productivity for pig farmers are among the bright ideas of new faculty members at the University of Alberta.

Two AFNS faculty members were among only five across campus to receive a 2004 Alberta Ingenuity New Faculty Grant. The grant consists of \$55,000 per year for two years. The funding is intended to help the young researchers establish their labs.



Dr. Stephen Strelkov

The funding will come in handy for AFNS researcher Dr. Stephen Strelkov. Strelkov is studying a disease called tan spot of wheat, which causes lesions on wheat plants, reduces

their ability to mature, and reduces crop yield. "We want to understand what makes the plant susceptible and be able to breed for resistant varieties. The best way to combat plant disease is genetic resistance."

Dr. Michael Dyck, a reproductive physiologist who joined AFNS in January 2004, is researching the physiology of mammalian eggs and sperm, and how it affects animal production.



Dr. Michael Dyck

Knowing more about what causes reproductive abnormalities would not only help producers like pig farmers increase livestock litter sizes, but also apply to human health, specifically women with ovarian cysts, who have a higher than normal risk of getting ovarian cancer.

"If we can understand what causes these cysts and abnormal developments in the ovary, we may be able to reduce the chances of the (cysts) and therefore cancer," Dyck said.

Dr. Michael Dyck (780) 492-0047 or michael.dyck@ualbertra.ca
 Dr. Stephen Strelkov (780) 492-1069 or stephen.strelkov@ualberta.ca

Beef Genomics and Proteomics



Dr. Stephen Moore

form a research centre investigating diseases such as Alzheimer's and Mad Cow Disease.

Sixteen University of Alberta researchers with a combined total of \$41 million in current research funds have banded together to

The researchers have formed the Alberta Centre for Prions and Protein Folding Diseases. Prions are related to misfolding of proteins, an event which is related to Bovine Spongiform Encephalopathy (BSE), Alzheimer's Disease, Parkinson's Syndrome and Chronic Wasting Disease.

Dr. Andy Greenshaw, associate vice-president (research), says work conducted at the new centre will help solve mysteries of the diseases, tackling them from a wide variety of disciplines.

Team member Dr. Stephen Moore of AFNS is researching the genetics of BSE, hoping to discover why some animals contract the disease and why some don't. He's excited about the interdisciplinary nature of the group.

"One of the big issues here is waste management – what do we do with the parts of animals you can't use? What do you do with a couple of million cow brains and spines every year? We have engineers and people in waste management research who are working on that."

Dr. Stephen Moore (780) 492-0169 or stephen.moore@ualberta.ca

Anti-cold product shows Promising Results



Dr. Tapan Basu

It falls short of a cure for the common cold, but it just might be the next best thing.

COLD-fX, a natural, commercially available health product made from the extract of North American ginseng, has been shown to sharply

reduce the incidence and frequency of common colds, in some cases by as much as half. It also cuts the duration and severity of colds, according to results of a clinical trial conducted in part by AFNS nutritional biochemist Dr. Tapan Basu.

Basu, recently retired after serving 24 years in AFNS. As a professor emeritus, he continues to teach classes and is "busier than ever now that I'm retired." He is recognized internationally for his work on the significance of vitamins and natural health products on aging and chronic diseases.



Basu calls the COLD-fX findings "highly significant," adding that "the results are a positive indication that COLD-fX has good potential to minimize incidence of recurrent colds in people who tend to get more

than one cold per year... I'm quite excited about this." The results of the study were announced in October 2004.

Basu led the one-year trial along with Dr. Gerry Predy, Capital Health's medical officer of health. COLD-fX group showed a 26 per cent reduction in the number and frequency of cold infections per person.

The author of over 170 research publications and six books, Basu has earned numerous awards for his work. Some of these include the Borden Award from the Canadian Society for Nutritional Sciences, the Zhumkley Memorial Award from the International College of Nutrition as well the University of Alberta's McCalla Research Professorship and Killam Research Professorship.

Dr. Tapan Basu (780)492-4921 or tapan.basu@ualberta.ca

Cancer-based malnutrition inspires Nutrition Team



Dr. Vickie Baracos, Dr. Spencer Proctor, and Dr. Tom Clandinin

Nutrition experts from AFNS joined forces with cancer specialists in 2004, on a five-year research project that is looking at all aspects of the malnutrition experienced by advanced cancer patients.

"The malnutrition suffered by these patients is among the worst experienced in the civilized world yet it is one of the least understood," says Dr. Vickie Baracos, the project's principal investigator and a researcher at the Institute of Human Nutrition (IHN).

Together with fellow AFNS researchers Drs. Tom Clandinin, Vera Mazurak, Linda McCargar and Wendy Wismer, Baracos is researching a number of aspects of this condition, to better understand and manage what is clinically referred to as cancer-associated cachexia, which translated means "bad body condition".

All aspects of cancer-associated cachexia are being studied by this New Emerging Team (NET) and the first part of their research has focused on categorizing the different symptoms associated with this particular type of malnutrition.

"Many other aspects of palliative care have been well researched, yet there has never been an opportunity to bring together cancer and nutrition specialists to look at this aspect of caring for patients," says Baracos.

The effects of this malnutrition often spill over into all aspects of both the patients' and their families' lives. Baracos says the project will tackle a number of interdisciplinary topics that will allow more effective management techniques to be developed to help everyone affected by the disease to cope better.

The IHN has also played an important role in the work of Dr. Spencer Proctor who studies how a lesser understood cholesterol that becomes undetectable shortly after eating, contributes to coronary artery disease and diabetes. Spencer says his work provides a basic science component to investigate a series of nutritional-related human diseases.

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Dr. Tom Clandinin, IHN Director (780) 492-5188 or tom.clandinin@ualberta.ca

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

Summary of funds

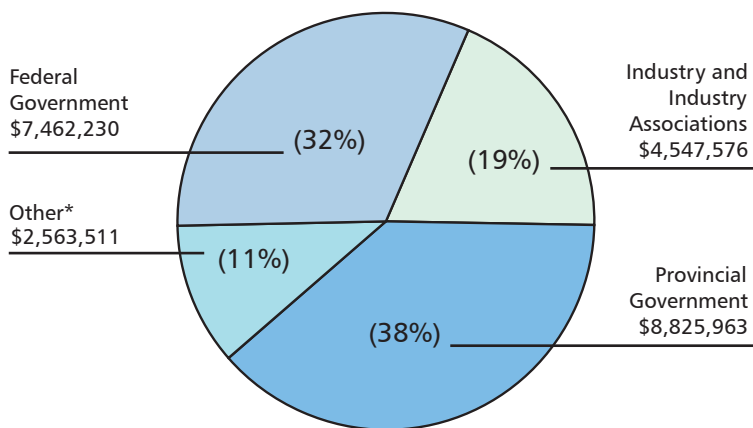
2004/05
Operating Budget \$6,502,320

Distribution of Operating Budget

68% Academic & Teaching Support
 12% Administration & Computing Support
 10% Central Laboratories
 10% Research Stations

2004/05
Research Funding \$23,399,280

Source of Research Funding



* Non-Profit, Research Endowment, Other Government

Academic Staff

56 Professors
 38 Adjunct Professors
 15 Postdoctoral Fellows
 25 Research Associates

Undergraduates enrolled in degree programs:

307 BSc Agriculture (Includes Pre-Veterinary Medicine)
 39 BSc Agricultural/Food Business Management
 418 BSc Nutrition & Food Sciences

764 Total

Graduate Student Enrolment

71 Masters
 60 Doctoral
 1 Other

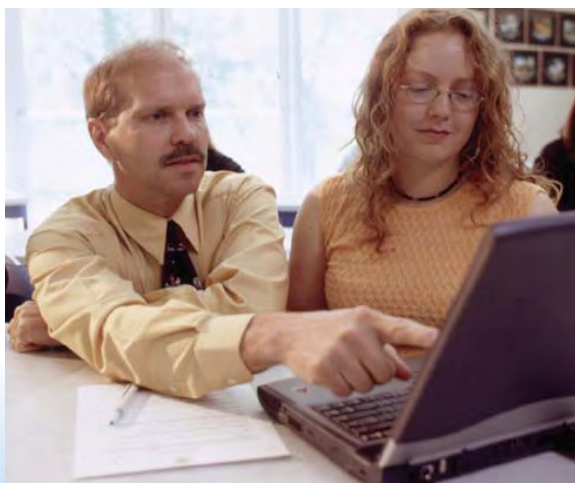
132 Total

Central Laboratories include:

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

Research Stations include:

- Edmonton Research Station
 - 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



Dr. Frank Robinson - Associate Dean (Academic)



Our
knowledge
is your
Advantage



*Photographs courtesy of
Agricultural, Food and Nutritional Science, University of Alberta and
Alberta Agriculture, Food and Rural Development*

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