



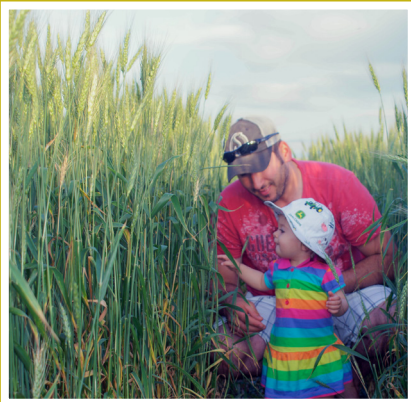
**CCHSA CCSSMA**  
Canadian Centre for Health and Safety in Agriculture  
Centre canadien de santé et sécurité en milieu agricole

## OUR MISSION

TO CONDUCT AND STIMULATE RESEARCH, EDUCATION AND HEALTH PROMOTION PROGRAMS AIMED AT ENHANCING THE HEALTH AND WELL-BEING OF AGRICULTURAL, RURAL AND REMOTE POPULATIONS

## OUR VISION

WORLD LEADERSHIP IN HEALTH OF RURAL PEOPLE



# ANNUAL REPORT

## 2016 - 2017



## MESSAGE FROM THE DIRECTOR



We are home to approximately 10 million dollars in research grants (total grant amounts) with about 1.6M research dollars spent in the 16-17 year. Research remains at the forefront of CCHSA's work and 2016-17 was no exception. July 2016 got off to a very exciting start with the announcement that Dr. Debra Morgan was awarded a 7-year 2.3M CIHR Foundation Grant for the research program ***“Design and evaluation of integrated primary health care practice for dementia in rural and remote settings.”*** This was the only CIHR Foundation Grant awarded in Saskatchewan in 2016.

The Ergonomics and Vibration Lab productivity has ramped up even further with the Rotopod (vibration simulator) being used consistently for data collection. Research exploring the prevention and management of musculoskeletal disorders with a focus on low back pain is also growing, highlighting access difficulties to health services among farming, rural, and remote populations.

Work continues to expand with respiratory exposure studies, population health studies, as well as diabetes and its complications among indigenous peoples. Lung health research on childhood asthma prevalence in Saskatchewan continues, and our basic science laboratories including mass spectrometry continue to run at high capacity.

Our outreach through the Agricultural Health and Safety Network (AHSN) has had another very busy and successful year, with a network of 216 member rural municipalities representing approximately 27,000 farm families. We are pleased to welcome Kathryn Marciniak, a nursing graduate, as our newest AHSN team member. The Discovery Days program which presents bring agricultural health and safety in rural classrooms and schools around the Province continues to be offered after a successful pilot.

Did you know that CCHSA also provides clinical screening and surveillance to employers and producers through its CANWORKSAFE program? This includes hearing and lung function testing as well as respirator fit testing, medical fitness-to-wear respirator assessments, along with other health and safety services. The last year has seen increased interest from RMs looking to test their employees hearing and lung function.

CCHSA also successfully established a new faculty position in Clinical Proteomics and Metabolomics, and appointed Dr. George Katselis to the position. Dr. Katselis had been with CCHSA in a term position until now. However, we can't let our foot off the gas as our strategic plan outlines other faculty needs. We are working with the College of Medicine to address those needs as soon as possible.

Come and check us out - we would be delighted to tour you around our Centre and Laboratories. Wishing you a safe and productive year.

A handwritten signature in blue ink, appearing to read 'N. Koehncke', written over a white background.

Niels Koehncke, MD, MSc, FRCPC  
*Director, Canadian Centre for Health & Safety in Agriculture*

## RESEARCH

### RESEARCH ROOTED IN PARTNERSHIP WITH COMMUNITY

The RaDAR research program is guided by The Knowledge Network in Rural and Remote Dementia Care, which includes front-line health care providers and managers, family members of people with dementia, health region representatives, international researchers, and individuals from governmental and community based organizations. The annual rural dementia care Summit and ongoing communication between RaDAR and network members helps to ensure that research knowledge is relevant, shared broadly, and put into practice.



*Summit evening scientific poster session*



*Dr. Mark Rapoport, keynote presenter at Summit 9*



*Dr. Debra Morgan and the Honourable Greg Ottenbreit*

On an annual basis members of the RaDAR team and students meet with the Knowledge Network in Rural and Remote Dementia care (a group comprised of people who work or do research in the area of dementia care, as well as family members and caregivers of those affected by dementia) for a two-day Summit meeting. The 9th Annual Summit of the Knowledge Network in Rural and Remote Dementia care was held October 25 & 26, 2016 in Saskatoon. The Summit featured a keynote presentation about driving cessation for dementia patients from Dr. Mark Rapoport, a geriatric psychiatrist from the University of Toronto. The RaDAR team appreciated that the Honourable Greg Ottenbreit, Minister Responsible for Rural and Remote Health, made his third visit to Summit to attend and bring greetings on behalf of the Government of Saskatchewan. Key RaDAR collaborators including the Alzheimer Society of Saskatchewan and the Health Quality Council also led sessions during the Summit. Funding support for the Summit was provided by the Canadian Institutes of Health Research, the Saskatchewan Health Research Foundation, and the Bilokreli Family RaDAR Trust Fund.

*More information about the Summit, including a report, and photos from the event, can be found on the RaDAR team's website: [www.ruraldementiacare.usask.ca](http://www.ruraldementiacare.usask.ca) under the Summit tab.*

### **BILOKRELI FAMILY TRUST FUND**



*The Bilokreli Family RaDAR Trust Fund provided support for the Student Poster prizes at Summit 9. This year's Bilokreli Student poster prizes were awarded to:*

*1st Place: Jake Ursenbach*

*2nd Place (tied): Allison Cammer & Tracy Danylyshen-Laycock*

*3rd Place: Ryan Verity*

The Bilokreli family have established the Bilokreli RaDAR Trust Fund and generously committed \$25,000 per year from 2015 through to 2017. The Fund supports RaDAR's research and knowledge exchange activities, including providing support to student researchers by funding the Student Poster Prize at the annual Summit event.

### **RURAL DEMENTIA ACTION RESEARCH (RADAR) TEAM**

CCHSA Professor and Chair in Rural Health Delivery, **Dr. Debra Morgan**, has been heading the interdisciplinary Rural Dementia Action Research (RaDAR) team since 2003. The team's goal is to improve dementia care in rural and remote settings. Team members include Debra Morgan (PI), and co-investigators **Margaret Crossley**, **Andrew Kirk**, **Julie Kosteniuk**, **Haizhen Mou**, **Megan O'Connell**, and **Norma Stewart** (University of Saskatchewan); **Joanne Bracken** (Alzheimer Society of Saskatchewan CEO); **Vanina Dal Bello-Haas** (McMaster University); **Dorothy Forbes** (University of Alberta); **Anthea Innes** (University of Stirling and University of Salford, UK); and **Edna Parrot** (family caregiver).

## RA DAR INITIATIVES

### RURAL AND REMOTE MEMORY CLINIC

A cornerstone project of the RaDAR team is the Rural and Remote Memory Clinic (RRMC), located within the Academic Health Sciences E-wing, University of Saskatchewan. The focus of the clinic is diagnosis and management of atypical and complex cases of suspected dementia where an interdisciplinary team assessment is most needed. The clinic streamlines processes to reduce repeated patient travel and to shorten the time to diagnosis by coordinating a complete team assessment on one day. The Saskatchewan TeleHealth network is then used for follow-up appointments to reduce patient and caregiver travel burden. The RRMC was started as a research project and operated as such for its first five years. It now receives funding from the Saskatchewan Ministry of Health to provide clinical services to Saskatchewan residents. Since it was established in 2004, over 585 patients have been seen in the clinic.

Several CCHSA-affiliated RRMC team members support the RRMC including: Lynette Epp (Data Entry Manager); Allison Cammer (Dietitian); Leslie Holfeld (Nurse); Chandima Karunanayake (Data Analyst); and Duane Minish (Psychometrist). Other clinic team members include Dr. Andrew Kirk (Neurologist), Dr. Megan O'Connell (Neuropsychologist), Katherine Stevenson (Physical Therapist), Rhonda Loeppky (Physical Therapist), as well as psychology graduate students who complete practicum placements in the clinic.

### CANADIAN CONSORTIUM ON NEURODEGENERATION IN AGING (CCNA)

The Canadian Consortium in Neurodegeneration in Aging (CCNA) was established by the Canadian Institutes of Health Research in April 2014 to address the growing prevalence of neurodegenerative diseases affecting cognition, such as Alzheimer Disease and other dementias. CCNA Team 20 Rural includes RaDAR team members and is led by Debra Morgan (CCHSA).

CCNA Team 20 Rural focuses on developing and evaluating effective and sustainable models of primary health care for dementia by identifying current gaps in rural dementia care and priorities for intervention. The intervention involves adaptation of 3 key best practices to rural



Members of the Kipling Working Group

primary health care (PHC) teams: clinical support tools (eg, assessment instruments), coordinating team-based care, and providing specialist-to-rural primary health care provider skills training and decision support. **Progress to date:** In **Phase 1**, a baseline regional needs assessment has been released. This report identifies gaps and strengths in dementia care best practices in Sun Country Health Region, based on interviews with patients/caregivers, regional decision-makers, and PHC team members. In **Phase 2**, the Rural PHC Dementia Model and RaDAR Handbook were developed, based on 3 key best practices. The model and handbook are currently being implemented and evaluated in the first PHC team and will be adapted to each new PHC team as they enroll in the RaDAR study.

### PARTNERSHIP WITH SASKATCHEWAN HEALTH QUALITY COUNCIL

Researchers from RaDAR and Saskatchewan Health Quality Council are using administrative health data to examine patterns of health service use before and after first identification of dementia in SK. This partnership has produced several conference posters/presentations, reports, and peer-reviewed manuscripts. We have also given several invited lectures and provided radio and print interviews to translate our findings to the public. As part of the Canadian Consortium on Neurodegeneration and Aging, RaDAR and HQC are also collaborating with members of CCNA Team 20 Indigenous to compare dementia epidemiology across SK and Ontario.



Beliz Acan Osman (left) and Meric Osman, researchers with Saskatchewan Health Quality Council

### AGE-WELL (AGING GRACEFULLY ACROSS ENVIRONMENTS USING TECHNOLOGY TO SUPPORT WELLNESS, ENGAGEMENT, AND LONG LIFE) PROJECT: RRITE

We surveyed 84 rural/remote dwelling older adults about their attitudes towards technology. Participants were recruited from randomly selected telephone numbers (land lines and cell phones) listed for persons residing in rural areas of Saskatchewan, a Canadian province. The sample ranged in age from 54 to 90 years old with mean age of 71 years. Participants responded to open-ended questions about how they could see technology supporting them, particularly in the areas of managing their health, daily tasks, work and leisure activities, communication and socialization, and maintaining or increasing mobility. Participants were also asked to describe their perceptions of the limitations of technology. Seven themes were developed: ((a) Definitions of technology, (b) Criticisms of technology, (c) Barriers to technology, (d) Health, (e) Communication, (f) Daily Tasks, and (g) Entertainment. Participants demonstrated different understandings of the word “technology”; what to one person would count as technology (for example, a telephone), another person would

## RESEARCH

deem “non-tech.” Criticisms of technology and interest in non-technology based solutions were expressed by many participants, along with participants who, while not opposed to technology, felt there were barriers to its use. These barriers included cost, unavailability, lack of knowledge, and the cognitive and physical challenges associated with aging. When participants discussed how technology could help with various aspects of their lives, they mostly discussed managing their health, communication, daily tasks, and entertainment. These data suggest that rural/remote dwelling older adults are a diverse group who view technology in different ways, but still face similar challenges.

### CIHR FOUNDATION GRANT

In July 2016, Dr. Debra Morgan was awarded a 7-year CIHR Foundation Grant for the research program “**Design and evaluation of integrated primary health care practice for dementia in rural and remote settings**”. The program consists of three linked research streams: 1) Interdisciplinary team-based care to support ongoing care management and education/support for patients and caregivers, 2) Remote specialist-to-primary care education and support through technology, and 3) Decision support tools for PHC providers that are embedded in the electronic medical record (EMR). A main research outcome will be the RaDAR Toolkit, an inventory of best practices that can be used by rural primary health care teams to deliver comprehensive and integrated dementia care. An early prototype of the toolkit has already been developed in collaboration with a rural primary health care team and will be evaluated in additional teams in the coming years.

*Foundation team members include: Debra Morgan (PI); co-investigators: Julie Kosteniuk, Megan O’Connell, Andrew Kirk, Norma Stewart; program experts: Beliz Acan Osman, Stefanie Auer, Carrie Bourassa, Joanne Bracken, Vanina Dal Bello-Haas, Benedicte Defontaine, Jane Farmer, Jayna Holroyd-Leduc, Anthea Innes, Kristen Jacklin, Wanda Miller, Haizhen Mou, Nathaniel Osgood, Meric Osman, Edna Parrott, Jacqueline Quail, Noelle Rohatinsky, Dallas Seitz, and Jennifer Walker.*

### RURAL AND REMOTE MEMORY CLINIC MODEL RECOMMENDED BY CANADIAN SENATE COMMITTEE

In November 2016, the Standing Senate Committee on Social Affairs, Science and Technology released a report that included 29 recommendations to improve the quality of dementia care and research in Canada (*Dementia in Canada: A National Strategy for Dementia-Friendly Communities*). One of the 29 recommendations specified that a future dementia strategy for Canada should include the Rural and Remote Memory Clinic as a model of dementia care for rural and remote communities.



Download the report *Dementia in Canada: A National Strategy for Dementia-Friendly Communities* from: <https://sencanada.ca/en/committees/soci>

### STUDENTS ASSOCIATED WITH THE RADAR TEAM:

- **RACHEL BURTON**, PhD Candidate, Psychology, thesis: Delivering cognitive rehabilitation by telehealth videoconferencing to individuals with dementia in rural areas.
- **CAMILLE BRANGER**, PhD Student, Psychology. Camille is exploring informal caregivers’ experiences of ‘finding meaning’ while caring for persons with dementia: a qualitative examination of non-familial caregivers and Indigenous caregivers and a quantitative examination of finding meaning and burden.
- **ALLISON CAMMER**, PhD Candidate, Nutrition, thesis: Nutritional care best practices for urban and rural long-term care residents with dementia.
- **TRACY DANYLYSHEN-LAYCOCK**, PhD Candidate, Health Sciences, thesis: Examining the relationship between facilitation and sustainability of a dementia care training program in rural long-term care homes.
- **AMANDA FROELICH CHOW**, PhD, Postdoctoral Fellow. Dr. Froehlich Chow is working with RaDAR on interprofessional team care for individuals with dementia and their caregivers.
- **JOSEPH ENRIGHT**, PhD, Psychology, thesis successfully defended September, 2016: Identity and caregiver burden in dementia: An evaluation of telehealth reminiscence for informal caregivers.
- **BEN GOULD**, Masters student, Psychology. Ben is exploring user needs for technology to support aging well in a First Nations community.
- **KATHLEEN KULYK**, Masters student, Nursing, thesis: Evaluating the construction and validity of a questionnaire assessing health-care providers’ perceptions of rural dementia care pathways.
- **ANDREA SCERBE**, Masters student, Psychology. Andrea holds a fellowship from the CCNA project on Technology for Specialist to Rural Primary Care Provider Support for Dementia Diagnosis and Management.
- **JAKE URSENBACH**, Masters student, Psychology. Jake’s research involves developing and implementing programs that support primary health care providers to improve the timely diagnosis of dementia in rural and remote areas (REmote Specialist-to-Primary care support Enriched Care through Technology; RESPECT)



Dr. Debra Morgan (left) gives a presentation at Danube University Krems in Austria

## SASKATCHEWAN FARMERS BACK STUDY



Low back disorders are an important public health issue among farmers in many regions and types of farming. Occupational determinants of health such as vibration, heavy lifting, and awkward postures contributed to the development and progression of low-back disorders. This study has been completed and results can be viewed at: <http://research-groups.usask.ca/ergolab/our-research/FBS.php>

*This study was funded by the Saskatchewan Foundation for Health Research.*

## EVALUATING USE OF NEEDLE-LESS INJECTORS IN SWINE PRODUCTION

### Evaluation Toolkit for New Technologies: the Needle-less Injector Study



This study investigates the implementation of needle-less injectors in terms of cost, productivity, injury rates, biomechanical exposures, and worker preference. A suite of decision-making tools for evaluating the occupational health and safety benefits, as well as business impacts, of new technologies has been developed and can be viewed at: <http://research-groups.usask.ca/ergolab/our-research>

*This project is funded by the Workers' Compensation Board of Manitoba.*

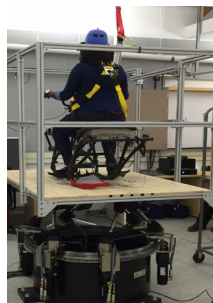
## ANKYLOSING SPONDYLITIS STUDY

This study is investigating ways to enhance early clinical diagnosis of ankylosing spondylitis and will contribute with needed evidence about a more accessible, cost-effective strategy to diagnose AS. The results from this study will hopefully enhance clinical capacity to recognize early disease and provide a standard to classify non-radiographic AS. Earlier diagnoses means earlier therapy, reduced potential future disability, and reduced diagnostic costs for the health regions and potential patients.

Ankylosing spondylitis (AS) is a form of Spondyloarthritis that causes

inflammation in the sacroiliac joint (the lower back). The current gold standard of early diagnosis of AS is the detection of active inflammation with an MRI.

## WHOLE-BODY VIBRATION SIMULATION



We all experience whole body vibration (WBV), as a passenger on a bus, while we are driving a car, or when we are riding an ATV for recreation. Whole body vibrations, which are the shakes, bumps, and jolts that are transmitted from the vehicle to an occupant, can be problematic if the exposure is excessive. Recent research has linked WBV to disturbances in position sense, balance, and visual performance, as well as reductions in vigilance and mental processing. In the longer term, WBV has been identified as a risk factor for a number of common disorders including low back pain, peripheral nervous system dysfunction, prostate disorders, and gastrointestinal problems.

The goal of this study is to measure changes in human performance when exposed to physically and mentally demanding work and realistic whole body vibrations.

## ERGO-VET: ASSESSING THE ERGONOMIC DEMANDS OF LARGE ANIMAL VETERINARIANS

Veterinarians have a substantial scope of practice, and those involved in large animal care play a vital part in food animal production and the economy of Saskatchewan. Veterinary medicine can expose practitioners to many hazards: zoonotic infection, psychosocial stress, noise, radiation, acute traumatic injury, and especially musculoskeletal disorders (MSD). MSD are particularly problematic, impeding work activities in 75% of large animal veterinary practitioners over a 12-month period and leading to work absence in 24%. This project will assess the prevalence of musculoskeletal disorders and frequency of rectal examinations performance among large animal practitioners, and apply objective ergonomic assessment methods to describe upper limb exposures during common large animal vet tasks like rectal exams.



*Ankylosing Spondylitis Study Team at the Mass Spectrometry Lab*

### THE MASS SPECTROMETRY (MS) LABORATORY

The Mass Spectrometry (MS) Laboratory of the Canadian Centre for Health and Safety in Agriculture (CCHSA) Division in the College of Medicine is part of the National Agricultural-Industrial Hygiene Laboratory, which was established with CFI and University of Saskatchewan matching funds, and is housed in the Health Sciences Building. The MS lab is equipped with state of the art instrumentation capable of environmental (e.g. air particulates, dust) and agricultural samples analysis, pesticide analysis, global proteomics (e.g. identification of proteins, analysis of protein modification, characterization of protein-protein interaction), quantitative proteomics for discovery and validation of biomarkers, small molecule (drugs) analysis, metabolomics and clinical proteomics. Dr. George Katselis is the lead CCHSA faculty in research programs focused on MS-based technologies in the areas of agricultural, rural, indigenous, environmental and occupational health, clinical proteomics and metabolomics. CCHSA-affiliated mass spectrometry laboratory members include: Dr. Paulos Chumala, Brooke Thompson, and Tess Kelly.

### SURVEILLANCE OF INFLUENZA VIRUSES IN WESTERN CANADIAN SWINE AND PEOPLE

Influenza A viruses (IAV) are enveloped, single stranded RNA viruses from the Orthomyxoviridae family that can infect both humans and animals. Since the same virus can infect multiple species, IAV are well-known for the zoonotic potential as well as the health and economic threats that they pose in pig production. Various studies have shown the link between swine IAV (IAV-S) and human IAV; they also show that swine workers and their families have a greater probability of getting infected among all the population. Therefore, it is important to study humans working with pigs on farms endemically infected with IAV-S. A pilot project consisting in active surveillance including nasal and oral swabs as well as surveys was performed in 26 swine workers and results were compared with Matrix real-time RT-PCR results from swine nasal swabs from 11 swine farms in Western Canada. This research may be of importance for early detection of IAV-S strains that infect humans. Larger projects involving more swine workers and farms spanning multiple geographic regions are important when looking at the prevalence of IAV-S, risk factors for both humans and pigs, and the development of preparedness plans of IAV-S infections in the broader human population.

### COMPARISON BETWEEN 3 SAMPLING METHODS FOR SWINE INFLUENZA SURVEILLANCE

Influenza is a zoonotic viral disease that represents a health and economic threat to both humans and animals. The disease in pigs is characterized by an acute respiratory infection with low mortality rates but a high morbidity presentation which accounts for a decrease in production parameters. The importance of this disease for the swine industry has given rise to the development of different control strategies, including surveillance and vaccination.

Surveillance, one of the most relevant strategies for the monitoring of

circulating viral strains, has been using nasal swab samples as its gold standard method for the detection of IAV-S. Even though this sample is useful and successful, better routine sampling techniques are needed to make it simpler, inexpensive, more reliable and with a lower risk for both producers and veterinarians. Sampling methods like oral fluids and oral swabs may play an important role but require further study.

### AGRICULTURAL EXPOSURE STUDIES

The Exposure Team (Schneberger, Kirychuk, Singh) has received 3 grants in support of agricultural exposure studies in mice. This research looks at the respiratory inflammatory effects from co-exposure to common agricultural airborne exposures (carbon dioxide, endotoxin, and glyphosate). In addition, investigates the effect of barn based exposures in pregnant mice in respiratory health of their offspring. This work have also received funding (SHRF) to assess the impact of engineering controls (ESP) on dust reduction in poultry operations. The Mass Dosing Chamber is used to create a mini-poultry barn and will test the effectiveness of ESP in this mini-barn. The entire group including post-doctoral fellows and PhD students has also received funding to look at the impact of in-home smoking cessation on home environmental exposures.

### RURAL CHILDHOOD ASTHMA

The Rural Health Lab has been continuing its research line looking at childhood asthma prevalence along an urban-rural gradient including a MSc student (Afsana) and a PhD student (Oluwole). Several papers have been prepared and the PhD student (Oluwole) presented his results. A second PhD student is preparing his study to look at differences in atopy between Hutterite and non-Hutterite populations. In addition to this, an interdisciplinary group has been working together along with the Saskatchewan Thoracic Society and Certified Asthma Educators to look at a birth cohort of children with asthma to investigate health care utilization and medication use across an urban-rural gradient. Dr Lawson continues to lead a team of international researchers looking at childhood asthma and serves as Director of Research for the Dept of Medicine, Royal University Hospital.

### RURAL DIABETES AND ITS IMPACT AMONG INDIGENOUS PEOPLES

Dr. Dyck with his colleagues, Drs Osgood, Pahwa and Karananayake are conducting research on the epidemic of diabetes and its complications among Indigenous peoples. Their focus has been on the impact of diabetic pregnancies in these epidemics. Over the past year they have acquired an administrative database that includes information on all pregnancies in Saskatchewan from 1980 -2010. With this they will be able to conduct the largest study to-date to examine the role of diabetic pregnancies in accelerating the inter-generational risk for type 2 diabetes in successive offspring cohorts. With the expertise of Dr. Katselis, they are also conducting a study of urine proteomics in infants of diabetic mothers to determine if diabetic pregnancies may also affect fetal kidney development.



## CAPACITY BUILDING

### THE NATIONAL PARTNERS FUND

In 1989 the Founding Chairs Program was established as an endowment fund. The goal was to create a secure financial base for CCHSA and provide opportunities for new program initiatives. Interest from the fund is used for scholarships for graduate students and knowledge translation. Subsequently the National Partners Program Enhancement Trust was set up to assist in providing funds for research projects and new program initiatives.

The Founding Chairs Management Committee administers the fund. The Committee meets twice yearly to make recommendations regarding the fund which is handled by the University of Saskatchewan.

Committee membership is comprised of 3 members who are Contributors and 3 members from the University of Saskatchewan. Current Contributor members are: *Garnett Volk*, Director of Agribusiness and Agri Food, Farm Credit Canada; *Terry Baker*, a former Chair, Viterra Board of Directors; *Rob Bubnick*, Vice President, Safety, Health and Environment, Potash Corp; U of S members: Dr. *Niels Koehncke*, Director, Canadian Centre for Health and Safety in Agriculture, *Dr. Marek Radomski*, Assistant Dean, College of Medicine; *Sue Verhille-Long*, Financial Services Division.

The Director of Institutional Advancement, *Maura Gillis-Cipywnyk*, is responsible for coordinating the program in consultation with the Director and the Management Committee

In 2016-17 we celebrated the 30th anniversary of the Centre creating a new Centre promotional video and holding a celebratory dinner to recognize everyone who assisted in the 30 year journey. Our funding focus was to fund more graduate student scholarships and to develop specific projects for knowledge translation. We thank Farm Credit Canada for responding to our request. Dialogue with other corporations is ongoing.

### CANADIAN AGRISAFETY APPLIED RESEARCH PROGRAM

AgriVita Canada Inc. is a not-for-profit corporation with the objective of promoting health and safety research and its effective application to the agricultural sector. The Canadian AgriSafety Applied Research Program is an initiative of AgriVita Canada Inc. The program supports applied research projects with the objective of bridging the gap between agricultural research and its application in the agricultural sector. The program is funded under Growing Forward 2 (GF2), a policy framework of Agriculture and Agri-Food Canada (AAFC) with matching funds provided by partners in research and industry.

The goal of the Canadian AgriSafety Program is to improve health and safety among agricultural workers through applied research and tangible outputs. The two current projects of the Program are now in their fourth and final year:

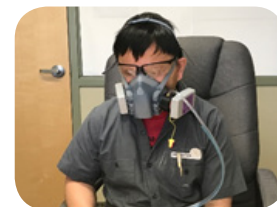
1. **Low- Cost Roll Over Protective Structures Intervention Project**, is developing engineered blueprints for farmer-built roll-over protective structures to retrofit old tractor models at a cost of less than \$200 per tractor. This project has the potential to drastically reduce injury and save lives on Canadian farms. The ongoing pilot program has developed and tested new ROPS designs, oversaw Saskatchewan farmers build these ROPS for testing and is establishing the groundwork for a national farmer-built ROPS certification program.
2. **Animal Housing Environments Project**, which has two components:
  - **Part A: Air Quality in Canadian Pig Buildings**, has been assessing contaminants found in the air of pig barns and the risks these substances cause to animal and human health. The project has been engaged in testing based out of facilities in Quebec to determine how best to minimize and eliminate these airborne hazards.
  - **Part B: Reducing Pathogen Distribution from Animal Transport**, is developing a prototype transport trailer for swine that will control airborne pathogens that can enter and leave trailers during transport. This work will improve efficiency of operating and cleaning transport trailers and fill an important gap in biosecurity in the swine industry. To date the project has run computer simulations to determine the optimal trailer design under a range of conditions and has begun to assemble the prototype trailer that will undergo further testing and economic analysis.

### CANWORKSAFE

CANWORKSAFE provides occupational health surveillance and screening for workplaces in Saskatchewan. CANWORKSAFE programs provide an opportunity for workers to have regular health screening focused on their occupational exposures. Workers receive current health resources and education specific to the workplace that assists to reduce the risk of developing occupational health diseases and disabilities. Appropriate personal protective equipment is fit-tested and referrals to occupational medicine physicians are arranged. Regular occupational health screenings promote healthy lifestyles and productivity that is well received by CANWORKSAFE program participants.

The programs CANWORKSAFE currently delivers include:

1. Hearing Loss Prevention screening for Saskatchewan Rural Municipal employees.
2. Novozymes Bio Ag Limited Saskatoon employees: respiratory health screening, quantitative fit testing and audiometric screening
3. Periodic referrals of industry workers and medical students for lung function testing, hearing tests and quantitative respirator fit testing.



## SERVICES



### THE AGRICULTURAL HEALTH AND SAFETY NETWORK

The Canadian Centre for Health and Safety in Agriculture (CCHSA) partnered with the Saskatchewan Association of Rural Municipalities (SARM) and six Rural Municipalities in 1988 to found the Agricultural Health and Safety Network with the mission “to improve health and safety on the farm through education, service, and evaluation research.” The Network is now in its 29th successful year, providing occupational health and safety services to 216 RMs that are members of the Network reaching over 27,000 farm families.

#### MEMBERSHIP RECRUITMENT AND FUNDING

Currently there are 216 member RMs. These RMs pay an annual fee of \$4.60 per active farm family to benefit from the Network resources and services. The maximum membership fee continues to be capped at \$1,200 per RM. These partnerships are the foundation of the Network and provide leverage to draw additional resources to better serve Saskatchewan farmers, their families and agricultural workers. The Saskatchewan Ministry of Agriculture also provides funding to the Network.

#### STEERING COMMITTEE

The Steering Committee is an Advisory Group composed of RM Councilors and a Saskatchewan Ministry of Agriculture representative. These committee members, who represent the voice of Saskatchewan farmers, their families and their workers, provide direction and feedback on programs delivered in the Network. Their support and input are invaluable to the Network.

The members of the Steering Committee are as follows:

Division 1 - Ken Aldous, Reeve, RM of Willowdale No. 153

Division 2 - Robert Lax, Councillor, RM of Pense No. 160

Division 3 - Floyd Thunstrom, Councillor, RM of Coteau #255

Division 4 - Brenda Zemluk, Councillor, RM of Elfros #307

Division 5 - Walter Kabaroff, Councillor, RM of Blaine Lake No. 434

Division 6 - Bonnie Mills-Midgley, Reeve, RM of Frenchman Butte No. 501

Andre Bonneau, Ministry of Agriculture

#### NETWORK AGRICULTURAL SAFETY DISCOVERY DAYS



The *Network Discovery Days* are farm safety education days for rural Saskatchewan children. A Discovery Day is an afternoon event where children visit multiple farm safety stations to explore and participate in learning activities such as hazard identification, grain safety, avoiding chemical exposure, and fire safety. After participating, each child is provided with a family farm safety package and activity booklet to take home.

The Network Discovery Days reached over 1500 children at 22 schools and community events during its launch in the spring of 2016 and will continue to offer the Program in rural Saskatchewan in 2017.



#### NETWORK NEWSLETTER & OTHER PUBLICATIONS

The 2016 *Network Newsletter Summer Issue* celebrated our amazing Network RM membership and launched the Network Farm Safety Discovery Days. Other topics included the 4-H Farm Safety Day at Ag

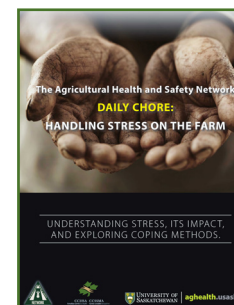


In Motion, grain entrapment, ticks and lyme disease, sun safety, the online Agriculture Training System (OATS) and water safety.

*The Fall/Winter Issue* focused on stress and farming with the resource called *The Daily Chore: Handling Stress on the Farm*. Other topics included whole body vibration, securing your home, Mobile Crisis Services, and Rural Crime Stoppers program information.



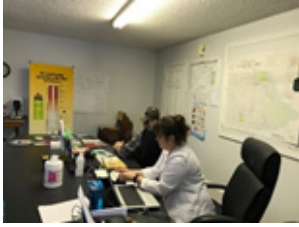
The new stress resource, *Daily Chore: Handling Stress on the Farm*, was developed to help farmers understand stress, its impact and provide different coping methods. This resource acts as a workbook that includes



questionnaires, how to techniques, and fill-in charts to guide readers. The goal is to provide farmers with the tools that will help reduce stress on the farm.

## HEALTH AND SAFETY CLINICS

ONE2ONE Health and Safety Clinics for Farmers offer the unique opportunity for farm families and farm workers to meet with a trained agricultural/occupational health nurse in a confidential environment for a health check tailored to their particular needs and farm-related risks. Participants receive current health and safety information and education specific to reducing agriculture workplace hazards. In addition to hearing and lung function testing, common health concerns such as blood pressure, diet, exercise, stress and sleep are addressed depending on the needs of the farmer or their family. These clinics also serve a research role as part of CCHSA's ongoing research on lung function and hearing levels in SK farmers.



Participants receive current health and safety information and education specific to reducing agriculture workplace hazards. In addition to hearing and lung function testing, common health concerns such as blood pressure, diet, exercise, stress and sleep are addressed depending on the needs of the farmer or their family. These clinics also serve a research role as part of CCHSA's ongoing research on lung function and hearing levels in SK farmers.

Network member RM's are invited to host a clinic for active farm family ratepayers in their local communities or farmers have the option to phone the Network office and make an appointment to attend the CCHSA clinic at the University of Saskatchewan.

## TRAIN-THE-TRAINER WORKSHOP: AGRICULTURAL MACHINERY ROLLOVER, RUN OVER AND ENTANGLEMENT PREVENTION

The Network partnered with the Canadian Agricultural Safety Association (CASA) and Farm Credit Canada (FCC) who provided funding for these workshops. Venues were provided by the Saskatchewan Association of Rural Municipalities (SARM) and the Agricultural Producers Association of Saskatchewan (APAS). This workshop is available electronically to use by anyone in our Network RMs.



## OCCUPATIONAL HEALTH AND SAFETY PROGRAM FOR COLLEGE AGRICULTURE STUDENTS



Invest in Your Health  
Educate. Prevent. Protect.

The "Invest in Your Health Program" aims to empower agriculture students to recognize agricultural health and safety risks and become their own health advocates.

CCHSA is in the second year of a partnership with AgriSafe Network (USA) to help develop and deliver this occupational health and safety program for college-level agricultural students in Saskatchewan and Alberta. This program's objectives are to educate, prevent and protect our future and current farmers by providing them with the tools they need to stay safe and healthy. Students benefit from an interactive lecture, demonstration of personal protective equipment, review of appropriate resources and receive a PPE start-up kit supported by 3M Canada. Students also have the opportunity to receive blood pressure, BMI, and hearing screening.



In 2017, CCHSA and AgriSafe are looking forward to reaching their second year project goal of providing the "Invest in Your Health Program" to 400 students in Saskatchewan and Alberta.



THE NETWORK ELECTRONIC EDUCATION  
Follow the Network @SaskAgSafety.

## KNOWLEDGE TRANSLATION (KTE)

**Dabrowska E, Neis B.** Making Older Tractors Safer. *Agriview* 10(2), Summer, 2016. [http://media.wix.com/ugd/2f2209\\_a6f01fd280bc485889c753246ece0cde.pdf](http://media.wix.com/ugd/2f2209_a6f01fd280bc485889c753246ece0cde.pdf)

**CANFARMSAFE.** Wanted: Farmers to Build ROPS, Canadian AgriSafety Program KT Bulletin Series: 17-01-014. Saskatoon, SK. 2016. (KT)

**CANFARMSAFE.** Roll-Over Protective Structure (ROPS) Educational Demonstration for Kids, Canadian AgriSafety Program KT Bulletin Series: 17-01-015, Saskatoon, SK. 2016. (KT)

**CANFARMSAFE.** Canadian AgriSafety Program Year 3 Update, Canadian AgriSafety Program KT, Newsletter 1, Saskatoon, SK. 2017. (KT)

**CANFARMSAFE.** Glo Germ Demonstration for Youth, Canadian AgriSafety Program KT Bulletin Series: 17-01-016, Saskatoon, SK. 2016. (KT)

**CANFARMSAFE.** Airborne Contaminant Reduction Strategies for Improving Health of Pig Producers, Canadian AgriSafety Program KT Bulletin Series: 17-01-017, Saskatoon, SK. 2016. (KT)

**Kosteniuk J, Morgan D.** (Co-editors). RaDAR Newsletter available at [www.ruraldementiacare.usask.ca](http://www.ruraldementiacare.usask.ca) under the News tab.

**Morgan D.** (Editor), Rural Dementia Care: Strategies to Improve the Care of Persons with Dementia in Rural and Remote Areas ([www.ruraldementiacare.usask.ca](http://www.ruraldementiacare.usask.ca)). A website highlighting team-based research in rural and remote dementia care. April 2008 to present.

**Morgan D.** (Founding Editorial Member), Gateway to Rural International Initiatives in Dementia (GRIID) (<http://www.ruraldementia.com>). A website for sharing dementia initiatives and information hosted by an international team of dementia researchers, practitioners and service providers seeking to advance the provision of dementia care support and services in rural areas internationally. Countries represented in this collaboration include: Australia, Canada, India, Sweden, The United Kingdom. April 2014 to present.

## TECHNICAL REPORTS

**Crockett K, Lovo Grona S, Bath B.** Development of a Clinical Master's Program in Physical Therapy at the University of Saskatchewan: A Discussion Paper. 2017. 56 p.

**Morgan D, Minish D.** (March 2017). Summit 9 Final Report. Final report from the ninth annual summit of the knowledge network in rural and remote dementia care, October 25th & 26th 2016. Report printed at the University of Saskatchewan (24 pages).

**Kosteniuk J, Morgan D, O'Connell ME, Kirk D, & Stewart N.** (2016). A Baseline Study of the Dementia Care Landscape in Sun Country Health Region: A Report by the Rural Dementia Action Research (RaDAR) Team. Report printed at the University of Saskatchewan (76 pages).

**Morgan D, Minish D.** (May 2016). Summit 8 Final Report. Final report from the eighth annual summit of the knowledge network in rural and remote dementia care, October 27th & 28th 2015. Report printed at the University of Saskatchewan (24 pages).

**Andrews ME, Kosteniuk J, Penz K, Stewart N, Olynick J, Jonatansdottir S, Mix N, Garraway L, MacLeod M.** (April, 2017). Saskatchewan Survey Fact Sheet: Nursing Practice in Rural and Remote Canada. Prince George, BC: Nursing Practice in Rural and Remote Canada II. RRN2-04-03

## INVITED PRESENTATIONS

**Bath B.** Rheumatology Rounds presentation: "From Primary Care to Spinal Triage and Back Again: Addressing Access Challenges for Chronic Back Pain through Teams and Technology" Rheumatology Division, Department of Medicine, College of Medicine

**Bath B, Trask C.** Interview: for Farm Forum (online and print magazine sponsored by Bayer Crop Science). Comment: Invited interview re. musculoskeletal disorders in farmers. Link to article in Spring 2017 publication: <http://farmforum.ca/article/when-farming-hurts/> link to pdf: [http://farmforum.ca/wp-content/uploads/2017/04/farm\\_forum\\_spring\\_2017.pdf](http://farmforum.ca/wp-content/uploads/2017/04/farm_forum_spring_2017.pdf)

**Bath B.** CTV New and Farmgate interview. Comment: Television interview regarding telehealth back pain project. Link to interview: <http://saskatoon.ctvnews.ca/video?clipId=1054331>

**Bath B.** Radio interview regarding low back pain Telehealth research project description and recruitment. CBC Radio. Article link: <http://www.cbc.ca/beta/news/canada/saskatchewan/rural-and-remote-back-pain-1.3929654>. Comment: link to interview: <http://www.cchsa-ccssma.usask.ca/cchsa-news/Dr.%20Brenna%20Bath%20CBC%20Radio%20Interview.php>

**Bath B.** Radio interview with Discover Humboldt Bolt 107.5 FM radio re. rural and agricultural back pain risk and telehealth pilot project recruitment. Comment: link to article an interview: <http://discoverhumboldt.com/local/11883-rural-back-pain-sufferers-sought-by-kthr>

**Katselis G.** Mass Spectrometry in Health Sciences: Basic Concepts. Research Seminar School of Physical Therapy, College of Medicine, University of Saskatchewan, February 26, 2016, Saskatoon, SK.

**Katselis G.** Mass Spectrometry in Health Sciences: Basic Concepts. Grand Rounds, Department of Medicine, College of Medicine, University of Saskatchewan, 2016, Saskatoon, SK.

**Lawson JA.** A global perspective on the epidemiology of asthma. An invited lecture at the Polish Respiratory Conference. Wisla, Poland.

**Lawson JA.** The Indoor Environment and its Association with Lung Health. Presentation to the Polish Environmental Epidemiology Association. Gliwice, Poland.

**Morgan D.** The Rural Dementia Action Research Program: Highlights from two decades of community-based research in Saskatchewan. Presentation at University of Stirling, Stirling, Scotland, February 23, 2017.

**Morgan D.** The Rural Dementia Action Research Program: Twenty years of community-based research in Saskatchewan, Canada. Presentation at Salford Institute for Dementia. Salford University, Manchester, England, February 22, 2017.

**Morgan D.** The Rural Dementia Action Research Program: Trajectory of a long-term community-based research program in Saskatchewan, Canada. Presented: Danube University Krems. Krems, Austria, February 8, 2017.

**Morgan D.** The Rural Dementia Action Research Program: What have we learned from 20 years of community-based research in Saskatchewan, Canada. Presentation at Wels Dementia Services Centre. Wels, Austria, February 7, 2017.

**Morgan D.** (Chair & Presenter) Summit 9 - Knowledge Network in Rural and Remote Dementia Care - 9th Annual Summit. Knowledge exchange meeting of research team and Decision-Maker Advisory Council, Saskatoon, SK, October 25th & 26th, 2016.

**Pilote J, Létourneau V, Lévesque A, Girard M, Godbout S, Lemay S, Duchaine C.** Laboratory Scale Pig Buildings: A Controlled Environment to Develop Reduction Strategies for Airborne Contaminants. Presented: 35th AAAR Annual Conference, Portland, Oregon. October 17-21, 2016.

**Predicala B.** Engineering Update: Finding Solutions Through Engineering Research. Presented: Swine Innovator's Club meeting. Banff, AB. October 1, 2016.

**Predicala B.** PSC Engineering Update: Innovations in Transportation and Barn Ventilation. Presented: PSC Board of Directors: Animal Research Forum. Saskatoon, SK. April 28, 2016.

**Predicala B.** Technology to Improve Swine Transportation. 2016 Saskatchewan Producer Meeting. Swift Current, SK. April 28, 2016.

**Predicala B.** Technology to Improve Swine Transportation. 2016 Manitoba Producer Meeting. Niverville, MB. June 4, 2016.

**Predicala B.** 2016. Technology to Improve Swine Transportation. 2016 Alberta Producer Meeting. Red Deer, AB. April 19, 2016.

Research profile (2016, August 8). Researchers hope to ease the struggle of dementia care in rural communities. The StarPhoenix. Available online <http://thestarphoenix.com/health/seniors/researchers-hope-to-improve-dementia-care-in-rural-communities>

Research profile (2016, August 2). University of Saskatchewan research aims to improve dementia care. Global News. Available online <http://globalnews.ca/news/2861194/>

Interview – Charlton, J. (2016, August 11). Ruralites need better dementia care. The StarPhoenix, p. A5.

## PUBLISHED PAPERS: E-PUB & IN REFEREED JOURNALS

**Abonyi S, Hackett P, Dyck RF.** Editorial: Reflections on Ethical Challenges Encountered in Indigenous Health Research Using Archival Records. *International Journal of Circumpolar Health*. 2016, 75: 32592 (2 pages) - <http://dx.doi.org/10.3402/ijch.v75.32592>.

**Atila M, Katselis I K, Chumala P, Luo Y.** Characterization of N-Succinylation of L-Lysylphosphatidylglycerol in *Bacillus subtilis* Using Tandem Mass Spectrometry. *Journal of The American Society for Mass Spectrometry*, 2016, 27(10), 1606-1613. (DOI: 10.1007/s13361-016-1455-4). 1Equal Contribution.

**Bascu J, Abonyi S, Jeffery B, Johnson S, Morgan D.** Examining rural older adults' perceptions of cognitive health. *Canadian Journal on Aging*, 36(3), 2017.

**Bath B, Lovo Grona S, Milosavljevic S, Sari N, Imeah B, O'Connell M.** Advanc-

ing Interprofessional Primary Health Care Services in Rural Settings for People with Chronic Low Back Disorders: Protocol of a Community-Based Randomized Controlled Trial. *Journal of Medical Internet Research (JMIR) Research Protocols*. 2016 Nov; 5(4):e212. Epub 2016 Nov.

**Bath B, Jacobowski M, Mazzei D, McRae J, McVittie N, Stewart S, Lovo Grona S.** Factors Associated with Reduced Perceived Access to Physiotherapy Services among People with Low Back Disorders. *Physiotherapy Canada*. 2016 Oct;68(3):260-6. Epub 2016 Jun.

**Bonnie Janzen, Chandima Karunanayake, Donna Rennie, William Pickett, Joshua Lawson, Shelley Kirychuk, Louise Hagel, Ambikaipakan Senthilselvan, Niels Koehncke, James Dosman, Punam Pahwa.** Gender Differences in the Association of Individual and Contextual Exposures with Lung Function in a Rural Canadian Population. *LUNG* 2016; 195(1):43-52.

**Branger C, Burton R, O'Connell M, Stewart N, Morgan D.** Coping with cognitive impairment and dementia: Rural Caregivers' Perspectives. *Dementia: The International Journal of Social Research and Practice*, 2016, 15(4), 814-831. doi:10.1177/1471301214539956.

**Branger C, O'Connell M, Morgan D.** Factor Analysis of the 12-item Zarit Burden Interview in caregivers of persons diagnosed with dementia. *Journal of Applied Gerontology*, 2016, 35(5), 489-507. doi:10.1177/0733464813520222.

**Burton R, O'Connell ME, Morgan D.** Exploring interest and goals for videoconferencing delivered cognitive rehabilitation with rural individuals with mild cognitive impairment or dementia. *NeuroRehabilitation*, 2016, 39(2), 329-342. doi:10.3233/NRE-161364.

**Chu LM, Pahwa P.** Prevalence and associated factors for self-reported asthma in a Canadian population: The Canadian Community Health Survey, 2014. *J Asthma*, 2017 Mar 27, 1-9. [Epub ahead of print]

**Donkuru M, Michel D, Awad H, Katselis G, El-Aneed A.** Novel HILIC-LC-MS/MS Quantitative Method for the Cellular Analysis of Varying Structures of Gemini Surfactants Designed as Nanomaterial Drug Carriers. *Journal of Chromatography A*, 2016, 1446, 114-124.

**Essien S, Trask C, Dosman J, Bath B.** Investigating the association between lower extremity and low back symptoms among Saskatchewan farmers using the Standardized Nordic Questionnaire. *Spine*. 2017 Feb.

**Essien S, Trask C, Bath B, Koehncke N, Saskatchewan Farm Injury Cohort Study Team.** Association between farm machinery operation and low back disorder in farmers: a retrospective cohort study. *Journal of Occupational and Environmental Medicine*. 58(6): e212-17. Epub 2016 Jun.

**Hackett P, Abonyi S, Dyck RF.** Anthropometric Indices of First Nations Children and Youth on First Entry to Manitoba/Saskatchewan Residential Schools -1919 to 1953. *International Journal of Circumpolar Health*. 2016, 75: 30734 (9 pages) - <http://dx.doi.org/10.3402/ijch.v75.30734>.

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**Janzen B, Karunanayake C, Rennie D, Pickett W, Lawson J, Kirychuk S, Hagel**

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Adebayo O, Kociolek A, Bath B, Predicala B, Trask C. Patterns of biomechanical distal upper limb exposures in swine farm workers using the needleless injector and conventional injection techniques. **Presented:** Saskatchewan Epidemiology Association (SEA) 16th Annual Fall Symposium; 2016 Nov; Saskatoon, SK.

Alimezelli HT, Leis A, Denis W, Karunanayake C. Canada's linguistic policies and health inequities among minority Francophones. **Presented:** The Pathways to Health Equity: Levelling the Playing Field conference, May 30-June 1st, 2016, Winnipeg, MB.

Alimezelli HT, Leis A, Denis W, Karunanayake C. Linguistic policies and health disparities among official minority Francophones in Canada. **Presented:** The Canadian Association for Health Services and Policy Research (CAHSPR), May 10-12, 2016, Toronto, ON.

Assante B, Bath B, Trask C. Preliminary Ergonomics Assessment of Posture among Canadian Waste Collection Workers. **Presented:** 9th Biennial Conference of the Canadian Association for Research on Work and Health; 2016 Oct 16-18; Toronto, ON.

Assante B, Bath B, Trask C. Preliminary Ergonomics Assessment among Canadian Waste Collection Workers. **Presented:** Saskatchewan Epidemiological Association Annual Fall Symposium; 2016 Nov; Saskatoon, SK.

Awoyera O, Kirychuk S, Lawson J, Dawicki W, Rennie D, Cockroft D, Koehncke N, Gordon J, Katselis G. Respiratory Outcome and Relationship to Airborne Contaminants in Two Saskatchewan Communities[abstract]. **Presented:** U of S COM 2nd Floor Research Day 2017; 2017 Mar 3-3, Saskatoon, SK.

Bath B, Ma D, Lawson J, Trask C. Uncovering inequities in access to health care services among adult Canadians with chronic back disorders. **Presented:** Statistics Canada's Canadian Research Data Centre Network National Conference; 2016 Oct; Saskatoon, SK.

Blackberry I, Farmer J, Morley C, Douglass D, Mahoney A, Torabi T, Morgan D, Awan MB. Technology to support carers of people with dementia: Local and global opportunities. **Presented:** The 14th National Rural Health Conference, April 26-29, 2017, Cairns, Australia.

Blackberry I, Farmer J, Morley C, Torabi T, Mahoney A, Douglass D, Wilding C, Morgan D. Service navigation and networking for dementia in rural communities: SENDER app. **Presented:** 49th Australian Association of Gerontology (AAG) Conference, November 2-4, 2016, Canberra, Australia.

Bauer M, Fetherstonhaugh D, Farmer J, Blackberry I, Morley C, Morgan D. The support and service needs of people with dementia living in a rural community in

Victoria, Australia: A Delphi Study. **Presented:** 32nd International Conference of Alzheimer's Disease International, April 26-29, 2017, Kyoto, Japan.

Brozek G, Zejda J, Agnieszka J, Agnieszka I, Lawson J. A comparison of spirometric results obtained in sitting and standing position in children. **Presented:** European Respiratory Society International Congress; 2016; London, UK

Burton R, O'Connell ME, Morgan D. The relationship between instrumental activities of daily living and executive function in a memory clinic sample. **Presented:** Alzheimer's Association International Conference (AAIC), Toronto, ON, July 24-27, 2016.

Cammer A, Morgan D, Whiting S. The role of registered dietitians in dementia care in rural and urban long-term care contexts. **Presented:** Gerontological Society of America 69th Annual Scientific Meeting, November 16-20, 2016, New Orleans, LA.

Cammer A, Whiting S, Morgan D. Care aide perceptions of best nutritional care practices for residents with dementia in urban and rural long-term care. **Presented:** Dietitians of Canada Annual Conference, June 8-11, 2016, Winnipeg, MB.

Chumala P, Atila M, Katselis G, Luo Y. N-Succinylation of L-lysyl-phosphatidylglycerol in *Bacillus subtilis*. In Book of Abstracts, 64th ASMS **Presented:** Conference on Mass Spectrometry and Allied Topics, June 5-9, 2016, San Antonio, Texas, USA.

Dabrowska E, Neis B, Butler L, Vincent C. Farm safety hazards and priorities in Newfoundland. **Presented:** CARWH 2016: Advancing Research to Improve Work and Health Conference, Toronto. October 16-18, 2016.

Dabrowska E, Neis B. A path to agricultural sustainability in Newfoundland: Enhancing Agricultural Safety. State of Rural Canada Sessions, **Presented:** Canadian Association of Geographers, Halifax, NS. May 31, 2016.

Dabrowska E, Neis B. Control of Agricultural Injuries: Weather and Climate. **Presented:** National Summit on the Control of Agricultural Injury and Death in Canada, Saskatoon, SK. June 7, 2016.

Donkuru M, Badea I, Awad H, Katselis G, El-Anead A. HILIC-LC-MS/MS investigation of the intracellular fate of gemini surfactants designed for gene delivery. **Presented:** International Mass Spectrometry Conference (IMSC), August 24, 2016, Toronto, ON.

Fagbemi I, Mapiour A, Bath B, Trask B. Manual Materials Handling Among Saskatchewan Grain Farmers: Exposure Assessment of Common Seasonal Tasks. **Presented:** Saskatchewan Epidemiology Association's 16th Annual Fall Symposium; 2016 Nov; Saskatoon, SK.

Fonseca AA, Trask C, Bath B. Physical activity and chronic back disorders in Canadian adults Presentation Keywords: Chronic pain, back pain, physical activity, prevalence, population health. **Presented:** Statistics Canada's Canadian Research Data Centre Network Conference; 2016 Oct; Saskatoon, SK.

Fonseca AA, Trask C, Bath B. Factors associated with changes or intentions to change physical activity among Canadians with chronic back disorders. **Presented:** Saskatchewan Epidemiology Association's 16th Annual Symposium; 2016 Nov; Saskatoon, SK.

Forbes DA, Blake C, Mohora A, Rajan R, Adzovie E, Lea P, Strain L, Peacock S, Harmata C, Woytkiw T, Hawranik P, Morgan D, Innes A. Knowledge broker's influence on use of dementia care evidence in Canadian Northern home care centres. **Presented:** Canadian Association on Gerontology 45th Annual Scientific and Educational Meeting, October 20-22, 2016, Montréal, QC.

Girard, M. & Predicala, B. Particulates (Dusts) Exposures. **Presented:** National

## CONFERENCE PROCEEDINGS & ABSTRACTS

Summit on the Control of Agricultural Injury and Death in Canada, Saskatoon, SK. June 7, 2016.

Hassan N, Ianowski J, Katselis GS. Proteomics- and Physiology-based Studies in Deciphering Epithelial Crosstalk Mechanism(s) Using *Rhodnius prolixus* as Experimental Model. In Book of Abstracts, Presented: 64th ASMS Conference on Mass Spectrometry and Allied Topics, June 5-9, San Antonio, Texas, USA.

Horvey K, Brawley L, Butcher S, Goodridge D, Lawson J, Marciniuk D. Physical Activity and Self-Reported Health Measures are Significantly Lower in Adults with Obstructive Breathing: An Analysis of the Canadian Health Measures Survey (CHMS). Presented: Canadian Respiratory Conference; 2017; Montreal, QC.

Khan M, Kociolek A, Zeng X, Bath B, Trask C. Patterns of trunk posture among Saskatchewan farm workers. Presented: 9th Biennial Conference of the Canadian Association for Research on Work and Health; 2016 Oct 16-18; Toronto, ON.

Khan M, Kociolek A, Zeng X, Bath B, Trask C. Patterns of trunk posture exposure in Saskatchewan farmers. Presented: Saskatchewan Epidemiological Association 16th Annual Fall Symposium; 2016 Nov; Saskatoon, SK.

Kosteniuk J, Morgan D, Seitz D, O'Connell ME, Kirk A, Stewart N, Holroyd-Leduc J. A community-based participatory research approach to rural dementia care best practices in primary health care teams. Presented: Alzheimer's Association International Conference (AAIC), July 24-28, 2016, Toronto, ON.

Kiryuchuk S, Russell E, Roberts C, Karunanayake C, Rennie D, Bird D, Pahwa P, Abonyi S, Dosman J, Koehncke N. The Built Environment and Lung Health in Two Saskatchewan First Nations Communities[abstract]. Presented: U of S Building Reconciliation Forum 2017; 2017 Mar 7-7, Saskatoon, SK.

Jaindl B, Dykes L, Coulthard J, Naylen J, Rochelau N, Bath B, Clay L, Khan M, Trask C. Get 'er done: experiences of Saskatchewan farmers living with low back disorders. Presented: Canadian Physiotherapy Association's National Congress; 2016 May; Victoria, BC. (*People's Choice Poster Award, Third Place*).

Lawson J, Brozek G, Shpakou A, Fedortsiv O, Beridze V, Vlashki E, Rennie D, Afanasieva A, Zejda J. An international comparison of asthma, wheeze, and breathing medication use among children. Presented: European Respiratory Society International Congress; 2016; London, UK.

Lévesque A, Girard M, Godbout S, Létourneau V, Duchaine C, Lemay S. Protecting Swine Worker Health: Determining the Best Combination of Airborne Contaminant Reduction Technologies to Reduce Odours, Dust and Gases. Presented: Canadian Society for Bioengineering 2016 Annual General Meeting and Conference, Halifax, NS. June 3-6 2016.

Macleod M, Kosteniuk J, Kilpatrick K, Koren I, Martin-Kisener R, Moffitt P, Stewart N, Zimmer L, Garraway L. Retirement intentions among rural and remote nurses in Canada. Presented: Canadian Health Workforce Conference. October 3-5, 2016, Ottawa, ON.

Macleod M, Anguish P, Kosteniuk J, Kulig J, Stewart N, Wilson E. Registered nurses' practice and leadership in primary health care settings. Presented: Canadian Nurses Association Biennial Convention, June 20-22, 2016, St. John, NB.

Malloy-Weir L, Morgan D, Kosteniuk J, McDavid J. Use of the Tailored Design Method in formative evaluations: Lessons learned. Presented: Canadian Evaluation Society Conference, April 30-May 3, 2017, Vancouver, BC.

Malloy-Weir L, Morgan D, Kosteniuk J, McDavid J, Zeng W. Use of Geographic Information Systems mapping in formative evaluations to inform action and decision making. Presented: Canadian Evaluation Society Conference, April 30-May 3, 2017, Vancouver, BC.

Malloy-Weir L, Morgan D, Kosteniuk J, Michael J, Bracken J, McDavid J. Formative evaluation of the outreach component of the Alzheimer Society of Saskatchewan's First Link™ Program. Presented: CCNA Annual Science Day and Partners Forum, October 5-7, 2016, Vancouver, BC.

Malloy-Weir LJ, Morgan D, Kosteniuk J, Michael J, Bracken J. Evaluation of the outreach component of the Alzheimer Society of Saskatchewan's First Link Program. Presented: Alzheimer's Association International Conference (AAIC), July 24-27, 2016, Toronto, ON.

Mapiour A, Fagbemi I, Bath B, Trask C. Manual Material Handling among Cattle Farmers in Saskatchewan: Exposure Assessment of a Risk Factor for Low Back Disorders. Presented: Saskatchewan Epidemiological Society 16th Annual Fall Symposium; 2016 Nov; Saskatoon, SK.

Morgan D, Kosteniuk J, Seitz D, O'Connell ME, Kirk A, Stewart N, Holroyd-Leduc J. CCNA Team 20 Rural: Developing rural dementia care best practices in primary health care teams: A community-based approach. Presented: CCNA Annual Science Day and Partners Forum, October 5-7, 2016, Vancouver, BC.

Morgan D, Kosteniuk J, O'Connell ME, Kirk A, Stewart N, Seitz D. Implementing sustainable best practices for dementia in rural primary health care teams: Identifying implementation enablers and barriers. Presented: Canadian Association on Gerontology Conference, October 21, 2016, Vancouver, BC.

Murcia-Rodriguez D. Chronic pancreatitis in a cat. Presented: 47th Western Conference of Veterinary Diagnostic Pathologists, September 30th - October 1st/2016, Saskatoon, SK.

Murcia-Rodriguez D. Surveillance of Influenza A viruses in Western Canadian swine and people. Presented: WCVN Graduate Student Poster Competition, University of Saskatchewan, March 8th - 9th/2016, Saskatoon, SK.

Nascimento A, Aulakh G, Schneberger D, Felício LF, Bernardi MM, Kiryuchuk S, Singh B. The Role of CD34 and LPS on Allergic Lung Inflammation based on Sexual Dimorphism[abstract]. Presented: U of S COM 2nd Floor Research Day 2017; 2017 Mar 3-3, Saskatoon, SK.

O'Connell ME, Gould B, Scerbe A, Morgan D, Carter J, Bourassa C, Jacklin K. Worries about maintaining independence of rural/remote older adults: Opportunities for technology development. Presented: Canadian Association on Gerontology 45th Annual Scientific and Educational Meeting, October 20-22, 2016, Montréal, QC

O'Connell ME, Gould B, Scerbe A, Morgan D, Carter J, Bourassa C, Owl N, Jacklin K, Warry W. Unmet needs of rural/remote older adults: Opportunities for technology development. Presented: AGE-WELL's 2nd Annual Conference & Annual General Meeting, October 18-20, 2016, Montréal, QC.

Pahwa P, Rana M, Karunanayake C, Hagel L, Elliot V, Lawson J, Rennie D, Senthilselvan A, Dosman J, Saskatchewan Rural Health Study Research Team. Longitudinal Changes in Prevalence of Chronic Bronchitis in Rural People. Presented: European Respiratory Society 2016 International Congress, September 3-7, 2016, London, UK.



## CONFERENCE PROCEEDINGS & ABSTRACTS

**Pandher U, Kirychuk S, Schneberger D, Sethi RS, Liu L, Gerdtz V, Koehncke N, Thompson B, Singh B.** Unravelling the Molecular Basis of Glyphosate and Endotoxin Interaction[abstract]. **Presented:** U of S COM 2nd Floor Research Day 2017; 2017 Mar 3-3, Saskatoon, SK.

**Pilote J, Létourneau V, Duchaine C.** Évaluation de la présence d'agents pathogènes humains et de gènes de résistance aux antibiotiques et au zinc dans l'air de porcheries et dans la flore nasopharyngée d'éleveurs de porcs. **Presented:** 9th Symposium of the Centre de recherche en infectiologie porcine et avicole. Faculté de Médecine Vétérinaire, Université de Montréal, QC. May 25-26 2016.

**Pilote J, Létourneau V, Duchaine C.** Évaluation de la présence d'agents pathogènes humains et de gènes de résistance aux antibiotiques et au zinc dans l'air de porcheries et dans la flore nasopharyngée d'éleveurs de porcs. **Presented:** Journée Scientifique de Recherche Universitaire du CRIUCPQ : Université Laval, Québec, June 2-3, 2016.

**Rennie D, Karunanayake C, Lawson J, Dosman J, McMullin K, Sylvia A, Epstein J-A, Gardiply PJ, MacDonald J, Pahwa P.** Predictors of airway function in a population of First Nations children living in rural Canada. **Presented:** European Respiratory Society 2016 International Congress, September 3-7, 2016, London, UK.

**Russell E, Kirychuk S, Roberts C, Karunanayake C, Petit R, Rennie D, Bird D, Roberts F, Pahwa P, Abonyi S, Dosman J.** Housing, Mold and Respiratory Health in Two Saskatchewan First Nations Communities. **Presented:** NGGS Conference; 2016 Jun 12-14

**Ristovska T, Vlashki E, Colakovska C, Kimovska M, Micevska V, Lawson JA.** Density of truck traffic on residential streets and the impact on asthma and asthma-like symptoms in childhood. **Presented:** European Respiratory Society International Congress; 2016; London, UK.

**Schneberger D, DeVasure JM, Thompson B, Bailey KL, Romberger DJ, Wyatt TJ, Kirychuk SP.** Surfactant Protein D Expression is inhibited by Exposure to Organic Barn Dust. **Presented:** U of S COM 2nd Floor Research Day 2017; 2017 Mar 3-3, Saskatoon, SK.

**Shah T, Bath B, Milosavljevic S, Trask C.** Spatial distribution of physiotherapy use across Canadian health regions in relation to the distribution of physiotherapists. **Presented:** Statistics Canada's Canadian Research Data Centre Network National Conference; 2016 Oct; Saskatoon, SK.

**Taylor Gjevre R, Nair B, Bath B, Stewart S, Arendse R, Trask C, Penz E, Hardy K, Sharma M, Okpalauwaekwe U.** Participant Recruitment for Rural Rheumatoid Arthritis Care Delivery Model Trial. **Presented:** Canadian Rheumatology Annual Scientific Meeting; 2016 Feb 17-20; Lake Louise, AB.

**Thompson B, Schneberger D, Katselis G, Kirychuk S.** Respiratory and Inflammatory Assessment of Workers in the Swine Operations. **Presented:** U of S COM 2nd Floor Research Day 2017; 2017 Mar 3-3, Saskatoon, SK.

**Thompson B, Chumala P, Kirychuk S, Katselis G.** Mass Spectrometry-based Studies on the Association of Settled Organic Dusts and Respiratory Symptoms. **Presented:** U of S COM 2nd Floor Research Day, 2017 Mar 3-3, Saskatoon, SK.

**Thompson B, Bhat V, Cunningham CE, Chumala P, Vizeacoumar FS, Vizeacoumar FJ, Katselis GS.** Method Development and Evaluation of the Protein Phosphatase 2 Phosphoproteome Using the Chip iFunnel QTOF Platform. In Book of Abstracts, 64th ASMS **Presented:** Conference on Mass Spectrometry and Allied Topics, June 5-9, 2016, San Antonio, Texas, USA.

**Thompson B, Chumala P, Kirychuk S, Katselis G.** Mass Spectrometry-based Studies on the Association of Organic Dusts and Respiratory Symptoms. In Book of Abstracts, 64th ASMS **Presented:** Conference on Mass Spectrometry and Allied Topics, June 5-9, 2016, San Antonio, Texas, USA.

**Trask C, Kociolek A, Khan M, Xiaoke Z, Bath B.** Rural Agriculture as a Biopsychosocial Context for Low Back Health: Preliminary Results of the Saskatchewan Farmers Back Study. **Presented:** 9th International Scientific Conference on the Prevention of Work-Related Musculoskeletal Disorders; 2016 Jun 20-23; Toronto, ON.

**Vlashki E, Colakovska C, Ristevska T, Kimovska M, Seckova L, Micevska V, Lawson JA.** Temporal trends in asthma and asthma-like symptom prevalence in Skopje, The Republic of Macedonia. **Presented:** European Respiratory Society International Congress; 2016; London, UK.

**Walker J, Bronskill S, Manuel D, Morgan D, Jaakkimainen L, Kröger E.** Informing health system policy & planning for persons with dementia: The multi-layered role of secondary data. **Presented:** Canadian Association for Health Services and Policy Research (CASPHR) Conference. May 9-12, 2016, Toronto, ON.

**Willems J, Khamis MM, Mohammed-Saeid M, Purves RW, Katselis G, Low N, El-Aneed A.** Differential ion mobility and tandem mass spectrometric analysis of a series of chlorogenic acid isomers in fruit juice. **Presented:** International Mass Spectrometry Conference (IMSC), August 23, 2016, Toronto, ON.

**Wassermann J.** Machinery and Equipment Exposures. **Presented:** National Summit on the Control of Agricultural Injury and Death in Canada, Saskatoon, SK. June 7, 2016.

**Wright N, Gjevre J, Cockcroft D, Afseth N, Katselis G, Zhang X, Gordon JR.** Profiling the Activation Status of the Cystic Fibrosis Neutrophil. **Presented:** The 23rd Annual Life and Health Sciences Research Day, 2016, University of Saskatchewan, Saskatoon, SK.

**Zeng X, Kociolek A, Khan M, Milosavljevic S, Bath B, Trask C.** Whole-body vibration exposure in machinery use of the Canadian Prairie farmers. **Presented:** 9th Biennial Conference of the Canadian Association for Research on Work and Health; 2016 Oct 16-18; Toronto, ON.

**Zeng X, Kociolek A, Khan M, Milosavljevic S, Bath B, Trask C.** Predicting whole body vibration exposure in Canadian Prairie farmers. **Presented:** 9th Biennial Conference of the Canadian Association for Research on Work and Health; 2016 Oct 16-18; Toronto, ON.

**Zeng X, Kociolek A, Khan M, Milosavljevic S, Bath B, Trask C.** Modelling whole body vibration exposure in Saskatchewan farmers. **Presented:** Saskatchewan Epidemiological Association 16th Annual Fall Symposium; 2016 Nov; Saskatoon, SK.



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## RESEARCH GRANTS

Stewart Harris (PI). Co-Is: E Barre, O Bhattacharyya, K Dawson, R Dyck, M Green, A Hanley, B Lavallee, M Parry, V Rac, S Reichert, J Salsberg, B Te Hiwi, A Thind, S Tobe, A Walsh, L Wylie, M Zwarenstein.

*Transformation of Indigenous Primary Healthcare Delivery (FORGE AHEAD): Enhancement and Adaptation of Community driven Innovations and Scale-up Toolkits: CIHR Team Grant: Pathways Implementation Research Team - Component 2 (2016). \$217,370 per year for 3 Years beginning March 2017.*

Kiryuchuk S (PI), Merkowsky K (Co-PI). *Understanding The Inflammatory Potential of GM Canola Dust, CoMGRAD University of Saskatchewan. Total: \$54,000.00 for 2017-09-01 to 2019-08-31.*

Abonyi S (PI), Dosman J, Karunanayake C, Kiryuchuk S, Pahwa P, Ramsden V, Roberts C (Co-Is). *Disparities in Respiratory Health Among First Nations People: Assess, Redress, Re-assess. Sharing Knowledge & Experience, Revealing Priorities & Directions, Canadian Institute of Health Research. Total: \$19,122.00 for 2017-04 to 2018-04.*

Ramsden V (PI), Kiryuchuk S, Rabbitskin NJ, Abonyi S, Dolovich LR, Dosman J, Fenton M, Graham H, Lamarche L (Co-Is). *Māmawōhkamātowin: Enhancing & Integrated Pathways to Wellness, Canadian Institutes of Health Research. Total: \$150,000.00 for 2017-03 to 2018-03.*

Kiryuchuk S (PI), Schneberger D (Co-principal Investigator). *Effect of low dose carbon dioxide and ammonia on barn dust induced lung inflammation, We hypothesize that CO2 and NH3 are capable of inducing increased innate immune responses to barn dust exposure at levels currently deemed safe workplace exposure levels. We therefore will address the lowest level of concentration of CO2 and NH3 capable of inducing an immunological synergism with response to barn dust and LPS. CoMRAD University of Saskatchewan. Total: \$21,489.00 for 2016-05 to 2017-05.*

Katselis G. (PI), Milosavljevic S., Bath B., Nair B., Trask C., Gjevre R., Chumala P. (Co-Is). *Use of Proteomics as a Diagnostic and Prognostic Tool for Chronic Low Back Pain, Dept of Medicine, College of Medicine, UofS.*

Bracamonte J. (PI), Simko E., Katselis G., (Co-Is); Rybicka J., Rubio-Martinez L. (Collaborators). *Comparison of serum amyloid A (SAA) isoforms expressions in synovial fluid from horses with experimentally induced systemic inflammation, septic arthritis, and non-septic arthritis, Mark and Pat DuMont Equine Research Fund.*

Madill S. (Principal Investigator), Katselis G. (Co-principal Investigator), Johnston G. (Co-principal Investigator). *An investigation of the links between osteoporosis and urinary incontinence in older women, a proteomics study, CoMRAD, College of Medicine, University of Saskatchewan.*

Katselis G. (Principal Investigator), Lawson J. (Co-investigator), Rennie D. (Co-investigator). *Predicting Childhood Asthma in Saskatchewan Using Urine Proteomics, College of Medicine COMRaD grant. (Comment: Application was ranked top in the Clinical category).*

Katselis G. (Principal Investigator), Dyck R. (Co-principal Investigator), Erickson R. (Co-investigator), Lawson J. (Co-investigator). *Examining the developmental origins of kidney disease in infants of diabetic mothers using urine proteomics, Saskatchewan Health Research Foundation (The) (SHRF) Collaborative Innovation Development.*

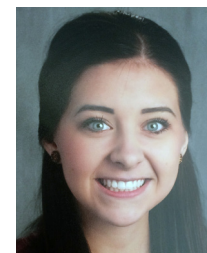
## SARM SCHOLARSHIP WINNERS

In 1995, the Saskatchewan Association of Rural Municipalities (SARM) auctioned off the first copy of its history book "The Building of a Province: Commemorating the 90th Anniversary of the Saskatchewan Association of Rural Municipalities." This auction netted the sum of \$2,600 which the SARM Board of Directors contributed to the Canadian Center for Health and Safety in Agriculture (CCHSA). These funds initiated the SARM 90th Anniversary \$1,000 Student Scholarship in Agricultural Safety and Rural Health. The Founding Chairs Program at CCHSA now maintains the scholarship.

This year two scholarships of \$1500 were awarded to grade 12 students, **Eryn Stewart** from Oxbow, RM # 33 Moose Creek and **Kyla Zrymiak** from Ituna, RM # 246 Ituna Bon Accord. Students were asked to submit essays about (a) The importance of safety and health on our farm or (b) Safety and health hazards on our farm.



**Eryn Stewart,**  
RM # 33



**Kyla Zrymiak,**  
RM # 246

## RETIREMENT:



**Louise Hagel** was the first Network RN, and helped establish The Agricultural Health and Safety Network in 1988. She set up the respiratory clinic program, and was involved in recruiting the first RMs into the Network. Louise obtained her MSc in Injury Epidemiology in 1998 and was pivotal in the agricultural injury studies. We are indebted to her commitment that paved the way to this world renowned program in Saskatchewan. Happy retirement Louise!



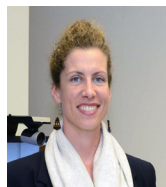
**Anna-Marie Mechor** retired from CCHSA and the Agricultural Health and Safety Network in Spring of 2016. We thank her for 20 years of service and wish her a happy retirement.

## FACULTY, STUDENTS & STAFF NEWS & AWARDS

### THREE CCHSA FACULTY RECEIVED THE DEPARTMENT OF MEDICINE RESEARCH COMPETITION AWARDS

On December 19, 2016, awards were granted to 10 high quality research proposals. This was an extremely competitive process and highlights some of the excellent research being conducted in the Department of Medicine.

**DR. JOSHUA LAWSON.** *Project title: An Investigation of Lung Health and Atopy among Children in Agricultural Settings.*



**DR. CATHERINE TRASK.** *Project title: Participatory Ergonomic Evaluation of Bovine Veterinary Practice: Towards Developing Safety Interventions.*

**DR. GEORGE KATSELIS.** *Project title: Use of Proteomics as a Diagnostic and Prognostic Tool for Chronic Low Back Pain (CLBP)*



### DR. DEBRA MORGAN INDUCTED INTO THE CANADIAN ACADEMY OF HEALTH SCIENCES



**DR. DEBRA MORGAN** was elected as a new Fellow to the Canadian Academy of Health Sciences (CAHS). Dr. Morgan was formally inducted at the First Annual Saskatchewan Academy of Health Sciences Mini Symposium in Saskatoon, on November 7, 2016. A media release from the University of Saskatchewan noted that "Fellows elected to CAHS are recognized by their peers nationally and internationally for their contributions to the promotion of health science. They have demonstrated leadership, creativity, distinctive competencies and a commitment to advance academic health science."

### STUDENTS AWARDS

**MANH LUAN CHU**

Awarded the 2017 Saskatchewan Innovation & Opportunity Scholarship. CAD \$20,000 for the academic year 2017-2018.

**DIANA MURCIA RODRÍGUEZ**

Awarded: (1) Graduate Research Fellowship, University of Saskatchewan. CAD \$ 8,000, May 2016. (2) Summer School Scholarship - ZIBI ("Interdisciplinary Center of Infection Biology and Immunity" & DAAD (German Academic Exchange Service), Accommodation and travel expenses, June 2016. (3) Western Canadian Association of Swine Veterinarians - WCASV Maxwell Scholarship. CAD \$ 2,500, October 2016.

**UPKARDEEP SINGH PANDHER**

Awarded: (1) Summer School Scholarship - ZIBI ("Interdisciplinary Center of Infection Biology and Immunity" (€ 1300); (2) ITrAP Summer School Grant - Travel Grant to participate in ITrAP Summer School in India.

### 2016 FOUNDING CHAIRS FELLOWSHIP COMPETITION AWARDEES!

#### MASTER OF SCIENCE

**DIANA MURCIA-RODRIGUEZ**

*Project Title: Surveillance of Influenza Viruses in Western Canadian Swine and People (Supervisors: Dr. Susan Detmer and Dr. Shelley Kirychuk).*

#### DOCTOR OF PHILOSOPHY

**ADRIANA ANGARITA FONSECA**

*Project Title: A comparison of Physical Activity and Chronic Back Disorders in Canadian Adults among Rural and Urban Dwellers (Supervisors: Dr. Catherine Trask and Dr. Brenna Bath).*

**MANH LUAN CHU**

*Project Title: Farm Exposures and Prevalence of Atopy among School-Aged Children: a Focus on the Hutterite population. (Supervisors: Dr. Joshua Lawson and Dr. Donna Rennie).*

**UPKARDEEP SINGH PANDHER**

*Project Title: Unravelling the Molecular Mechanism of Endotoxin and Glyphosate Interaction (Supervisors: Dr. Shelley Kirychuk and Dr. R. S. Sethi).*

#### POSTDOCTORAL RESEARCH AND CLINICAL FELLOWS

**DAVID SCHNEBERGER**

*Project Title: Effect of Elevated CO2 on Innate Immune Response to Barn Dusts (Supervisors: Dr. Shelley Kirychuk and Dr. Baljit Singh).*

**ARCADIO VIVEROS GUZMAN**

*Project Title: Translating Obesity and Diabetes Prevention into the Work-site Immigrant Populations: Integrating Culture, Gender, and Workplace Learning Frameworks into Training (Supervisors: Dr. Marc Schenker and Dr. Shelley Kirychuk).*

**MARCUS YUNG**

*Project Title: Shaken and Stirred: Exploring the Bonds between Whole Body Vibration and Human Performance (Supervisors: Dr. Catherine Trask and Dr. Stephan Milosavljevic).*



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*Annual Report compiled & designed by Sueli B. de Freitas  
Edited by: Maura Gillis-Cipywnyk*

