



I.ARE.H News 2002 - 2003

Message from the Chair

The Institute of Agricultural Rural and Environmental Health Goes National

As Dean, College of Medicine, I express my appreciation to Mr. Marvin Wiens, President, Saskatchewan Wheat Pool for acting as the Chair of our Board of Directors. It is our strong links with industry, co-operatives, and community organizations that has permitted our Institute of Agricultural Rural and Environmental Health (I.ARE.H) to make further strides on issues related to agricultural and rural populations. During the last year, there have been a number of outstanding events and activities, as shown by this Annual Report.

A major event during the last year has been the development of our national training program entitled "Public Health and the Agricultural Rural Ecosystem" (PHARE). This project, which is valued at approximately \$2M (\$1.4M from the Canadian Institutes of Health Research and approximately \$600,000 in real or matching contributions by the University of Saskatchewan, Federated Co-operatives, our Founding Chairs Program, and other Universities), breaks new ground in training students in agricultural and rural health issues. Faculty members from the Institute of Agricultural Rural and Environmental Health have invited fellow scientists and teachers from across Canada. With the participation of Dalhousie University, Laval University, Queen's University, the University of Alberta, and the University of British Columbia, PHARE trains students at the Master's, PhD and Postdoctoral levels. PHARE provides an holistic approach to public health and the agricultural rural ecosystem by investing in students in a circle of research that includes various types of investigations including, mechanisms of dysfunction, development of new programs and methods, safer production methods, improved health for workers and the general public, all resulting in improved health.

PHARE is starting a web-based class in January 2004 with students from across Canada on aspects related to agricultural and rural health issues. This is a first for both the University of Saskatchewan, and for Canada. Congratulations to our team!



J.A.Dosman, S.Kirychuk, L.Bharadwaj, B.Lindstrom, N.Koehncke

The remainder of the Annual Report indicates the vibrant research, knowledge translation, teaching and research program that I.ARE.H involves. At a time when the priorities of the College of Medicine include rural health, aboriginal health and primary care, the presence of I.ARE.H as a multidisciplinary program includes faculty not only in the Department of Medicine, but in other departments and colleges across the campus, truly bringing the University of Saskatchewan to the people!

Finally, I wish to thank our many supporters: the Departments of Health, Agriculture and Labour of the Government of Saskatchewan; the Canadian Institutes of Health Research; the Saskatchewan Health Research Foundation; Royal University Foundation; our many industry, cooperatives and foundation supporters through our Founding Chairs Development Fund; some 25,000 farm families in 137 participating rural municipalities; the Saskatchewan Association of Rural Municipalities; the Canadian Agriculture Safety Association; and our numerous friends and supporters through the Saskatchewan Alliance for Agricultural Safety and Health. We thank you and we salute you!

Congratulations to the students, staff and faculty on an excellent year!

Wm. Albritton, Dean,
College of Medicine,
University of Saskatchewan

Research:

Toxicogenomic Assessment of Two Agricultural Chemicals in Rural Drinking Water.

2,4-Dichlorophenoxyacetic acid (2,4-D) and nitrate are major agricultural contaminants in rural ground water, and are known to induce various toxicological effects. However, it is not known whether levels currently found in rural drinking water pose a human health risk, nor is the mechanism of toxicity at the molecular/cellular level understood. Assessment of 2,4-D toxicity has previously relied on epidemiological and toxicological studies that involve high concentrations and overt toxic endpoints. Changes in gene expression are one of the earliest responses to chemical exposure and may precede overt biological outcomes by weeks, months or even years. It now appears that chemicals affect the gene expression profiles in exposed cells and these gene expression patterns are associated with specific toxic outcomes such as cancer and inflammation. Since the essential molecular details required for development of hypotheses and experimental strategies to address the toxicological mechanisms/outcomes of 2,4-D and nitrate are lacking, a toxicogenomic approach is proposed to determine the effects of these contaminants on gene expression profiles in cells/animals exposed to environmentally relevant levels. It is hypothesized that 2,4-D/nitrate, at environmentally realistic levels, may elicit changes in gene expression profiles in exposed cells reflective of a toxic outcome. Funded by Canadian Network of Toxicology Centres.

Prairie Ecosystem Study (PECOS).

The Prairie Ecosystem Study (PECOS) researchers found detectable levels of bromoxynil, a herbicide, in the plasma of a subset (19.3%, 29.8% of males, 7.1% of females) of farm and rural residents in midwinter, months after freeze-up and possible proper use of the compound. (*Semchuk et al*). Funded by the Tricouncil Secretariat.

Cross Canada Study of Pesticides and Health.

The Cross Canada Study of Pesticides and Health reported that exposure to mixtures containing dicamba, or to mecoprop and to aldrin were significant independent predictors of an increased risk for non-Hodgkin's lymphoma (*McDuffie et al*). Funded by Health Canada.

Occupational Exposure to Pubescent Canary Seed and Health.

Saskatchewan is the major producer of canary seed. Pubescent canary seed has microscopic trichome (plant structures) which are composed primarily of silica (98% of the mineral content), which resemble fiberglass and asbestos fibers in size and shape, and are known to be skin and lung irritants. An international multidisciplinary team has designed a study to examine the potential health effects of exposure to pubescent canary seed by integrating administrative and surveillance data with individual biological measures of pulmonary function and eight drug

metabolizing polymorphisms in six genes. Funded by Organization for Pharmaceutical Safety and Research, Japan.

Bedside Tests for Aspiration in Acute Stroke

Stroke can be a devastating illness and may lead to swallowing difficulty, loss of airway control and pneumonia. Pneumonia can be life-threatening and costly. A variety of simple tests done on patients at the bedside have been reported to predict entry of substances down the airway (aspiration) as detected by barium swallow radiography. However, each of these bedside tests alone is not sufficiently accurate to rule out aspiration. This ongoing prospective study (over 100 stroke patients enrolled so far) compares several bedside tests with the barium swallow to determine if it is possible to use a combination to accurately rule out aspiration. Two different nurses examine each patient. If an accurate combination of simple bedside tests can be found, health care providers would then be able to quickly assess airway control and decide which patients can safely eat or drink as well as select patients for further diagnostic testing. A bedside prediction rule might also remove the need for barium swallow radiography and reduce health care costs. Funded by Canadian Institutes of Health Research.

Managing Continuity of Care Through Integrated Care Pathways

For patients with congestive heart failure and atrial fibrillation, continuity of care is a challenge. Continuity of care is defined as coherent care with seamless transitions over time between settings and among providers through consistent communication and coordination. Integrated care pathways (ICP) are time-task care plans that define what care patients should receive, when they should receive it, and how the various members of the multidisciplinary care team should work. ICP use is increasing, despite a lack of evidence about effectiveness and cost. The study assesses continuity and quality of care for patients with these two cardiac conditions at baseline and then determines the effectiveness of integrated care pathways for improving continuity of care. An atrial fibrillation pathway is instituted in Saskatoon using Regina as a control group and a congestive heart failure pathway is instituted in Regina using Saskatoon as a control group. Patients are followed for six months after discharge for indicators including patient perception of continuity of care, quality of care processes, health services utilization and medication use. This study is also estimating the provider costs and describing attitudes to pathways. Such system interventions in health care delivery have the potential to improve both quality of care and patient outcomes. Funded by the Canadian Health Services Research Foundation, Saskatchewan Industry and Resources Regina, Qu'Appelle Health Region, Saskatoon Health Region, Saskatchewan Health and Health Quality Council.

Optimal Glycemic Control in Hospitalized Patients with Type 2 Diabetes

When patients with type 2 diabetes are admitted to hospital with acute medical illness, stress and immobility frequently makes extra

insulin necessary. For blood sugar control short-acting insulin given in doses based on blood sugar is commonly used. However, some recent studies have suggested that long-acting insulin may provide better glucose control. This ongoing prospective randomized controlled trial (90 patients enrolled so far) is comparing sliding scale insulin to two other insulin-dosing strategies. Patients are followed for four days to determine the frequency of dangerously low or high blood sugars. An evidence-based approach to glycemic control is needed and could avoid diabetic complications and shorten hospital stays. Funded by the Canadian Diabetes Association.

Staple versus Subcuticular Suture Closure of Pfannenstiel Incisions at Caesarean Section

Cesarean section is a common obstetrical intervention, being done for approximately 20% of deliveries. For closure of the Pfannenstiel incision, the most common methods are by staple and by subcuticular suture. This study is a randomized controlled trial with prospective follow-up for three months comparing the cosmetic result (as judged on wound photographs taken approximately three months after surgery). An evidence-based approach to improving cosmesis for this increasingly common obstetrical procedure could improve patient satisfaction. Funded by the Royal University Hospital Foundation.

Exclaim Trial

Patients hospitalized with acute medical illnesses, such as stroke, chronic obstructive lung disease, cancer or pneumonia, are at high risk of the life-threatening complication of venous thromboembolism. In this study, patients with acute medical illness and immobility are randomized to low-molecular weight heparin (enoxaparin) for either 1 week or 4 weeks. All patients undergo ultrasonography to rule out deep venous thrombosis and are followed clinically for six months. The Saskatoon Health Region is one of many participating sites in a trial expected to enroll over 3000 patients worldwide. An evidence-based approach to prevention could avoid a common and life-threatening complication of acute medical illness. Funded by the pharmaceutical company Aventis.

Rural Nursing Homes with and without Dementia Special Care Units: Families' Perceptions of Quality of Care

Existing research on special care units (SCUs) for nursing home residents with Alzheimer Disease or other dementia has been conducted primarily in large urban facilities. The present study included all rural nursing homes in Saskatchewan of 100 beds or less that had a SCU (N = 8), matched to same-sized Non-SCU rural homes (N = 8). SCU residents were matched to non-SCU facility residents on stage of dementia. The data reported here are from structured telephone interviews conducted with a family caregiver of SCU (N = 88) and Non-SCU residents (N = 76). Participants rated the importance of 28 aspects of the physical and social environments to their family member, then rated their own satisfaction, based on their family members' needs. There were statistically significant differences on 9 *importance* items,

with caregivers of SCU residents rating all 9 as more important: cleanliness, homelike environment, ability to personalize bedrooms, individualized care, daily activity programs, opportunities to practice one's religion, use of medications to manage behavioral symptoms, and family involvement. Caregivers of SCU residents were more *satisfied* with access to specialists. A single item assessing overall satisfaction showed high satisfaction in both groups. Initial reaction to SCU placement was rated as "very positive" by 53% of SCU caregivers; at present 75% were very positive. They identified advantages of SCUs, including greater safety, better care, trained staff, residents with dementia having their own place, and greater quality of life. Only 27% of caregivers of Non-SCU residents were familiar with SCUs; 42% would consider moving their relative to a SCU and 10% needed more information. The study also examined outcomes related to nursing home residents, staff, and the physical and social environments. The research team includes Debra Morgan and Sandy Normand, I.ARE.H; Norma Stewart, College of Nursing; and Carl D'Arcy, Applied Research, University of Saskatchewan. Funded by Canadian Institutes of Health Research.

Public Health and the Agricultural Rural Ecosystem (PHARE) Graduate Training Program

The Canadian Institutes of Health Research has funded a Public Health and the Agricultural Rural Ecosystem graduate training program. This PHARE program draws skills from across the country to respond to changing demographics and technology and address the challenges facing persons living in rural Canada as they seek a healthy, safe and sustainable lifestyle. It is a virtual program, housed at I.ARE.H, but is accessible through any of the six participating universities (Dalhousie, Laval, Queen's, Saskatchewan, Alberta, and British Columbia). The PHARE program provides scholarship support to graduate students at the Master's, PhD, and postdoctoral level. All trainees are required to take a Public Health and the Agricultural Rural Ecosystem class, monthly seminar each semester of support, as well as participate in the program's annual conference. The first application deadline was in June, 2002. The PHARE Admissions Committee approved five PHARE trainees for funding: William Midodzi (PhD student University of Alberta), Karen Marcinkiw (Master's student University of Saskatchewan), Valerie Letourneau (Master's student Laval University), Kate Zinzser (Master's student Dalhousie University), and Jayda Cleave (Master's student University of Saskatchewan). Applications will continue to be received by I.ARE.H over the six year funding period. For more information: <http://iareh.usask.ca/trainingprograms.php>.

Effect of Indoor Air Quality and Production Practices on Respiratory Health in Exposed Poultry Workers in Canada

Researchers from the Universities of Saskatchewan, Manitoba and Alberta have been funded by the Canadian Institutes for Health Research to examine the differences in the environment between two types of poultry production, cage-raised birds and floor-raised birds and how differences in the indoor environment may impact worker health. The study involves collecting data on worker lung function and other health indicator changes, as well as

environmental contaminant levels to which the worker is exposed during a one-day work shift. The worker health data involves a respiratory health questionnaire, worker's respiratory symptom record, blood sample, nasal lavage sample after the work shift and a lung function measurement before and after the work shift. A second component of the project involves collecting environmental measurements across the work shift including dust, gas and endotoxin levels. On the basis of the findings of this project, we propose to work with the industry in Canada to assist in developing occupational hygiene and occupational health programs for workers in this industry. Data collection began in Saskatchewan in the winter of 2001/2002 and this winter's data collection took place in the province of Manitoba.

Exposure to Endotoxin and the Lung

Inhaled endotoxin exposures result in or are associated with inflammatory response, airway remodeling and development of airways obstruction and/or asthma in exposed workers. Polymorphic mutations at the Toll-like receptor 4 (TLR4) locus confer respiratory hyporesponsiveness to inhaled endotoxin. The range of human respiratory response to endotoxin is presumed to be governed by polymorphisms of other genes yet to be described. We have a unique opportunity to assist in knowledge development in this area of research because we have the capacity to: (a) quantify environmental exposure to endotoxin; (b) quantify monocyte sensitivity to endotoxin in vitro; (c) use known genetic polymorphisms at the TLR4 and other loci as predictors of endotoxin response; (d) search for new candidate genes; and (e) access populations in which the response to exposure can be measured in the context of the genetic contribution. Funded by Canadian Institutes of Health Research.

Services:

Rural Health Extension Program (RHEP)

The extension program at I.ARE.H collaborates on a provincial and national basis with individuals and agencies to:

- 1) Develop and distribute agricultural health and safety resource materials.
- 2) Develop and implement agricultural health and safety programs.
- 3) Educate others in agricultural health and safety.

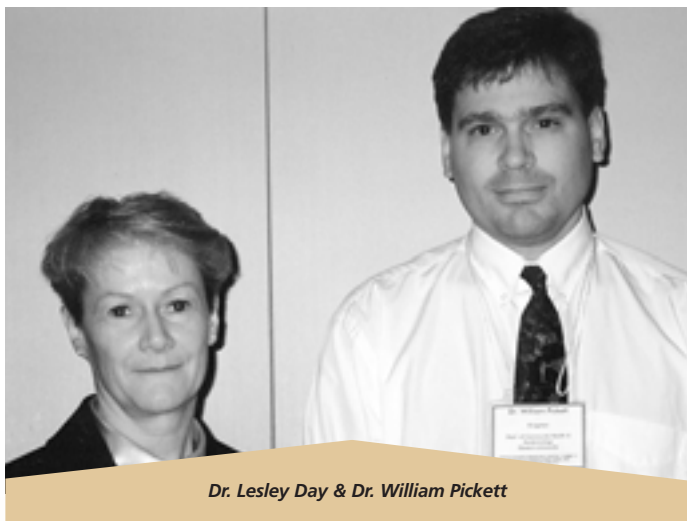
Agricultural Health and Safety Network:

RHEP includes the Agricultural Health and Safety Network (the Network), a venture in which the Centre for Agricultural Medicine and the Saskatchewan Association of Rural Municipalities (S.A.R.M.) joined forces in 1988 to provide agricultural health and safety services to Saskatchewan farm families. Rural municipal councils enrol their farm families in the Network. Eighteen new rural municipalities (R.M.s) joined the Network in the past year bringing the total membership number to 137. The Network continues to benefit from the input of our steering committee, comprising six rural municipal leaders each representing one of the six divisions of S.A.R.M.

Some of RHEP's initiatives for the 2002-2003 year are described below.

OffGuard Photographic Exhibit: This exhibition featuring twenty individuals injured in farm machinery incidents was displayed in the Cumberland Gallery at the Saskatchewan Legislative Building during the summer of 2002 and will tour Saskatchewan during 2003-04 under the auspices of the Organization of Saskatchewan Arts Councils (OSAC). A University of Saskatchewan President's Grant enabled the printing of 2,000 *OffGuard* catalogues to be distributed in conjunction with the tour

Farm Injury Control Summit – Nov. 20, 2002: Approximately 120 people attended the Summit co-hosted by the Agricultural Health and Safety Network and the Institute with support from S.A.R.M., Saskatchewan Health, Saskatchewan Labour, Saskatchewan Agriculture, Food and Rural Revitalization, and the Saskatchewan Alliance for Agricultural Health and Safety. Keynote speakers were Dr. Lesley Day from Australia's Monash University with a presentation on safety rating system for tractors; and Dr. William Pickett from Queen's University in Kingston, ON with a presentation and panel on the assignment of work involving farm tractors to children. The noon luncheon featured the presentation of the first annual I.ARE.H Media Award for Excellence in Farm Injury Control Reporting. Afternoon break-out sessions offered a professional development track for health educators and a farm safety and health issues track for producers.



Dr. Lesley Day & Dr. William Pickett

Media Award for Excellence in Farm Injury Control Reporting:

This new award, established with funding from the Canadian Agriculture Safety Program, recognizes the role of media in informing and educating the public about farm-related deaths and injuries and how they can be prevented. The inaugural award was presented to CFQC TV's Jason Matity for the television documentary, "Deadly Harvest" at the Farm Injury Control Summit on November 20.

New Resources: A new video, *Low Stress Cattle Handling*, demonstrates how animal behavioural science can help producers work more safely and effectively with livestock. A slide talk presentation on the same topic includes a coloured visual presentation, speaker's notes, additional information for the

presenter, quizzes and printed resources. The video and slide talk presentation are available for sale or loan from the RHEP office. A fact sheet, *Farm Equipment and Motor Vehicle Operation on Public Roads*, was produced and mailed along with an *Operation Lifesaver* pamphlet, *Tips for Farm Machinery Operators*, during Canadian Agriculture Safety Week to the 22,000 farm families that are members of the Network.

Program Delivery: Staff delivered the *Respiratory Health Maintenance Program for Farmers* in the R.M. of Garry, #245; and the Hearing Conservation Program for Farmers in the R.M.s of Enniskillen, #3; Griffin, #66; and Elmsthorpe, #100. These programs are now being offered as drop-in clinics. *Farm Response* courses were provided in five communities.

Newsletters: Our Saskatchewan newsletter, *Network News*, is mailed to Network-member farm families twice a year. One issue of *CANFARMSAFE*, a national farm safety magazine, was published in 2003. English and French copies reached more than 140,000 farm families across Canada via mail and through insertion in the following newspapers; *Farm Focus*, *Quebec Farmers Advocate*, *Ontario Farmer*, *Manitoba Cooperator*, *Western Producer*, *L'Eau vive*, and *Country Life in B.C.*



Rosalie Hughes

Student Scholarship: Each year a grade 12 student is awarded \$1,000 for a well written farm safety essay. This award, initiated in 1996 with funds from S.A.R.M. and continued support from the Founding Chairs Fund, is awarded to a student to help him or her pursue post-secondary education. This year's winner was Rosalie Hughes from the R.M. of Mervin, #499.

Agricultural Health and Safety Training for Nurses: This new program, developed with the assistance of Health Canada's Rural and Remote Innovations Initiatives Fund, better enables public health and primary care nurses to meet the safety and health needs of farm and rural residents. Nine registered nurses representing eight Saskatchewan Regional Health Authorities and Saskatchewan Labour participated in the five-day program and will complete a further two days of training during 2004.



Colleen Nesbitt (Primary care nurse), and Shannon Laventure (Public health nurse)
Two participants of the Agricultural Health and Safety Training program for Nurses.

Papers & Technical Reports:

Pahwa P, Senthilselvan A, McDuffie HH, Dosman JA. *Longitudinal Decline in Lung Function Measurements Among Saskatchewan Grain Workers*. Canadian Respiratory Journal, 2003; 10(3): 135-141.

McDuffie HH, Semchuk KM, Crossley M, Senthilselvan A, Rosenberg AM, Hagel L, Cessna AJ, Irvine DG, Ledingham DL. *Prairie Ecosystem Study (PECOS): From Community to Chemical Elements, the Essential Role of Questionnaires*. In: Rapport DJ, WL Lasley, DE Rolston, NO Nielsen, CO Qualset, and AB Damania (eds). 2003. *Managing For Healthy Ecosystems*. Lewis Publishers, Boca Raton, Florida, USA, 1169-1182 pp.

McDuffie HH, Pahwa P, Spinelli JJ, McLaughlin JR, Fincham S, Robson D, Dosman JA, Hu J. *Canadian Male Farm Residents, Pesticide Safety Handling Practices, Exposure to Animals and Non-Hodgkin's Lymphoma (NHL)*. American Journal of Industrial Medicine Suppl, 2:54-61, 2002.

Mpofu D, Lockinger, Bidwell J, McDuffie HH. *Evaluation of a Respiratory Health Program for Farmers and Their Families*. Journal of Occupational and Environmental Medicine, 44:1064-1074, 2002.

Semchuk KM, McDuffie HH, Senthilselvan A, Dosman JA, Cessna AJ, Irvine DG. *Factors Associated with Detection of Bromoxynil in a Sample of Rural Residents*. Journal of Toxicology and Environmental Health, Part A, 66:103-132, 2003.

Forbes D, Morgan D, Bangma J, Peacock S, Campbell T, Adamson J. *Light Therapy for Managing Sleep, Behaviour, Mood, and Cognitive Disturbances Associated with Alzheimer Disease* (Protocol for a Cochrane Review). Cochrane Library, Issue 4. Oxford: Update Software, 2002.

Morgan DG, Stewart NJ. *Theory Building Through Mixed-Method Evaluation of a Dementia Special Care Unit*. Research in Nursing & Health, 25(6): 479-488, 2002.

Morgan DG, Semchuk KM, Stewart NJ, D'Arcy C. *Rural Families Caring for a Relative with Dementia: Barriers to Use of Formal Services*. Social Science & Medicine, 55(7): 51-64, 2002.

Morgan D, Stewart N, D'Arcy C. *Dementia Care in Rural Nursing Homes With and Without Dementia Special Care Units: Summary of Findings from the Staff Survey Questionnaire*. Report Printed: University of Saskatchewan, April, 10pp, 2002.

Stewart N, D'Arcy C, Pitblado R, MacLeod M, Kulig J, Forbes D, Morgan D, Remus G, Smith B, Andrews M. *Development of a Survey Questionnaire and a Sampling Frame of Rural Postal Codes: Nursing Practice in Rural and Remote Canada*. Final Report for Contract#HQ-99/00-127-SO, First Nations and Inuit Health Programs, Medical Branch, Health Canada. Report printed: University of Saskatchewan, April, 13pp, 2002.

Koehncke N, Taylor M, Taylor C, Harman L, Hessel PA, Beaulne P, Guidotti T. *An Investigation of Noise Levels in Alberta Sawmills*. American Journal of Industrial Medicine, 43:156-164, 2003.

Bharadwaj LA, Davies GF, Xavier IJ, Ovsenek N. *L-Carnosine and Verapamil Inhibit Hypoxia-Induced Expression of Hypoxia Inducible Factor (HIF-1 α) in H9c2 Cardiomyoblasts*. *Pharmacological Research*, 45(3): 175-181, 2002.

Bharadwaj, L., Prasad, K. *Mechanism of Superoxide Anion-induced Modulation of Vascular Tone*. *International Journal of Angiology* 11:23-29, 2002.

Biem J, Koehncke, Classen D, Dosman J. *Out of the Cold: Management of Hypothermia and Frostbite*. *Canadian Medical Association Journal*, 168(3): 305-311, 2003.

Biem S, Turnell R, Olatunbosun F, Tauh M, Biem HJ. *A Randomized Controlled Trial of Outpatient Versus Inpatient Labour Induction with Vaginal Controlled-release Prostaglin-E2: Effectiveness and Satisfaction*. *Journal of Obstetrics and Gynaecology Canada*, 25-31. 2003

Biem HJ, Biem SRD. *Good Question: Knowing What to Ask*. *Canadian Journal Continuing Medical Education* (May); 14:37-44, 2002.

Biem HJ, Semchuk W. *Antithrombotic Therapy for Atrial Fibrillation: Do Integrated Care Pathways Get Us There?* *Newsbeat Canadian Association Cardiac Rehabilitation*, pp 9-12, Sept 2002.

Beaubien ER, Card CM, Card SE, Biem HJ, Wilson TW. *Accuracy of the Dinimap 1846 XT Automated Blood Pressure Monitor*. *Journal Human Hypertension*, 16:647-52, 2002.

Beaubien ER, Pyypchuk GB, Akhtar J, Biem HJ. *Value of Corrected QT Interval Dispersion in Identifying Patients Initiating Dialysis at Increased Risk of Total and Cardiovascular Mortality*. *American Journal Kidney Disease*, 39:834-42, 2002.

Contributed Papers in Published Conference Proceedings and Abstracts:

Lawson JA, Rennie DC, Senthilselvan A, Cockcroft DW, McDuffie HH. *A Comparison of Risk Factors for Asthma in Two Saskatchewan Communities*. *American Journal Respiratory and Critical Care Med*, 167(7): A852, April 2003.

Ingram, M.W.E., T.G. Crowe, J. Wassermann, L.M. Hagel and J.A. Dosman. *On-site Inspections of Auger-related Farm Injuries*. Presented: ASAE/CSAE North Central Inter-Sectional Conference. Saskatoon, SK. September 2002, ASAE/CSAE Paper No. MBSK 02-106.

Quail J, McDuffie HH, Gomes J, Leis A. *Prostate Cancer and Estrogenic Pesticides: Is There a Relationship? I. The Role of Occupation*. Presented: International Society for Environmental Epidemiology. *Epidemiology*; 13 Suppl 4: S241. July 2002.

Gomes J, Tonita J, Sskarsgard D, McDuffie HH. *Prostate Cancer Among Farmers: Disease Characteristics Seem to be Different Among Men with Lifetime Involvement in Crop and Animal Farming*. Presented: International Society for Environmental Epidemiology. *Epidemiology*; 13 Suppl 4: S139. July 2002.

McDuffie HH, Pahwa P, Fincham S, Dosman JA, Spinelli JJ, McLaughlin JR, Robson D. *Soft Tissue Sarcoma Among Canadian Male Farm Residents*. Presented: International Society for Environmental Epidemiology. *Epidemiology*; 13 Suppl 4: S139. July 2002.

Pahwa P, McDuffie HH, McLaughlin JR, Spinelli JJ, Dosman JA, Fincham S, Robson D. *Exposure of Canadian Male Farm Residents to Animals and Hodgkin's Disease*. Presented: International Society for Environmental Epidemiology. *Epidemiology*; 13 Suppl 4: S139. July 2002.

Semchuk KM, McDuffie HH, Cessna AJ, Senthilselvan A, Irvine DG. *Prevalence of Detection of Herbicides in a Sample of Rural Residents During Spring Herbicide Application*. Presented: International Society for Environmental Epidemiology, Vancouver, BC. *Epidemiology*; 13: Suppl 4 :S93. July 2002.

Lawson J, Rennie D, Senthilselvan A, Cockcroft DW, McDuffie HH. *Effect of Parental Smoking on Asthma and Wheezing in School Children*. Presented: American Thoracic Society, Atlanta, GA, May 17th – 22nd, 2002.

de Freitas SB, McDuffie HH, Danilkewich A, Morrison M. *From Freedom to Voluntary Slavery*. Presented: From Bra-Burners to Buffy: Conversations Among Generations of Feminists Western Canadian Regional Conference. Saskatoon, SK, May 9th – 11th, 2002.

de Freitas SB, Day R, Jacek L, Hagel L, McDuffie HH. *They Did Almost Everything: A Portrait of Canadian Prairie Women II*. Presented: From Bra-Burners to Buffy: Conversations Among Generations of Feminists Western Canadian Regional Conference. Saskatoon, SK, May 9th – 11th, 2002.

Dosman JA, Kirychuk SP, Senthilselvan A, Fukushima Y, Pahwa P, Cormier Y. *Non-Responders and Responders to Endotoxin Show Different Non-Pulmonary Effects*. Presented: American Thoracic Society, Atlanta, May 17th – 22nd, 2002.

Rennie D, Lawson J, Senthilselvan A, McDuffie HH, Cockcroft D. *Risk Factors for Childhood Asthma: A Comparison Between Two Southern Saskatchewan Communities*. Presented: Canadian Children's Environmental Health Research Workshop. Ottawa, ON, March 17th – 19th, 2002.

Spinelli JJ, McDuffie HH, Hamm JD, Brooks-Wilson AR, McLaughlin JR, Pahwa P, Fincham S, Robson D, Dosman JA. *Family History of Cancer, Allergies and Risk of Non-Hodgkin's Lymphoma*. Presented: AACR Conference on Molecular and Genetic Epidemiology of Cancer, January 18th – 23rd, 2003.

Biem HJ, Hadjistavropoulos H, Morgan D, Biem HB, Pong R. *Charting the Seven C's of Continuity of Care: The Rural Senior Transferred for Medical Care Under Regionalization*. Presented: Intl Conf on New Research and Development in Integrated Care. Barcelona, Spain, February 21st – 22nd, 2003.

Morgan D, Stewart N, D'Arcy C. *Psychotropic Drug Use in Rural Nursing Home Residents with Dementia: Special Care Units vs. Integrated Facilities*. Presented: Gerontological Society of America, Boston, November 22nd – 26th, 2002.

Morgan D, Stewart N, D'Arcy C. *Physical Assault of Nursing Aides: Special Care Units vs. Integrated Facilities*. Presented: Can Assoc on Gerontology, Montreal, QC, October 25-27, 2002, and Alzheimer Society of Saskatchewan Annual Professional Support Day, Davidson, SK, October 18th, 2002.

Morgan D, Stewart N. *The Physical and Social Environments of Rural Nursing Homes: Are Special Care Units More Supportive?* Presented: Supportive Services Committee, Saskatchewan Health, Saskatoon, SK, March 22, 2002 and Long-Term Care Placement to End of Life Working Group, Saskatchewan Alzheimer Strategy Committee, Regina, SK, January 30th, 2002.

Biem SRD, Turnell R, Olatunbosun O, Tauh M, Biem HJ. *A Randomized Controlled Trial of Outpatient Versus Inpatient Induction with Vaginal Controlled-release Prostaglandin E2.* Presented: Society of Obstetricians and Gynecologists of Canada Annual Clinical Meeting, Winnipeg, June 2002.

Turnell RW, Biem HJ, Biem SR, Olatunbosun OA, Pahwa P. *Slow-release Vaginal Prostaglandin E2 (Cervidil) As An Agent For Induction of Labour.* Presented: Society of Obstetricians and Gynecologists of Canada Annual Clinical Meeting, Winnipeg, June 2002.

Al-Ghoul A, Erasmus M, Alvi R, Biem HJ. *Macular Hole Symptom Duration and Surgical Outcome.* Presented: Canadian Ophthalmological Society, Ottawa, June 2002.

Grants Received:

Bharadwaj L, Dosman JA, Adnan Ali. *A Toxicogenomic Assessment of Two Agricultural Chemicals in Rural Drinking Water.* Canadian Network of Toxicology Centers Risk Assessment Methodologies Theme Team. April 2003 – March 2004. \$20,000.00.

Dosman JA, Chen Y, Juurlink BHJ, Pahwa P, Senthilselvan A, Babiuk L, Laprise C, Cormier Y, Rennie D, Rosenberg A, McDuffie HH, Swartz D, Speer M. *Exposure to Endotoxin and Lung Function.* CIHR. 2002 – 2009. \$2,100,000.

Dosman J, McDuffie HH, Bidwell J., Lockinger L. National Preventive Materials and Communication Program 2002. Canadian Agriculture Safety Program funded by Agriculture and Agri-Food Canada, April 2002 – December 2002. \$70,000.

Dosman J, McDuffie HH, Lockinger L, Bidwell J. Provincial Preventive Materials and Communication Program 2002. Saskatchewan Agriculture Safety Program funded by Agriculture and Agri-Food Canada, \$23,000.

Dosman J, McDuffie HH, Lockinger L, Bidwell J. Creating a Training System and Training Public Health Nurses as Agricultural Health and Safety Specialists. Health Canada: Rural and Remote Health Innovations Initiatives Fund, \$12,900.

Dosman J, McDuffie HH, Lockinger L, Bidwell J. Printing of 2,000 catalogues to accompany the OffGuard Photographic Exhibition on tour during 2003-04 through the Organization of Saskatchewan Arts Councils (OSAC). President's Fund, University of Saskatchewan. \$8,150.

Rennie D, Senthilselvan A, McDuffie HH, Cockcroft D, Willson P, Kirychuk S. *Assessment of Indoor Environmental Agents Associated with Damp Housing and Asthma in School Children.* Saskatchewan Lung Association, April 22, 2002. \$60,000.

Morgan D, Stewart N, Crossley M, D'Arcy C, Biem J, Kirk A. *Development Grant for CIHR New Emerging Team Proposal Strategies to Improve the Care of Persons with Dementia in Rural and Remote Areas.* Canadian Institutes of Health Research, September 2002. \$5,000.

Morgan D, Stewart N, Crossley M, D'Arcy C, Forbes D. *Development Grant for CIHR New Emerging Team Proposal Strategies to Improve the Care of Persons with Dementia in Rural and Remote Areas.* Research Services, September 2002. \$5,000.

Biem J, Hadjistavropoulos H, Morgan D, Franko J, Rathgeber M, Kowalyk K. *Continuity of Care: How Do We Measure It For Recently Discharged Patients? A Prospective Observational Study of Patient and Physician Perception of Continuity of Care, which will be a Baseline For Subsequent Interventions.* Clinical Teaching and Research Grant, University of Saskatchewan. \$4,975.

Polyani M., Foley J. Koehncke N, Cecil B, Labonte R, Williams A. *Understanding and Addressing the Impacts of Workplace Practices on Health in a Global Economy.* Funded through Canadian Institutes of Health Research and Regional Partnership Program. \$78,750.

Invited Presentations:

McDuffie H.H. *Different Perceptions Create Different Options.* Presented: International Canadian Institutes of Health Research Sponsored Think Tank "What's Sex and Gender Got to Do with It? Integrating Sex and Gender into Health Research". Ottawa, February 27th – March 1st, 2003.

McDuffie HH. *Host Factors and Genetic Susceptibility: A Paradigm of the Conundrum of Pesticide Exposure and Cancer Associations.* Presented: Health Canada Sponsored Colloquium. The Colloquium explored research ideas related to environmental and occupational determinants of health among women. CINBIOSE Montreal.

Awards:

Founding Chairs fellowships were awarded to:
Sunita Ghosh (supervisors: Dr. P. Pahwa, Dr. D. Rennie),
Karen Marcinkiw (supervisor: Dr. D. Rennie),
Jayda Cleave (supervisor: Dr. P. Wilson)
Sandra Olfert (supervisors: Drs. P. Pahwa/J.A. Dosman)
Norman Robert Bennett (supervisor: Dr. P. Pahwa)

Congratulations:

The Canadian Agricultural Injury Surveillance Program (CAISP) was honoured by the National Institute for Farm Safety at its June annual meeting in Florida. Dr. Rob Brisson, CAISP Project Director, accepted a research award presented for a recently published manuscript by CAISP co-investigators, Dr. Will Pickett, Louise Hagel and others. The results of the study, "Surveillance of Hospitalized Farm Injuries in Canada," appeared in *Injury Prevention* 2001, 7: 123-128. In making the award, NIFS President, David Hard, commended CAISP for establishing the first comprehensive national farm injury data collection system in North America.

Jacqueline Quail successfully defended her Masters thesis entitled *Prostate Tumor Traits and Exposure to Endocrine Disrupting Pesticides* on November 25th, 2002. Her committee recommended that her thesis be considered for one of the awards presented at Convocation by the College of Graduate Studies. She presented her research findings at two international conferences in August, 2003. Ms. Quail was supervised by Dr. Helen H. McDuffie and she is currently pursuing a PhD degree at McGill University.



Mark Ingram

Mark Ingram received his Masters of Science degree in Agricultural and Bioresource Engineering. His thesis entitled *Machinery Evaluations in a Case-control Study of Farm Machinery Injuries in the Prairie Region of Canada* was defended in December 2002.



Kylie Kvinlaug

Kylie Kvinlaug successfully defended his BSc Med thesis entitled *Male Breast Cancer and Farmers in Saskatchewan* on February 6th, 2003. His research will be presented at an International Conference in Washington, DC, USA, in June 2003.

Welcome:

Liliane Chénard: Liliane was born and raised on a dairy farm in Eastern Québec. She completed her bachelor and master degrees in Agricultural Engineering at Université Laval and has worked as research assistant and extension writer at the same university in the areas of mechanization, environment and swine production. In 1999 she wrote a book on how to establish and start up new swine operations; has worked at the Prairie Swine Centre Inc and was hired by I.ARE.H in September 2002 to oversee the agricultural components of the CIHR project on the impact of endotoxin on the lungs.

Stacey Sookerokoff: Stacey started working at the I.ARE.H in September 2002 as the new clinical secretary for Drs. Dosman and Koehncke. Prior to accepting this position she worked at the Obstetrics and Gynecology Clinic on Pacific Avenue. She has worked in the medical field on and off for 13 years, taking time off to attend the University of Saskatchewan and Kelsey Institute.

BYE .. BYE

Dr. James Gomes has been appointed as Assistant Professor at the University of Regina. We wish you every success with this new position.

Visiting Scientist:

This year's Senator Norman M. Paterson Visiting Professor is **Dr. J. Roger Pitblado**. Dr. Pitblado is a professor of the Department of Geography and faculty investigator of the Centre for Rural and Northern Health Research, Laurentian University, Sudbury, Ontario.



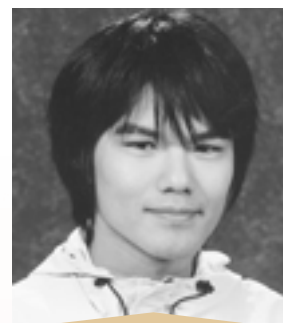
Dr. Roger Pitblado

Dr. Pratibha Gupta is a visiting scholar at the Institute of Agricultural Rural and Environmental Health. She is a professor at the Department of Physiology, University College of Medical Sciences, Delhi, India. She spent from August 17/02 to September 17/02 at the Institute and conducted research on the Environmental and Occupational Determinants of Respiratory Dysfunction in Grain Workers.



Dr. Pratibha Gupta

Naoyuki Nakada: Naoyuki, a Masters' student in Pharmacology, from the Department of Pharmacology and Therapeutics, Graduate School of Clinical Pharmacy, Kumamoto, Japan spent three months conducting research on pubescent canary seed exposure among grainhandlers, their pulmonary function and the influence of selected genetic polymorphisms. Naoyuki worked under the supervision of Drs. Kazuko Nakagawa (Japan), Helen H. McDuffie and P. Pahwa (Saskatoon). Naoyuki went back to Japan in December 2002, and left his Haiku poetry with us.



Naoyuki Nakada

*After the summer finished,
I was waiting for the autumn.
But winter has come*