Food for Health Research Forum
Responding to Research Priorities in Food for Health: OAC
June 12, 2012
College Priorities on Food for Health: Themes
Collaboration network of CFAVM members in Agricultural and Veterinary Sciences (2003–2010): Number of papers (area of circles), number of collaborations (width of links)
Collaboration network of leading Canadian institutions in Agricultural and Veterinary Sciences (2003–10): # papers (area of circles), # collaborations (width of links)
College Priorities on Food for Health: Facilities

Department of Food Science - most productive academic unit at U of G in terms of research intensity and HQP. 16 faculty (3 CRCs and 2 IRCs); average external research funding of $320 K annually. Graduate student to faculty ratio = 9 (U of G average 3.2) > 7 peer reviewed publications per year per faculty member average NSERC Discovery Grant > $59K annually.

Centre for Soft Foods and Materials (CSFM) - multidisciplinary (e.g. food scientists, physicists, social scientists). Renewal of infrastructure prioritized for current CFI. “Designed Food Structures for Improved Life” - state of the art imaging and mass spec – research food structure effect on digestion - better design foods for health benefits beyond nutrient delivery.
College Priorities on Food for Health: Facilities

Canadian Research Institute for Food Safety (CRIFS) - farm to fork food safety through multidisciplinary approaches – research and training – (Maple Leaf, Loblaw, World Bank)

Human Nutrition Research Unit (HNRU) and its complementary sensory lab - collaboration between OAC and CBS - research and training in ‘food and health’, through human testing

The Advanced Food and Materials Network (AFMNet, 2003-2010) - provided over $30M in research operating funds to Canadian researchers. AFMNet is part of the foundation for establishing new Food Institute.
College Priorities on Food for Health: Facilities

**The Food Institute** – Canada’s leading knowledge portal on food. Engaging expertise locally and globally. Unique model for delivery and accountability on food research, training, outreach and service. Pan-University focus.

**The Advanced Analysis Centre (AAC)** - modern, innovative, world-class facilities for research in ‘food and health’.

**Guelph Food Technology Centre** – food product development and training – collaboration with U of G – scale iterations for innovation.
College Priorities on Food for Health: People

OAC faculty working in area of food and health = 44

Bureau, Cant, Corredig, Cranfield, Duizer, Dunfield, Fan, France, Goff, Graham, Griffiths, Hall, Henson, Karrow, Kott, Landman, Lee, E., Lee, H., Lencki, Lim, Marangoni, Marcone, Martin, Mason, McBride, McDonald, Miller, Mine, Osborne, Paliyath, Pauls, Purslow, Rajcan, Robinson, Saxena,

6 Canada Research Chairs (Marangoni, France, Mason, Corredig, Hall, Yada)
2 NSERC Industrial Research Chairs (Corredig, Griffiths);
1 Industry Research Chair in Cereal Technology (Seetharaman)
1 Transformational Chair - Loblaw Chair in Sustainable Food Production (Martin)

New Initiatives - In progress:
Rebanks Chair in Pollinator Conservation ($3M confirmed – search in progress)
Canada Excellence Research Chair in Food for an Aging Population (application in review)
College Priorities on Food for Health: People

CERC in Food for a Healthy Aging Population

Areas of Emphasis:
- Personalized nutrition
- Malnutrition
- Fighting disease and well-being through food
- Database development

Collaboration:
strategically create stronger and complementary linkages with McMaster, U of Toronto and University of Western Ontario and colleges (Conestoga, Mohawk, Fanshawe, George Brown, etc.) – broadening reach of HQP training, outreach, commercial development opportunities and research ROI
Food and Health Research Funding (2007-2012) and proposed impact of FFHAP CERC (in red)
Leveraging: Dairy as an example

• Commitment to leveraging industry support
  – Tri-council
  – AAFC
  – MITACS
  – OMAFRA
  – MRI

• Create opportunities for human capacity – Chairs, Professorships, HQP
At Canada’s Food University ... 
Dairy Matters!

Thinking Outside the Bottle
Can you imagine a world where milk can help you lose weight?
Or where yogurt boosts your immune system?
Or where children in Africa fight HIV with freeze-dried ice cream?
We can. And this new world is closer than you think. Working with dairy farmers, processors and government, the University of Guelph is striving to make nature’s “perfect food” even more perfect.

We are:
- Ontario’s “purity checkpoint” for milk safety and quality
- Inventors of Omega-3 dairy products
- Developers of a natural way to introduce DHA into milk.

Now we’re working with the province and Ontario’s dairy industry on a leading-edge livestock research facility for sustainable animal agriculture.


www.uoguelph.ca
DFO Strategy
Mission
provide leadership and excellence in the production and marketing of milk
Vision
Dynamic profitable growing dairy industry

U of G Strategy
Initiate and leverage opportunities that will keep Ontario at forefront of dairy industry in Canada and the world
Research Leadership

U of G Faculty Committed to the Dairy Industry

Animal & Poultry Science:
- J. Cant, Dairy Nutrition
- B. McBride, Dairy Nutrition
- V. Osborne, Dairy Nutrition
- L. Schaeffer, Dairy Genetics*
- F. Schencel, Dairy Genetics
- N. Karrow, Dairy Genetics
- J. Walton, Dairy Management*
- T. DeVries, Dairy Management
- G. Raggio, Organic Dairy Nutrition
- J. France, Systems Modeling
- R. Bergeron, Dairy Welfare
- T. Wright, OMAFRA

Food Science:
- D. Goff, Dairy Products
- M. Corredig, Dairy Products
- M. Griffiths, Dairy Microbiology*
- A. Hill, Dairy Products
- L. Duizer, Sensory Evaluation
- L.T. Lim, Packaging

Food, Agricultural & Resource Economics:
- A. Weersink, Production Economics
- G. Hailu, Agribusiness Finance
- S. Henson, Consumer Perce
- J. Cranfield, Food Economics

School of Environmental Sciences:
- C. Riddle, GHG Management
- J. Lauzon, Soil fertility
- + several others
Research Leadership

U of G Faculty Committed to the Dairy Industry

Ontario Veterinary College
Population Medicine:
• Kerry Lissemore, Health Management
• Ken Leslie, Health Management*
• Ken Bateman, Health Management
• Paula Menzies, Health Management
• Todd Duffield, Health Management
• Stephen LeBlanc, Health Management
• Derek Haley, Ethology and Welfare
• David Kelton, Epidemiology and Health Management
• Scott McEwen, Public Health
• Jan Sargeant, Public Health
• David Pearl, Epidemiology

Pathobiology:
• Bonnie Mallard, Immunogenetics
• Scott Weese, Zoonoses
• Patrick Boerlin, Mastitis microbiology
• Claire Jardine, Zoonoses

Biomedical Sciences:
• Alan King, Reproductive technologies

Outside of OAC/OVC
Demonstrates the inter-disciplinary collaborations
• Lucy Mutharia, Microbiology (Johne’s disease testing)
• Deb Stacey, Math and Statistics (disease modelling)
• Rob Deardon, Math and Statistics (disease modelling)
• + several others
Research Leadership, Building Opportunities

• Supporting Dairy industry through leading edge **applied** and **basic** research:
  – New Products – Health and Food Focus
  – Food Safety & Public Health
  – Animal Health, Welfare & Behaviour
  – Environmental Sustainability
  – Effective, Safe, Sustainable Production Systems

• Student (**HQP**) training as a **key** part of all of our research

• Collaboration conditions – Professorship in Dairy Microbiology (link to Corredig)
Critical Success Factors

- Excellent People (Leader-Champions)
- Excellent track record (credibility and authenticity to build on)
- Excellent HQP
- Good facilities
- Good sector/industry/gov’t/funding partners (established relationships)
- Funding Opportunities
Collaborations on Food for Health

U of G is a key hub for collaboration - from molecules, to systems biology, to animal models, to human and social interface in multidisciplinary manner.

Facilities Access for HQP in Food and Health
- MOU with AFFC - access by scientific staff and HQP to research infrastructure in AAFC Food Centre (Biosafety Level 02+ and Pilot Plant)
- 30 U of G HQP to-date, collaborations with U of G faculty.
Eg. Preventative Effect of Non-Darkening and Darkening Cranberry Beans in Colon Inflammation: Zhang, Lu, Zarepoor, Wu, Cunha, Tsao, Pauls & Power
HHNS, Plant Agriculture, Guelph Food Research Centre, AAFC

Student exchanges
- Institute of Food Research (IFR) (UK)
- Riddet Institute (NZ)
- Wageningen Center for Food Science (Netherlands)
- Hohenheim University (Germany)
Collaborations on Food for Health

**Industry collaborations** – Eg. OCIRC – industry members cooperate to fund and direct IRC (Seetheraman)

**Centre for Food in Canada** - Conf Brd, Fed and Prov Gov’t, Food industry and U of G.

**Sustainable Food Research Group** – lead by R. Martin – York, U of Waterloo, OMAFRA, U of T, OAC, CME, CSAHS...

**AFMnet** – leading to new **Food Institute** (network) – global collaboration potential

**CERC (net)** – network around new faculty opportunities
Collaboration Challenges and Opportunities

Great things can happen with great people and good facilities but great things cannot happen with great facilities and good people
Thank you