



Building Collaborative Research Success: Update to Senate on U of S Centres

– Karen Chad, Vice-President Research



What are Centres/Institutes?

- A cluster of faculty who collaborate on a research area
- Close to 70 research centres across campus
- Wide-ranging – from crop development to process philosophy research
- All accountable to a Dean or VP
- Centres policy created in 1997, revised in 2003



Why Create Centres/Institutes?

- Explore cutting-edge research as befits a U15 research intensive university
- Add value beyond individual research programs
- Provide novel and unique student training opportunities
- Enhance knowledge transfer and exchange, as well as partnerships with communities, industry, government
- Provide valuable resources to meet community needs

Types of Centres

▪ Type A:

- Part of a college; report to a Dean
 - Do not involve substantial resources
 - Responsibility for funding rests with the college
- e.g. Interdisciplinary Centre for Culture and Creativity*

▪ Type B:

- Activities extend beyond scope of a single college
 - Usually involve significant resources; report to a VP
 - Organizationally part of the University and subject to University management and control
- e.g. Canadian Centre for Health and Safety in Agriculture*

Types of Centres (cont'd)

▪ Type C:

- Incorporated and legally distinct from the University
- Have academic/research implications for University
- Accountable to U of S Board of Governors

e.g. Canadian Light Source (synchrotron)

▪ Type D:

- Legally incorporated entities
- Established to promote University's best interests
- Not engaged in academic affairs

e.g. Canadian Eco-Toxicological Environmental Services (CETES)

U of S Centres and Institutes

Some highlights...



Global Institute for Water Security (GIWS)

- Builds on existing U of S expertise:
 - More than 70 faculty and government scientists and 50 students
 - Water security is a U of S signature area of research



Global Institute for Water Security (cont'd)

- \$30-million, joint federal-provincial-university commitment (Canada Excellence Research Chair)
- Co-located with Environment Canada's National Hydrology Centre at Innovation Place
- Led by [Dr. Howard Wheater](#), one of world's foremost hydrologists



Global Institute for Water Security (cont'd)

- Understand how ***climate change, land management practices, and natural resources development*** affect our water environment
- Develop modeling tools to sustainably manage water
- Links science to policy to help protect and manage resources



Global Institute for Water Security (cont'd)

- New areas:
 - Socio-hydrology
 - Water and Health
- SK River Basin Observatory
 - \$2M CFI-funded
- Environmental change across Western Canada
 - \$24M in-kind and \$5M NSERC
 - 36 Canadian and 15 international collaborators

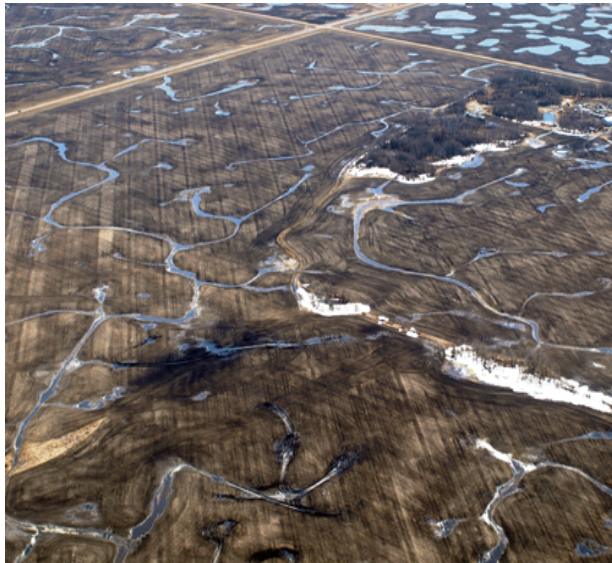


GIWS (cont'd) – SK River Basin Project



Global Institute for Water Security (cont'd)

Diverse geographic research locations



**Prairie Research
Site—Smith Creek**



**Rocky Mountain
Research Basin—
Marmot Creek**



**Boreal Forest
Research Site**

Sylvia Fedoruk Canadian Centre for Nuclear Innovation (Fedoruk Centre)

Research and training in four areas:

- Medicine
- Materials
- Energy
- Environment



Fedoruk Centre (cont'd)

Highlights:

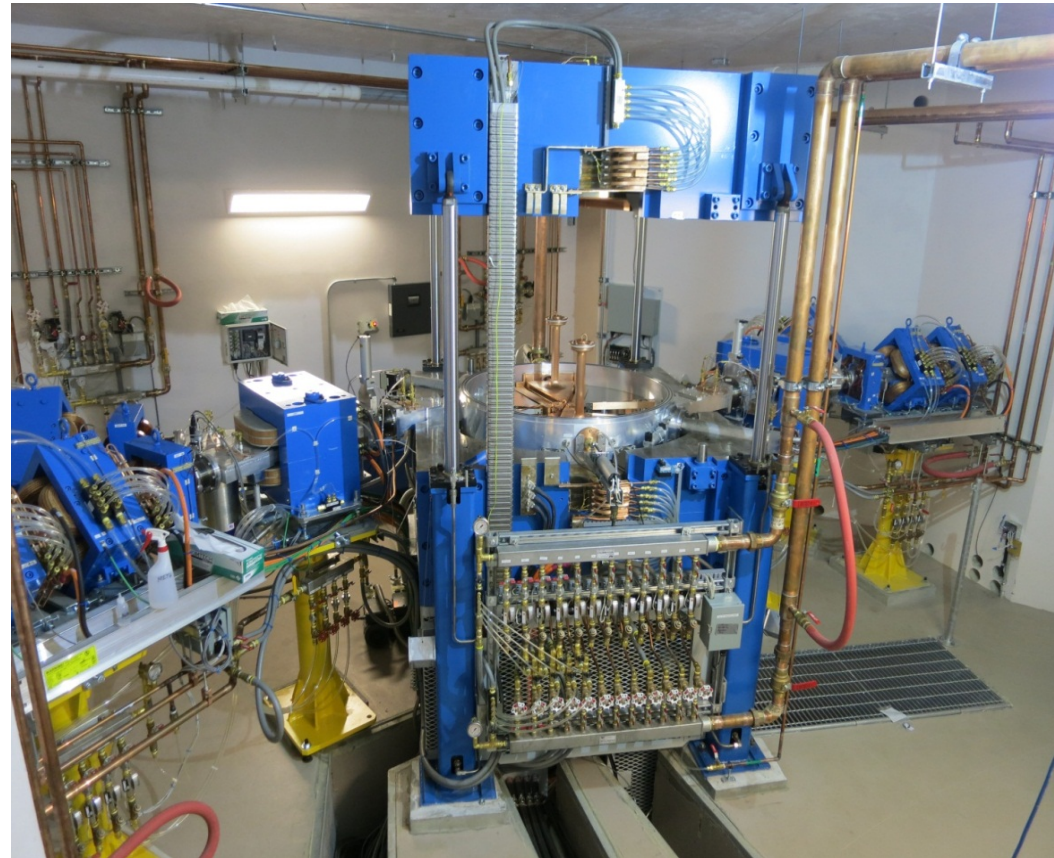
- First proposal call (winter 2012) – funding awarded:
 - Using medical isotopes to better assess kidney function, allowing for earlier detection and better treatment of kidney disease
 - Developing new sensors for applications ranging from medical instruments to cargo scanners
 - Taking the pulse of Saskatchewan people's attitudes towards nuclear issues
- Second call for research projects – Winter 2013

Fedoruk Centre (cont'd)

U of S Building SK's First Cyclotron

Cyclotron:

- Machine that produces radioisotopes used to create images of living organisms (human, animal, plant)
- Built by 2015 in renovated space near CLS

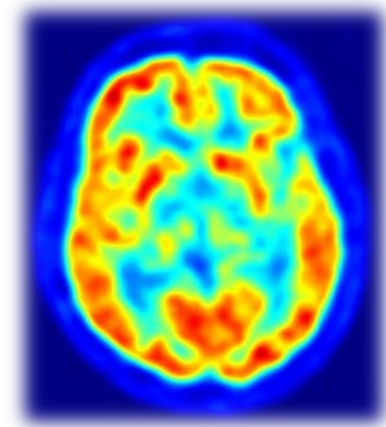


Fedoruk Centre (cont'd)

Innovations in Cyclotron Science

Cyclotron and associated lab will supply imaging agents for:

- SK's first human PET-CT scanner
 - Improved detection, diagnosis and treatment of diseases (cancers, Alzheimer's, Parkinson's and MS)
- Enhanced animal health
- Better crop and plant health
- Clinical research to test new drug treatments



Saskatchewan Structural Sciences Centre

- Provides U of S and external researchers with access to state-of-the-art equipment, training and support
 - non-pesticide crop protection chemicals
 - creating new bioproducts from flax
 - breeding tools for cold-hardy wheat
 - health applications such as bacterial resistance to antibiotics



International Centre for Northern Governance and Development

- Northern-tailored graduate programs and applied research
 - e.g. feasibility study of northern greenhouses
- Partnership with northern SK stakeholders, including First Nations and Métis, industry, government, and other agencies



Indigenous Peoples' Health Research Centre

Indigenous health research
using Indigenous knowledge and
practices:

- Treating people suffering from addiction
 - \$1.8-million CIHR grant
- Disparities in respiratory health
 - \$1.5-million CIHR grant



IPHRC

ИПНРС

Community-University Institute for Social Research

- Understanding communities and opportunities for improving quality of life:
 - Homelessness and housing issues
 - Patterns of political engagement
 - Social economy and enterprises



Young trappers in northern SK
training program

Centre for the Study of Co-operatives

- Understanding role and operation of co-operatives in economy and society:
 - Poverty reduction
 - Co-operative model in Aboriginal communities
 - Small farmers and global markets



Toxicology Centre

- Explores harmful effects of chemical and physical agents on living organisms and biological systems:
 - Analytical and forensic
 - Biomedical and human
 - Veterinary and wildlife
 - Ecology and aquatic



SK Population Health and Evaluation Research Unit (SPHERU)

- U of S and U of R partnership
- Reducing health inequities among vulnerable populations



Indigenous Land Management Institute

- Research enabling informed policy and economic decisions on indigenous land and resource issues



Forensic Behavioural Science and Justice Studies

- Addresses critical issues of crime and justice, including operation of criminal justice system and care of offenders
 - People exiting gangs
 - Cultural programs and services for offenders



VIDO-InterVac

- World-class centre investigating infectious diseases of humans and animals and methods to control such diseases
- “One Health” is a U of S signature area



VIDO-InterVac (cont'd)

Highlights:

- Completion of \$140-M International Vaccine Centre
 - Tuberculosis (TB), West Nile Virus, Anthrax, prion diseases such as BSE (Mad Cow Disease), Chronic Wasting Disease, and Avian Influenza
- Joint development of vaccine for respiratory illness with Chinese institutes
- Vaccine development in Africa



Canadian Light Source (CLS)

- Cause of heart arrhythmia discovered using X-rays at CLS
- Structure of a protein identified that stops viruses
 - Will aid in vaccines for influenza, SARS, Hepatitis C, West Nile fever and polio



Prairie Swine Centre

- Develops new science and trains highly qualified personnel to address needs of Canadian pork industry
- Multi-disciplinary solutions to reduce production costs and address animal welfare, environment, worker health and safety issues



Global Institute for Food Security (NEW!)

- Developing Saskatchewan-led solutions to feed a growing world population



Global Institute for Food Security (cont'd)

Roger Beachy

– *GIFS Founding Executive Director and Chief Executive Officer*

- World-renowned scientist
- Founder of world-class Danforth Plant Science Centre
- First Director, U.S. National Institute of Food and Agriculture
- Former Chief Scientist, U.S. Department of Agriculture



Global Institute for Food Security (cont'd)

- Dec. 2012 – \$50M funding
 - \$35M from PotashCorp and \$15M from Gov't of SK
- Aligns with U of S signature areas, including “Agriculture: Food and Bioproducts for a Sustainable Future”
- Aims to improve sustainable crops, nutrition, feeds, and value of ag co-products



Saskatoon Centre for Patient Oriented Research (SCPOR)

- Joint undertaking of U of S, Saskatoon Health Region, and Saskatchewan Cancer Agency to support clinical research
- Assisted 58 clinical researchers in more than 200 studies



Saskatoon Centre for Patient Oriented Research (cont'd)

Highlights:

- Clinical trials of new drug for severe spinal injuries
- New drug options for inflammatory bowel disease
- Family-integrated care in the neonatal intensive care unit
 - Parents participating in intensive care of newborns



Centres are...



- Critical to our success as a U15 university
- Help solve local and global challenges
- Enhance our educational and research missions
- Serve Saskatchewan communities

