

Bringing Research to LIFE

Upcoming Events

Visionary Conversations

The Arts: Foundation of a Vibrant Community

Music, creative artworks, film, theatre and dance are often seen as the softer side of life. Join our panelists for a critical discussion about the importance of the arts in society.

March 20

Robert B. Schultz Theatre
St. John's College
Fort Garry Campus

Reception in Galleria
6:30 – 7 pm
Panel discussion
7 – 8:30 pm

Featured speakers:

Jeff Melanson (Alumnus) –
President, The Banff Centre
Edmund Dawe – Dean, Marcel A.
Desautels Faculty of Music
Paul Hess – Director, School of Art
George Toles – Professor, English,
Film and Theatre, Faculty of Arts
Francine Morin – Head and
Professor, Curriculum & Teaching,
Faculty of Education

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How Your Immune System Helps—and Harms—You

Dr. Kent T. HayGlass
Recipient of the 2012
Dr. John M. Bowman Memorial
Winnipeg Rh Institute
Foundation Award
Canada Research Chair
in Immune Regulation
Professor, Immunology

March 27
7 pm

Robert B. Schultz Theatre
St. John's College
Fort Garry Campus

Research made real

SET Day gives high school students an exclusive look behind lab doors

BY KATIE CHALMERS-BROOKS
For The Bulletin

All eyes are on a large cockroach, nearly the size of a cellphone, as it flaps its wings in slow motion at the front of the entomology lab.

Researcher Terry Galloway is synchronizing a strobe light flash with the insect's wing beat frequency, nearly freezing the movement in time and giving the high school students gathered around a unique look at the cockroach in flight.

"I'm a real science nerd. I'm absolutely loving this," says 17-year-old Jacob Wolfe, a Grade 12 student from Vincent Massey High School in Brandon, Man.

More than 160 teenagers and teachers came to the Fort Garry campus on Feb. 22 for the annual Science, Engineering and Technology (SET) Day. Grade 11 and 12 students—from 24 schools in Manitoba and Northwest Ontario—took part in hands-on activities to better understand what researchers do at the U of M.

Galloway, an entomologist, described how his love of insects and his expertise in parasites has taken him to different corners of the Earth, including New Zealand where he collected flees off penguins storming the beach of a nature reserve. "It was a blizzard of birds. It was a cool place," he says.

Galloway is always on the lookout for new species. Researchers estimate there are between four and 79 million not yet described.

"I had no idea there were so many different kinds," says Grade 12 student Sheyi Osiname, who wants to be a mechanical engineer. "It was interesting to see how enthusiastic he is about what he does."

Galloway says it's important to show students the diversity of entomology. They heard how the science can be used to develop mathematical models to predict crop damage, study behaviour in psychology and build robotics in engineering.

Homeschool mom and teacher by trade Laurette Geurts, who brought



Entomology Prof. Terry Galloway gives SET Day participants a unique view of a cockroach in flight.

her daughter and nephew to SET Day, likened the event to "a discovery day."

"The best way to discover is by seeing and doing, and by talking to the professors, finding out what kinds of jobs they could have," Geurts says.

In the human nutritional sciences lab, students learned about fortified foods by making pizza. They heard how U of M researchers develop healthier foods and beverages, like iced tea fortified with vitamin D. One group used protein-rich pinto bean flour to create their pizza dough.

"The different ingredients used in this pizza dough—some of them I've never heard of before," says 16-year-old Cassidy Dutchak, from Ethelbert, Man. "I'm interested in the science of it, what each ingredient does."

There is a lot to consider when bringing a new product to market; the taste, aroma and flavour has to appeal to the consumer, says human nutritional sciences department head James House. He wanted to instill in the students "an appreciation of converting Manitoba agriculture products into healthy, wholesome foods people want to consume."

Some students headed to Fort Whyte Alive where they transformed into Arctic researchers investigating climate change. There, they learned about sea ice dynamics and snow physics.

"We were pretending we were in the Arctic and testing the snow for mercury as well as the air," says Kayla Cochrane,



Photos By Mike Latschislaw

a Grade 12 student from Charles Sinclair School in Fisher River, Man. "I like to learn about science, the theories and experiments. It was really fun."

Back on campus students dissected an animal heart and explored the effects of exercise on heart rate and sounds, and blood pressure. In the nano-systems fabrication lab, they used electromyography and electrocardiograph systems to monitor the electrical signals in their muscles.

Biochemistry student Nicole Barairo also introduced them to forensic techniques, like those used to collect fingerprints at a crime scene.

"The genetic differences between people are fascinating," says 17-year-old Nicole Dohler.

The students heard presentations from some of the U of M's top researchers, both seasoned and student. PhD candidate Emily Chow, who monitors the health of beluga whales in the Beaufort Sea, relayed what it's like living in an Inuit community in the Arctic.

Gordon Giesbrecht, from the faculty of Kinesiology and Recreation Management, shared the lifesaving tips that have come out of his research. Known as Prof. Popsicle, Giesbrecht told students how to survive in cold water and escape a submerging vehicle.

Civil engineering professor James Blatz, an expert in sandbag technology, explained how his team's scientific testing of dikes resulted in a policy change that makes flood fighting safer. He encouraged students to "find what really interests you in your heart."



Highschool students learn about fortified foods from researcher James House.