Faculty Information Exchange 2017

“Best Practices in Graduate Supervision”

Professor Bonnie Mallard
Pathobiology
OVC
The 4 S’s of Supervision

- **Select** - careful process using multiple factors
- **Stimulate** - with a unique vision & exciting projects
- **Stretch** - push beyond your/their self-imposed limitations
- **Shape** – provide a flexible long term plan for their future, always with their best interests in mind
Genetic & Genomic Selection to Improve Health of Dairy Cattle: The High Immune Response (HIR™) Technology
1. **Mentorship** of Junior Faculty is Critical – Find some good role models.

   Talk to your Chair about this but **observe** who is doing the kinds of things you hope to do.

2. **Build** your Research Program – **Slow & Steady** wins the race.

   - **Basic Research** - NSERC Discovery or equivalent, career grants.
   - **Applied Research** – NSERC Idea to Innovation, Collaborative Research Initiatives, OMAFRA, Industry, Other...
3. Select the **Right Students for you** - **Communication** is Key.

Get to know them. Not all students fit all projects.

- **The best grades don’t always mean the best students.**
- **Birds of a feather flock together...find the right birds!**

**MSc vs PhD** – They must believe in you and themselves, and be ready for change.

- **Mind, Soul and Spirit...... Be Ready to Develop the Whole Person.**

**Work with Integrity and Building Credibility** - with students, faculty, industry.

- **It takes time. Don’t get Discouraged!**
1. **Contract or Commercial Research** – build those relationships and look for opportunities to help industry with real world problems.

2. **Market Research** - OMAF KTT & Agristudies Inc.
   
   Grad Students cross trained in Science & Business.
   
   Challenging & fun, but likely don’t start here!

3. **Licensing Technology** – e.g. HIR™,
   
   Work with corporate partners (eg. Semex) & Catalyst Centre

4. **Real World Results** - Scaling Technology, Regulatory Considerations

5. **Look for the Next Step or Innovation** - Helping Industry with Next Steps.

   Communication is Key.
The Later Years: Research and Commercial Space

MALLARD IMMUNOGENETICS LAB

Basic Research

- MO
  - Mehdi PhD project: Joseph MSc
  - NAb
    - Kath Research Associate Project Lead
    - Lauri PhD project: Britt Grad Visitor Fall 2015
  - TLRs
    - Heba Research Associate Project Lead
  - miRNA
    - Natasa Research Assist
    - Mikayla MSc
    - Erin Summer Project
  - Dairy
    - Shannon MSc Project Lead
    - Mehdi Genomics and Sire Data
    - Kerry Summer Project
    - Alfieda Summer Project
    - Emily Grad Student Visitor Fall 2015
  - Beef
    - Doug Research Assoc Project Lead
    - Alejandro Visiting Scientist Fall 2015
  - Swine
    - Julie Research Associate Project Lead
    - Research Assist TBA

Applied Research and HIR Commercial Development

LAB Manager – Leah Read

HIR Manufacturing and Regulatory Affairs eg CFIA
Lauri and Natasha
Since December 2012
Align with your Passion and Larger Initiatives

Increased Knowledge of Genetic Regulation of the Immune System can help improve Animal Health and Food Safety

A Green Sustainable Approach to Agriculture

That's Food from Thought

The Better Planet Project

With the investment from the Canada First Research Excellence Fund we will lead in meeting the world's food security challenge.
First Group to Utilize EBVs of IR in a Multi-trait Selection Index to Classify Animals Based on their Immune Capacity. MALLARD B A ET AL: "Use of estimated breeding values in a selection index to breed Yorkshire pigs for high and low immune and innate resistance factors" ANIMAL BIOTECHNOLOGY, vol. 3, no. 2, 1992, 257-280.

**Patent Filings**

**Methodology for developing a superior line of domesticated animals**
US 20020051789 A1, CA 2151266 A1, EP 0673509 A1

**Method of identifying high immune response animals** –
US 20020051789 A1, US 7258858 B2, CA2255423 C

Inventors – B Mallard et al., Assignee – University of Guelph
Quantitative Market Research Assessment

- 1000 producers were sent a letter to participate
- N=128 producers participated in survey
- Producers were asked about their operation, management priorities and attitudes towards health and interest in HIR
- Survey and analysis completed by Agri-Studies, an agricultural marketing firm in Guelph, Ontario
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GOODNESS OF FIT EXCITING OPPORTUNITIES PUSH THE LIMITS FLEXIBILITY
It’s all about Team Work

Questions