

BIO-BUZZ

University of Lethbridge—Department of Biological Sciences

April 2014

VOL. 2 ISSUE 2



Greetings!

We are delighted you have joined us again for another edition of BIO-BUZZ. It's been a very busy semester, and we are currently preparing for the last day of classes and final

exams. We are also in the process of planning a new Science and Academic Building.

We hope you enjoy reading BIO-BUZZ, and wish to inform you that new anti-spam legislation will be in place soon and may affect distribution of our newsletter. Please stay tuned for an update. In the future we may be asking you to "opt in" if you wish to receive BIO-BUZZ.

We are currently waiting for the results of the recent NSERC competition and have high hopes for the success of our departmental applicants. With the end of classes we are excited about focusing our efforts on our research programs, and the influx of summer students and other research personnel into our labs.

We wish you all the best in the coming months, and will be back reporting to you on departmental activities in Fall 2014.

Best wishes,

Brent Selinger, Chair

Upcoming Events:

Luke Stebbins Symposium - Wednesday, April 16, 2014.

Dr. Lucius (Luke) Stebbins arrived at the University of Lethbridge, along with a number of other newcomers, in the summer of 1967. He was promoted through the ranks to Professor, was Chair of the Biological Sciences Department, Associate Dean of Arts and Science and Associate Vice-President (Academic). He was recipient of a number of University awards, including The Distinguished Teaching Award. Of his early days at the University, Dr. Stebbins stated "the sense of being part of something new simply pervaded all my experiences. Our President, Sam Smith, and our Dean of Arts and Science, Owen Holmes, gave us the sense of excitement because it was our job to design the policies of the University...and we designed a liberal arts university, an undergraduate university, a research-intense university, with the undergraduate student as the focus of both teaching and research. And that philosophy has held true, in most areas, through to modern times." Dr. Stebbins is Professor Emeritus, and retired from the University in 1998. The Luke Stebbins Symposium has been set up to recognize research at the Undergraduate level in Biological Sciences.

Eligibility:

- Undergraduate students enrolled in B.Sc. Program, performing original research and registered in one of the following courses: Biol 3990, Biol 4990, or Biol 4995.
- Supervised or co-supervised by a member of the Department of Biological Sciences.
- Participation in the Undergraduate Research Symposium.

The most remarkable discovery made by scientists is science itself. ~Gerard Piel

DEPARTMENTAL EVENTS— DECEMBER 2013



Christmas Party – 2013 – Diamond City
Community Hall - Meet and Greet,
Mealtime and Santa and the kids

Science is a wonderful thing if one does not have to earn one's living at it. ~**Albert Einstein**

The whole of science is nothing more than a refinement of everyday thinking. ~**Albert Einstein**

AS TECH AWARDS—Dr. IGOR KOVALCHUK

ASTech Awards—2013 Innovation in Agricultural Science to Dr. Igor Kovalchuk, Professor, Department of Biological Sciences and Founder, Executive Director, PlantBiosis.

(Originally published <http://www.astechnology.ca/awardee/2013-agriculture-kovalchuk-dr-igor>)



Because of the groundbreaking work done by Dr. Igor Kovalchuk, fields of medicinal poppies may soon grow in the Canadian prairies and bio-monitoring plants will detect pollution in the air, water and earth.

A research trip to study the effects of the Chernobyl disaster on plants surrounding the reactor in Dr. Kovalchuk's native Ukraine in 1996 launched his career in plant biotechnology. As a result of that project, he described new techniques for profiling genome stability of plants.

Today Dr. Kovalchuk is considered to be a visionary in the world of agricultural biotechnology. He is internationally renowned for his expertise in plant epigenetics, plant genome stability and plant agrobiotechnology.

Because of his expertise Dr. Kovalchuk was sought out by Canadian biotech company API

poppy industry in Canada. Poppy produces medicinal opiates used for painkillers and cough suppressants, among other purposes. Canada is among the top importers of raw poppy material in the world and leads in consuming codeine as a nonprescription medication. Growing poppy will reduce the cost of painkillers in Canada and create jobs in the agriculture sector. Poppy has the potential to yield five times more income than canola, which is currently western Canada's most lucrative crop.

Dr. Kovalchuk was instrumental in establishing the first epigenetic network in Canada at the University of Lethbridge. Epigenetics allows scientists to influence gene expression without affecting the underlying DNA. The Alberta Epigenetics Network produces high-calibre research, graduates top trainees and is an incubator for spin off biotechnology companies.

Dr. Kovalchuk has also taught and mentored more than one thousand students, which he considers among his greatest contributions. He's also provided them with a field of research in which they can continue to build knowledge.

Dr. Kovalchuk is motivated by a healthy competition. He says he is trying to live up to the demanding standards set by the scientists he's worked with over the years – many of them women.

Every day offers Dr. Kovalchuk a new challenge and new possibilities.

"It's like working in a gold mine," he says. "You get dust here and there, a bit of sand, and then you find the big chunk. It's like a treasure hunt."

There is something fascinating about science. One gets such wholesale returns of conjecture out of such a trifling investment of fact. ~**Mark Twain, *Life on the Mississippi*, 1883**

RESEARCH AWARDS

Faculty and Staff:

The Office of Research Services announced award recipients in their “Celebrating Research 2014” ceremony held February 26, 2014. Our department offers congratulations to:

Category: Research Awards - External

Alberta Science and Technology (ASTech) Foundation, Innovation in Agricultural Science Award—**Dr. Igor Kovalchuk**

Canadian Institutes of Health Research, Chair in Gender, Work & Health—**Dr. Olga Kovalchuk**

Category: Research Grants— External

Alberta Cancer Foundation, Summer Studentship Award— **Dr. Roy Golsteyn**

Alberta Conservation Association Grants in Biodiversity - **Dr. Theresa Burg, Dr. Cam Goater, Dr. Robert Laird (2)**

CIHR Operating Grant— **Dr. Olga Kovalchuk**

NSERC Discovery Grant—**Dr. Joseph Rasmussen, Dr. Stewart Rood, Dr. Tony Russell**

Category: Research Grants—Internal

University of Lethbridge Research Fund (ULRF) Grant— **Dr. Roy Golsteyn**

Congratulations to Graduate Students

Rachael Adams, PhD candidate (supervisor T. Burg) who made a presentation on the landscape genetics of a North American songbird, the black-capped chickadee, during the University of Lethbridge Three Minute Thesis qualifying heat on Monday, March 3, 2014. Seven U. of L. graduate students gave compelling research presentations. In the finals, Saturday, March 15, Ms. Adams placed third.

Graduate Student Symposium Winners

Posters:

1st prize Rachael Adams

2nd prize Lida Luzhna

Honorable mention Colin Macfarlane

Talks:

1st prize Krysty Munns

2nd prize Anthony Erickson

Judges:

Professor Randy Barley

Dr. Kevin Floate

Dr. Andy Hurly

Dr. Joe Rasmussen

Dr. Rosemarie DeClerck-Floate

Dr. Tony Russell

Organizers:

Dr. Theresa Burg

Dr. Robert Laird

Dr. Elizabeth Schultz

Krysty Munns

Lida Luzhna

David McWatters

Ashley Moore

Diane Wilches

Session Chairs:

Anthony Erickson

Mark Hornsby

Symposium Volunteers:

Ashley Curtis

Yanyan Li

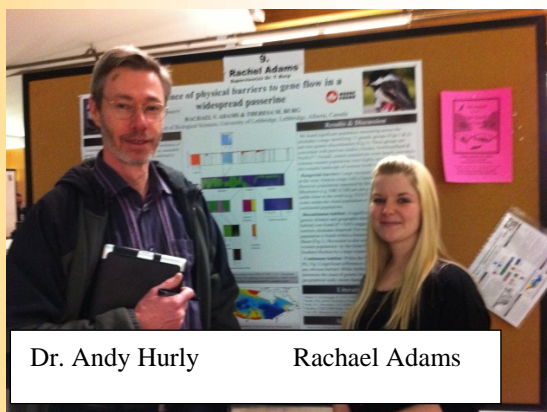
Aki Matsuoka

Ryan Moedt

Rodrigo Ortego-Polo

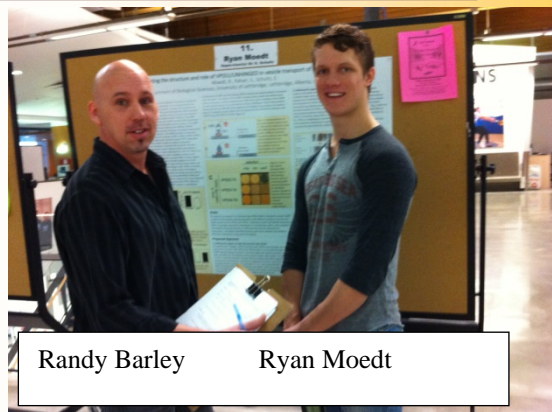
“DNA is like a computer program but far, far more advanced than any software ever created.”
— **Bill Gates**, *The Road Ahead*

GRAD STUDENT SYMPOSIUM – JANUARY 31, 2014



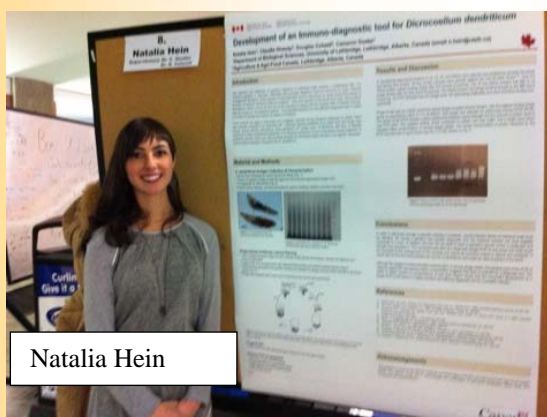
Dr. Andy Hurly

Rachael Adams



Randy Barley

Ryan Moedt

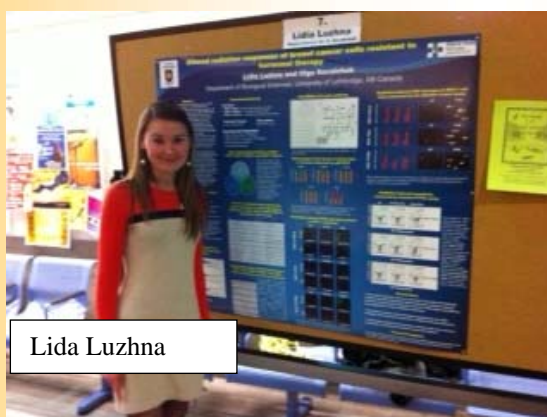


Natalia Hein

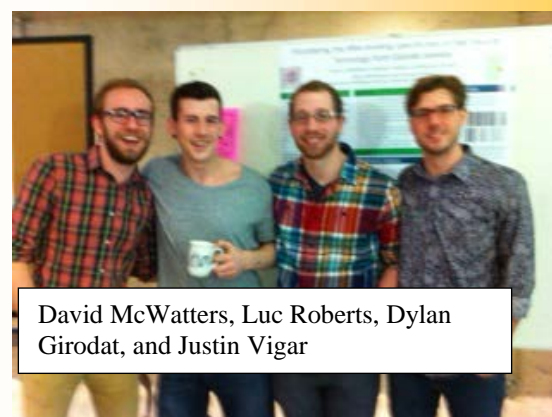
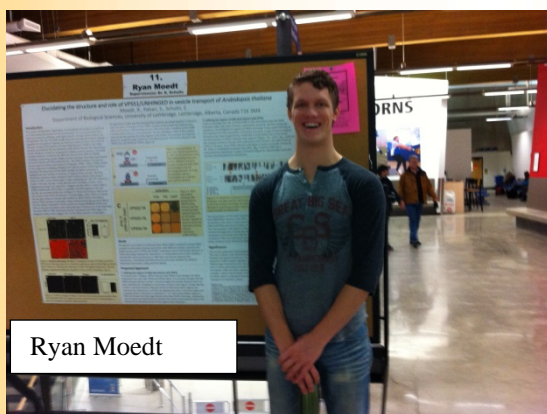


Greg Holmes

Dr. Claudia Sheedy



Lida Luzhna

David McWatters, Luc Roberts, Dylan
Girodat, and Justin Vigar

Ryan Moedt



Rodrigo Ortega-Polo

Lucy Swift

ACA GRANTS In BIODIVERSITY

Edmonton – March 26, 2014 – The ACA Grants in Biodiversity program is pleased to announce that 21 graduate student projects will share \$224,122 of funding this year. Twelve of the awards went to students working towards Masters degrees, with the remaining nine awards going to PhD candidates. The ACA Grants in Biodiversity program is funded by the Alberta Conservation Association and operated through the Alberta Cooperative Conservation Research Unit – a partnership between the University of Alberta, the University of Calgary and the University of Lethbridge.

Congratulations to:

Gregory Holmes (MSc) Supervisor: R. Laird
Title: Interactions of the leaf galling wasp *Aulacidea pilosellae*, rust fungus *Puccinia hieracii* and their invasive hawkweed host, *Pilosella caespitose*, and their impact on plant growth and reproduction.

Mark Hornsby (PhD) Supervisor: A. Hurly
Spatial orientation and navigation in fathead minnows: Impacts from ecological conditions and naturally– and antropogenically-incuded perturbations.

Preston Lennox (PhD) Supervisor: J. Rasmussen
Establishing the link between fish biodiversity and biomass production in freshwater ecosystems.



ALUMNI
We want to hear from
you...

Submit photos, stories, awards... Tell us about your work, your life. We want to showcase you! Contact us at sheila.matson@uleth.ca

NEW ANTI-SPAM LEGISLATION

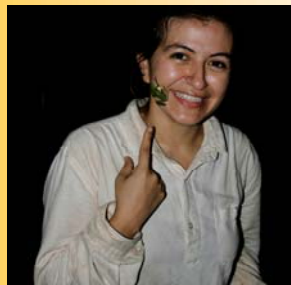
With respect to the new anti-spam legislation, we will be in touch shortly to explain what will be required of our Alumni members to keep receiving our publications.

SPECIAL EVENT

Mark your calendars and join the department of Biological Sciences and the rest of the University community, along with the City of Lethbridge, to celebrate *EXPLORATION EXPO*, Saturday, June 7, 2014 at Galt Gardens. Bring your family, and expect lots of fun!

NEW MSc., PhD & POST-DOCTORAL FELLOWS

7



Diana Fernandez (M.Sc.)

Start Date: January 2014

Project Title:

Environmental risk assessment of neoclassical biological control of Lygus bugs with the exotic parasitoid wasp in Canada



Nico Keller (M.Sc.)

Start Date: January 2014

Project Title:

The Effects of Temperature, Hypoxia and Pollutant on the Physiological Performance of Rainbow Trout



Ebrahim Lari (PhD)

Start Date: January 2014

Project Title:

Effects of metals and metal mixtures on the chemosensory function of fish



Aditya Manek (Post-Doc)

Start Date: January 2014

Project Title:

TBA

Trying to determine the structure of a protein by UV spectroscopy was like trying to determine the structure of a piano by listening to the sound it made while being dropped down a flight of stairs. -- **Francis Crick** [*British molecular biologist*]