It's a small, small world

Guelph research in nanoscience

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U of G's military history
and
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Some Guelph researchers are helping NASA prepare for future Mars missions, while others develop a checklist to head off nutritional problems in children. One recent study even explores the personalities of brook trout. U of G is still the No. 1 comprehensive university in research and student satisfaction, and a fourth-year student earns a prestigious Rhodes Scholarship.

A PROUD MILITARY HISTORY

When the University of Guelph was established in 1964, it inherited a George III cannon and a 90-year history of military training on campus. Today, the cannon is barely recognizable as an instrument of war, but War Memorial Hall stands in remembrance of the many students, faculty and graduates who have served the country.

COACH OF CHAMPIONS

Guelph's distance runners have dominated university cross-country courses across Canada for the last decade, and most of those athletes will say the credit goes to Guelph graduate and varsity coach Dave Scott-Thomas.
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I received a letter in November that I want to share with you. It flashed up on my computer screen one morning as I was going through the overnight e-mails in my inbox — a delightful surprise from a young woman I may have passed dozens of times on campus before greeting her on the convocation stage last June.

Megan Fisher received an honours degree in human kinetics. In her letter, she tells me that she is now enrolled in a graduate program at the University of Toronto.

"I have been thinking about my experience at Guelph, and I wanted to say thank you for it. I chose Guelph because it was a smaller school with a great reputation, and it was the only place that offered my initial program (biomedical toxicology, co-op).

"In first year, I had the opportunity to meet the most amazing group of friends, with whom I still keep in close contact. In terms of athletics, I was always able to find some sort of team to join or fitness class to participate in.

"Academically, Guelph really excels. I have come to the conclusion that it is abnormal to have access to the library as often as I did at Guelph. Thanks so much for that.

"The classes that I took have allowed me to enter into my master's with a relatively easy transition. I feel much more prepared than my classmates for the academic courses I am now taking, and I hope that future students will always have the same great anatomy experience at Guelph that I did.

"I got together with other friends from my undergrad this weekend who have also gone on to master's programs, and we all decided that we didn't realize how lucky we were to attend Guelph. Thanks so much and keep up the great work!"

Megan's experience reflects the value placed on teaching and learning at U of G and the particular skill of faculty and staff in the School of Human Health and Nutritional Sciences.

This was a great letter to receive and one that I shared liberally with colleagues across campus, who take pride in knowing that efforts to infuse our curriculum with the latest research developments are returning benefits to Guelph graduates.

The best letters are like that — unexpected messages that resonate beyond your personal attachment to the subject.

I was thinking recently of another such letter — this one written in 1918 and safely stored now in the University's library archives. It is addressed: "To my friend, greetings," and was found tucked inside a book of poetry by Lucy Maud Montgomery.

The handwritten note was certainly intended for a reader — probably as a surprise for the winner of a publisher's promotion — but its message may well have been intended for all of the famous author's fans:

"For you are my friend, are you not, whoever you may be to whom this letter is intended? If you were not my friend, knowing me and liking me a little through my books, you would not care to make your heart glad."

Montgomery's letter speaks to all of us who love literature. It is another one that must be shared, particularly in 2008 — 100 years since the publication of her first book, Anne of Green Gables.

In October, U of G will mount an exhibition of Montgomery memorabilia, including her private journals and scrapbooks, at the Macdonald Stewart Art Centre in conjunction with a major conference on the cultural influence of her writing. We expect to host visitors from around the world because Montgomery's novels are among Canada's most successful exports.

This wonderful thank-you note from Megan Fisher and the thought of Montgomery's prodigious career should inspire all of us to pick up a pen in 2008.

Alastair Summerlee
President

Winter 2008 3
KITCHEN GARDEN PLANTED

IF IT'S TRUE THAT an army marches on its stomach, so will a mission to Mars. Anyone making that pioneering interplanetary trip — sometime mid-century, predicts environmental biology professor Mike Dixon — will probably wonder about a basic question: Where's my next meal coming from?

Part of the answer may rest inside a new state-of-the-art growth chamber being tested at U of G for life-support scientists at the European Space Agency (ESA). The chamber will be used in Europe to perfect plant growth techniques for keeping those long-distance voyagers fed and watered.

About half as long as a truck trailer and as high and wide as an adult’s outstretched arms, the climate-controlled chamber uses technology developed by Dixon and his associates here at Guelph. It provides lighting, water, nutrients and other components needed to grow food from scratch. Pop seedlings for tomatoes, beets or wheat into growth trays at one end of the chamber, place the trays onto an internal conveyor system and then wait for the prescribed weeks or months for ripe produce to roll out at the other end. Call it the Mars kitchen garden, quips research associate and project manager Geoffrey Waters.

Designed by U of G scientists and built by Angstrom Engineering in Cambridge, Ont., the growth chamber looks like a grownup version of the 24 sealed chambers that occupy Guelph’s Controlled Environment Systems Research Facility. During the past 12 years, Guelph scientists have studied plant physiology, environmental analysis and sensor technology.

“We’re the current leaders in the world in biological life-support systems, especially food production and atmospheric revitalization,” says Dixon.

Waters has overseen construction and testing of the system, which will now be disassembled and shipped to Spain, where he will train users in a pilot facility in Barcelona. That’s where the ESA is developing its life-support system test facility.

‘HOUSTON, WE HAVE WATER’

GUELPH PHYSICISTS Iain Campbell and Ralf Gellert have detected the first on-the-spot evidence of water still existing on Mars, probably the remnants of long-evaporated water bodies now bound up in soil and rock on the red planet.

Research analysis led by Campbell suggests that water is contained in mineral compounds just beneath the planet’s surface. That distinctive bright white material was churned up by the wheels of the Mars Spirit rover.

An X-ray spectrometer called an APXS on the rover’s arm captured data about the mineral compounds, and the analysis was completed by Campbell’s team, using computations provided by physicist Joanne O’Meara.

A paper submitted to the Journal of Geophysical Research: Planets says the bright sulphur-rich material detected by Spirit’s APXS contains up to 16-per-cent water.

“No other instrument has done this. There’s evidence of water being plentiful in the distant past — the presence of certain metals, for example — but our evidence is about water right now,” says Campbell.

Gellert is the lead scientist for the current APXS, which he helped develop before arriving at Guelph. He is now principal investigator for an international group of scientists developing a new APXS for the Mars Science Laboratory mission scheduled for late 2009.

For that mission, MDA Corp. in Brampton, Ont. is building the new instrument to be installed on a larger, souped-up rover. That device will arrive at Guelph this spring for testing and calibration before being delivered to NASA for installation on the new rover.
Kate Smolina, a fourth-year student in biomedical sciences, has won a Rhodes Scholarship to pursue graduate studies in global health science at the University of Oxford.

Students from some 20 countries compete annually for 90 Rhodes Scholarships, which are worth about $35,000 a year and cover tuition, fees and a living allowance.

"This is literally a dream come true," says Smolina, who arrived at Guelph as a President's Scholar in 2004. "There are no words to express the gratitude, the excitement and the honour that I feel. I will do my very best to be a great ambassador for the University of Guelph as well as for Canada."

Smolina won the Lionel Bradley Pett Scholarship for the highest average in biomedical sciences during her third year and has the top average this year as well. Graduating from high school, she received a Loran Award, given annually to up to 30 Canadians for academic excellence, leadership skills, community involvement and character.

Besides her academic achievements, she is dedicated to volunteering and has been involved in a number of organizations related to health care, peace building and international development.

She hopes her graduate work at Oxford will lead to research in epidemiology of infectious diseases, an interest sparked by her travels to developing countries. Her long-term career goal is to work for the World Health Organization and take a leadership role in bridging the fields of medicine, epidemiology and public health to control infectious diseases.

**NOTEWORTHY**

- The Centre for Studies in Leadership honoured Frank McKenna, a former premier of New Brunswick and ambassador to the United States, with its 2007 Outstanding Leader Award named for chancellor emeritus Lincoln Alexander. McKenna is now deputy chair of the TD Bank Financial Group.

- Mike Brklacich, MA '80, was part of the Nobel Peace Prize-winning United Nations Intergovernmental Panel on Climate Change (IPCC). The IPCC shared the 2007 prize with environmental activist and former U.S. Vice-President Al Gore, Chair of the Department of Geography and Environmental Studies at Carleton University. Brklacich is a lead author of the North American chapter included in the recent IPCC report. His research interest is the effects of climatic change on commercial agriculture in Canada.

- Geography professor Barry Smit has been appointed to a new provincial expert panel on climate change adaptation. A global authority on adaptation to climate change in the underdeveloped world, Smit was also a lead author of the IPCC's fourth assessment report. It included contributions from U of G researchers Johanna Wandel, MA '95 and PhD '06; James Ford, PhD '06; and Tristan Pearce, MA '06.

- U of G chancellor Pamela Wallin, H.D.La. '06, has been appointed by Prime Minister Stephen Harper to a panel aimed at deciding the future of Canada's presence in Afghanistan after the 2009 deadline for the current mission expires. Wallin is currently senior adviser to the president of the Americas Society and the Council of the Americas in New York.
Marketing OAC
a Jocius passion

Hundreds of U of G alumni, students and employees filled Guelph’s River Run Centre Jan. 11 for a memorial service in honour of the late Ginty Jocius, B.Sc.(Agr.)’70, who died Jan. 2. Many of those attending had benefitted personally from his generosity as a donor to the University and his volunteer work on behalf of the Ontario Agricultural College.

Named U of G’s Alumnus of Honour in 1996, Jocius was a former chair of the OAC Alumni Foundation. Two of his many projects were developing the idea for the Order of OAC fundraising initiative and spearheading a dream auction in honour of the college’s 125th anniversary.

His Guelph firm, Ginty Jocius & Associates, specializes in agricultural marketing and communications. Jocius helped launch Strategic Research Associates, now headquartered in the University’s Research Park; the Internet company Farms.com; and Canada’s Outdoor Farm Show.

He is survived by his wife, Lorie (Munce) Jocius, B.A.Sc. ’72, and three children, Davia, Gavin and Jordan. Memorial donations can be made to the new Ginty Jocius Journey of Growth Fund, which will support travel opportunities for OAC undergraduate and diploma students.

Guelph in the rankings

Top marks from students
In the 2007 University Report Card, which is based on the opinions of 43,200 undergraduate students across Canada, the University of Guelph was ranked No. 1 or tied for the top ranking in several key areas, including overall quality of education, faculty members’ knowledge and availability, sense of personal safety and security, overall campus atmosphere, quality of academic advising and overall satisfaction with the university experience.

Results of the sixth annual survey were published Oct. 16 in the Globe and Mail.

First in research
Once again, U of G has been ranked Canada’s No. 1 comprehensive research university in two surveys released Oct. 25 by an independent national consulting firm.

Guelph was named “Research University of the Year” in an annual ranking published by Research Infosource Inc. It’s the fourth time U of G has earned the top spot.

The rankings are based on total sponsored research income, faculty research intensity, total publications, publication intensity in leading journals and publication impact.

Research Infosource also published its annual “Top 50 Research Universities” list, which ranks Canadian universities based solely on sponsored research income from both government and non-government sources.

In that survey, U of G was the top comprehensive university for the sixth year in a row, with research income in excess of $149 million, an 18.9-per-cent increase over the previous year.

Maclean’s drops student quality
Guelph was ranked fourth overall and second in reputation in the annual Maclean’s rankings released on Nov. 8.

Both Guelph and the University of Waterloo dropped in the annual ranking after Maclean’s revised its ranking system to include only publicly available data, which eliminated nearly all measures of student quality such as entering grade averages and graduation rates — areas where U of G has always excelled.

For six years running, U of G food services have been ranked first among Canadian universities in the University Report Card.

With more than a quarter of preschoolers struggling with nutritional problems, two Guelph researchers have helped to develop a screening tool aimed at changing the way public health agencies address childhood obesity and malnutrition.

Ten years in the making, the NutriSTEP screening checklist has the backing of the Ontario government and is being piloted in selected areas across Canada as part of immunization programs and preschool screening fairs. It was created by Profs. Heather Keller and Janis Randall Simpson, both of the Department of Family Relations and Applied Nutrition, and Lee Rysdale and Joanne Beyers of the Sudbury and District Health Unit.

The checklist consists of 17 questions covering a child’s physical growth, what the child is eating and drinking, physical activity and sedentary behaviour, as well as factors affecting food intake such as family income and how the parents control what the child eats.
Fish with personality

Fish have distinct personalities, which explains differences in behaviours like eating and swimming, according to new research by U of G professor Rob McLoughlin and researcher Alex Wilson of the Department of Integrative Biology.

“We’ve seen the kinds of phenomena we associate with personality in humans showing up in domesticated animals and now in wild animals,” says McLoughlin. Personality differences can influence more complex behaviours, he adds.

He and Wilson observed two kinds of feeders among young brook trout in the Credit River near Toronto: active feeders swam near the surface, away from the bank; sit-and-wait feeders remained near the stream bottom, feeding on what passed by.

“We wanted to test whether behaviour differences in the field were tied to underlying differences in personality,” says McLoughlin. So they caught the fish and tested them for six days in the Hagen Aqualab on campus. Fish that were more active in the field stayed active and changed their activity less than fish that used a sit-and-wait strategy. Subsequent work by master’s student Michelle Farwell has helped to cancel out potential differences caused by variations in resting metabolic rates or swimming ability.

Their work may help in managing fish stocks more precisely. Setting catch regulations based on studies of fish taken only from the water column, for instance, may cause relatively more active individuals to be caught than sedentary ones, with unexpected consequences for the entire population and for biodiversity.

This partnership worth billions

The partnership between the University of Guelph and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has tremendous economic impact, returning more than a billion dollars a year to the province, according to a new economic analysis by Deloitte and Touche LLP.

Ontario is also benefiting from the agreement in critical ways that cannot be financially quantified, such as supporting research involving the monitoring and prevention of health threats such as SARS, avian flu and mad cow disease, the report says.

Under the OMAFRA agreement, the University manages research and education programs and related facilities, supported through an annual $54-million allocation from the Ontario government.

To read the report, go to the website www.uoguelph.ca and search for “Deloitte and Touche.”

ONLY ONLINE

To read these stories, visit www.uoguelph.ca/theportico

• A portrait owned by Canadian Lloyd Sullivan’s family was the centerpiece of a five-month-long exhibit at the Macdonald Stewart Art Centre in 2007 and remains at the centre of an international debate on Sullivan’s claim that it is the only portrait of William Shakespeare painted while he was alive. The portrait has passed forensic test number 13 in the quest to authenticate it.

• With one-third of our food supply reliant on bees and other pollinators, any effort to stem the worldwide decline in pollinator numbers is worth a try. Read online how environmental biologist Peter Kevan plans to turn a former Guelph dump into the world’s first pollinator park.

• Prof. Al Weersink, Department of Food, Agricultural and Resource Economics, says the 1999 NHL rule change governing overtime play is a nice empirical example of how incentives after the way people react. As desired, the rule change has boosted goal scoring during overtime, he says, but it has also had a perverse effect on the way professional hockey is played during the regular game.

• Guelph students Ben Coe and Charlene Elsby and U of G graduate Zezewo Abebe Peters submitted a project on an “unsung hero” of computing in an international competition run by the Institute of Electrical and Electronics Engineers Computer Society. The only entrant from Canada among almost 120 teams from 27 countries, they were named one of eight runners-up behind the top team from Japan.

• U of G, the City of Guelph and Guelph Hydro have collaborated on three campus projects aimed at reducing water consumption and energy use. The retrofits will also save the University hundreds of thousands of dollars a year.
It’s a vanishingly small world
U of G researchers conjure up a new degree program to help students understand the magical things that happen when we manipulate nanosized particles of matter.

Story by Andrew Vowles Artwork by Amanda Scott

Are these magicians?

One fourth-year undergraduate student in Prof. John Dutcher's physics lab uses light instead of his fingers to lift and manipulate single cells or DNA molecules. Another senior undergrad in chemistry builds vanishingly small molecular structures — much smaller than the head of the proverbial pin — that may eventually help in powering devices or making faster yet smaller computers. No, they’re not conjurers but U of G students exploring the growing possibilities of nanoscience, or the world of the incredibly small. And starting next fall, the University of Guelph expects to welcome more new students like them with the launch of the first undergraduate nanoscience degree program in Canada.

A nanometre is one billionth of a metre. ("Nano" means a billionth or 0.000000001 of something). This sheet of paper is about 100,000 nanometres thick. No wonder the new program’s website defines nanoscience as the “science of the almost impossibly small.”

For all of its minuscule dimensions, there’s a whole universe of possible uses for this new science, say U of G experts. Imagine medicines that could target and kill cancer cells. Or what about using the tiniest magnetic particles to clean masterworks of art without touching them? Think of paints that might prevent soiling in the first place. Imagine minute fibres on your shoe soles allowing you to walk gecko-like up the side of a building. How about a bike made of carbon nanotubes that are as light as plastic but as strong as titanium. (That last one already exists.)

“Nanoscience is not just being in the small, but also working and changing the small,” says chemistry professor Dan Thomas, associate dean of U of G’s B.Sc. program. “Nanoscience is going to be the cutting edge of research and economic growth.”

Why? Being small — even nanosize — is only part of the magic. The other part is the weird properties shown by things occupying that Lilliputian environment. Materials that behave predictably in our macro world, or even in the realm of the microscopic, take on new characteristics — optical, electrical, structural — when considered on the scale of atoms and molecules.

“When you make them small, they have totally different properties,” says chemistry
professor Mark Baker. “This opens up a whole new world of potential applications.”

Take quantum computing at that scale, says Prof. Kathryn Preuss, Chemistry. Like going from vacuum tubes to semiconductors, using nano to reach the yet-untrdden quantum world will represent a step into new and largely uncharted territory. Referring to unforeseen material properties lying between classical computing and quantum computing, she says: “It’s not just smaller but new materials that do what we haven’t been able to do before.”

Also key is that much of that miniature world lies not in one discipline but at the intersection of physics, chemistry, biology, math and other areas — another reason for introducing this program at Guelph, a university known for its strengths in interdisciplinary studies. The new program has been designed to enable students to explore interests in related fields and even to easily switch streams to pursue other aspects of physical science, says Linda Allen, academic assistant to the dean of the College of Physical and Engineering Science and B.Sc. program counsellor. That’s a point she’s stressed in discussing nanoscience with prospective students and their parents at science and engineering preview days and at last year’s Ontario Universities’ Fair.

“We’ve confirmed that we have a nanoscience buzz out there,” says Allen, adding that “a number of parents would love to enrol in the program if possible.”

Stressing the interdisciplinary nature of nanoscience studies across campus, chemistry professor Jacek Lipkowski says these collaborations “have tremendous teaching and training value. Graduate students from different disciplines and three colleges — the Ontario Agricultural College, the College of Biological Science and the College of Physical and Engineering Science — perform joint experiments and participate in research seminars and scientific discussion. This gives them exposure to different scientific cultures and broadens their education.”

Rather than focus on the engineering applications beneath nanotech degrees offered
Scientists can tell whether or not a cell is healthy by stretching it. Cancerous cells stretch differently than normal cells do when manipulated with optical tweezers — a kind of microscope whose laser light can hold a nanosample in thin air.

elsewhere, the new Guelph nanoscience program aims to help in understanding the fundamentals of the nanoworld, with courses ranging from nanomaterials synthesis and thin film science to nanolithographic techniques and quantum computing. The B.Sc. program will begin in fall 2008, but research projects are already being explored by U of G scientists in a wide range of disciplines.

"Dutcher films" might make it sound as though physicist John Dutcher is branching out into movie-making. But these films — the name was actually used by researchers in the United Kingdom in two research papers published last year — are made of polymers no more than one or a few molecules thick. Part of his interest is purely curiosity-driven: What kinds of patterns form when films are heated? Other aspects of his work have practical purposes. Undergraduate student Ryan Touhami is studying the effect of applying high-pressure carbon dioxide to these polymers, the same technique — albeit not a well-understood one — used in industry to make Styrofoam. That may lead to greener manufacturing processes.

"We're trying to move to something more environmentally friendly like supercritical carbon dioxide," says Dutcher, who holds the Canada Research Chair in Soft Matter Physics and is a theme leader in the Advanced Foods and Materials Network (AFMNet) based at Guelph.

Along with other AFMNet researchers, including Guelph microbiologists, biochemists and physicists, he's also using nano to study bacteria. One branch of this work looks at films of micro-organisms that may contaminate food, cause disease or clog up water-intake pipes. A hot nano topic for biological and physical scientists alike is understanding how proteins on bacterial surfaces enable bugs to stick to various substrates and form these biofilms.

In another application, Dutcher spoke in the fall on "Bacteria as Materials Scientists," highlighting the capabilities of microbes and their possible uses. For example, a special biopolymer mesh forms a "bag" that allows the cell to withstand pressure and still grow as it matures. "How does a bag under high pressure expand without rupturing?" asks Dutcher. Understanding these tricks might help in designing variations for making new kinds of fabrics or devising new ways to deliver drugs more efficiently.

Much of his work occurs down in the MacNaughton Building basement, using an array of instruments that hardly resemble your former undergrad lab microscope at all. One of Dutcher's post-docs, Ahmed Touhami, describes how an atomic-force microscope (AFM) can pull on protein molecules at the surface of an oil droplet, an application useful in studying the stability of food emulsions. A mainstay for nanoscientists, AFM uses a tiny probe whose tip traces the contours of individual molecules like the stylus of a record player. Even more astonishing are Dutcher's optical tweezers, another form of microscope whose laser light is able to hold up a nanosample (or even stretch or rotate it) while the scientist manipulates the molecule or cell to study vanishingly small forces. Cancerous cells stretch differently than normal ones, says Touhami: "You should know whether the cell is healthy or not just by stretching it."

Elsewhere in MacNaughton, PhD candidate Christa Brosseau worked with Lipkowski, a Killam Fellow and holder of the Canada Research Chair in Electrochemistry, to gain access to tools and ideas for looking closely at how bacterial toxins cause cholera.
The disease kills thousands of people each year, especially in parts of South America, Southeast Asia and Africa lacking access to clean water. In a little-understood process, the microbial toxin binds to a host cell membrane and crosses the membrane, the first step towards infection. Brosseau needed a close-up view of the membrane and its lipids as well as the bacterial toxin protein — a project that required a nanosized look at those components in Lipkowski’s lab.

She plans ultimately to look at how a parallel process may cause Alzheimer’s disease. The same receptor has been implicated in both cholera and the amyloid-β peptides known to form plaques in brains of people with Alzheimer’s.

Other researchers in Lipkowski’s lab are using nanoscience to study other biological topics. Anna Kycia, a PhD student co-supervised by Prof. Rod Merrill, Molecular and Cellular Biology (MCB), is interested in how a particular toxin produced by E. coli might also be used as a weapon against competing strains of the organism. She’s using infrared spectrometry and AFM to see how the toxin affects ion channels and binds to exquisitely thin cell membranes.

“I don’t think of myself as a nanoscientist,” says Kycia, who uses molecules made by chemistry professor Adrian Schwan. “I’m a chemist working with nanosized particles.” Evoking something of the magician’s aura as she describes that impossibly small world, she says: “You can create something you can’t see.”

Amanda Quirk, yet another PhD student working with Lipkowski, says she loves using AFM. “It’s so neat to see things at such a small scale. I didn’t believe you could see this small.” Zooming down to the nanoscale, she is looking at how enzymes attach to and break down cellulose fibres into simple sugars. “It’s a hot project,” she says. “How does adsorption happen? Where does the enzyme adsorb on the cellular fibre?” That process may prove fundamental to using plants for new forms of biofuels as a greener alternative to fossil fuels.

Quirk’s project is funded by a Natural Sciences and Engineering Research Coun-
Zooming down to the nanoscale, Guelph scientists look at how enzymes attach to and break down cellulose fibres during adsorption — a process that may prove fundamental to using plants for new forms of biofuels as an alternative to fossil fuels.

cil strategic grant involving not just Lipkowski but also MCB professor Anthony Clarke and physicist Dutcher. She also relies on yet another chemist — Prof. France-Isabelle Auzanneau — to synthesize polysaccharides needed for her work.

Study the normal workings of just about every cell in your body and you can't help but encounter ion channels in cell membranes that selectively admit or release ions such as sodium and potassium. Working right, ion channels maintain a proper environment inside the cell. Damaged — perhaps through genetic disorders — they can cause numerous diseases. "All biological functions in our bodies are controlled by ion transport," says Slawomir Sek, a post-doc in Lipkowski's lab working with Talamara Laredo, a PhD student co-supervised by Dutcher.

They recently captured the first-ever in situ pictures of ion channels taken by a scanning tunnelling microscope; the research group is now writing a paper about that work for publication. What did Sek say when he saw these images for the first time? He smiles. "I was trying to say nothing because the instrument is very sensitive to sound."

Similar concepts underlie the potential applications of nanoscience in creating ultrasensitive environmental monitoring and sensing devices. Chemist Baker has looked at developing an arsenic sensor for examining water contamination. "We've made materials that adsorb arsenic," he says, describing their possible use in devices to detect trace amounts of water contaminants. He's also working with researchers in the Department of Environmental Biology on a sensor for monitoring ammonia concentrations in cow barns. Nanosensors might be used in a so-called "lab-on-a-chip" to test for elements ranging from blood and plasma to urine and electrolytes, all on a single device. Beyond environmental and human health applications, nano might show up in security monitoring for traces of explosives, says chemistry professor Paul Rowntree.

In the Department of Food Science, nano also appears in the lab of Prof. Milena Corredig, holder of the Canada Research Chair in Food Nanostructures and the Ontario Dairy Council Research Chair in Dairy Technology. Although she's not involved in U of G's new nanoscience program, she studies ways to encapsulate compounds in foods in minute structures.

"Size matters when you want more surface area in the compound and when you don't want to taste it," she says, referring to yogurt or drinks that may eventually contain nanosized molecules intended to confer specific health benefits. "Say you're trying to incorporate vitamins or components that could be offensive to your taste buds, but instead they're organized in structures and you may not be able to taste them."

In an intriguing application to human health, physicist Stefan Kycia has used an X-ray instrument to analyze the contents of a health supplement sold by an American firm. He's found that the bottle does indeed contain nanoparticles of gold as claimed, although even that probing examination fails to clarify its purported health benefits. "I would never take the stuff," says Kycia, who has used X-ray diffraction at Guelph and at the Canadian Light Source Synchrotron in Saskatchewan to study atomic structure and behaviour of materials used in everything from high-strength alloys to computers.

Mention computers and you're into another nano field, as researchers look for ways to further shrink integrated circuits and other electronic components. Or take oth-
er forms of those components entirely, such as single organic molecules with the same kinds of on-off switching capacities as silicon chips. This field is as much a materials science problem as a computing one. How do molecules interact with each other? How to layer molecules into electronic circuits?

"Electronics is probably one of the biggest applications of nanoscience," says Rowntree. He notes that researchers are learning more about how organic molecules may be grafted onto semiconductors and how their electronic properties may help in making new electronic devices.

Looking at optical properties of nanoscale particles will probably help in improving information technology, says Stefan Kycia. “My research group is focused on nanoscience now. I’ve been studying that since grad school.”

Although chip fabrication and testing fall more into the realm of nanotech engineering than a strict nanoscience program, Guelph engineering professor Stefano Gregori is involved in developing such switches and testing them in his Thornbrough Building lab. “Development of the technology is a key issue,” says Gregori, who helped host U of G’s 2007 Winegard lecture on nanoscale semiconductors. “You have to think about the production process in engineering these devices or materials.”

Start talking about molecular-sized computing and you slip into the world of quantum computing, or building devices based on molecules and atoms rather than conventional circuits. No one has yet built a quantum computer, but they’re working on it. Chemist Preuss, for example, builds single-molecule magnets whose on-off states and electron spin properties might one day make them the brains of quantum computers and related devices such as flash drives in memory sticks. Rather than design downward from bulk materials she is constructing nanosized molecules using metals such as manganese, nickel and cobalt, as well as sulphur and nitrogen. (Demonstrating the weirdness of the nanoworld, organic elements like sulphur have magnetic properties at that scale.)
Electronics is one of the biggest applications of nanoscience. Researchers are learning how organic molecules can be grafted onto semiconductors and how their magnetic properties may help in making new electronic devices.

"We're building from the bottom up," says Preuss. "We want to make a molecule large enough and designed for that interface between classical and quantum computing."

Researchers are interested in this technology not just to build computers and related devices but also to encrypt data for more secure computing networks. "These networks are being built," says math professor David Kribbs, a member of the Institute for Quantum Computing and the Perimeter Institute for Theoretical Physics, both in Waterloo. He studies error correction, or anticipating and fixing the kinds of glitches peculiar to computing at that level (roughly analogous to the unexpected properties shown by nanoscale materials).

Incorporating quantum computing lends "an extra shine" to U of G's new degree program, says Kribbs. "This degree raises the profile of quantum computing at Guelph. In fact, it is perhaps the first nanoscience degree anywhere that includes courses from the emerging quantum information sciences."

U of G chemists are also experimenting with metal oxide nanowires for possible uses from computing and information storage to solid oxide fuel cells. Far from the ages-old beakers and pipettes of the traditional chemistry lab, this work involves using gold nanoparticles, palladium catalysts, high heat, vacuum systems and all manner of sophisticated microscopes and spectrometers for growing and studying these nanowires.

Fourth-year undergraduate Brian Worfolk first began that work as a summer student in Rowntree's lab and is now continuing his studies across the hall with Thomas. Allowing that he might well have pursued a nanoscience degree himself had it been offered four years ago, Worfolk says: "I think there's a lot of potential for future applications of this research."

Beyond the practical possibilities, his lab supervisor evokes ideas to describe the nanoworld that seem at first more suited to art than science. Says Thomas: "It's the beauty of making or studying materials in the nanoscale. The University of Guelph learning objectives include esthetic understanding. What does that mean?" For this chemist, it's a bit like appreciating the esthetic appeal of an equation written on a classroom blackboard. "You recognize it as a work of art. It's a creation of the human mind. We create symmetries and asymmetries in ways that are unsuspected."

THINK REALLY, REALLY SMALL

One of the first scientists to imagine what we now call nanoscience was Nobel prize-winning physicist Richard Feynman, who proposed the concept in 1959. He predicted microscopic cars, incredibly small computers and miniature surgeons who could go inside our bodies to do their work.

Already, we are using anti-bacteria wound dressings with nanoscale silver; sunscreens with nanoscale titanium dioxide; scratch- and glare-resistant coatings on eye glasses, windows and car mirrors; batteries with nanoscale materials that deliver more power with less heat; and nanoscale dry powders to neutralize gas and liquid toxins in chemical spills.

To read more about nanoscience, visit www.uoguelph.ca/thenano.
A Campus on the March

By Herb Shoveller with files from Mary Dickieson and Andrew Vowles
A sailor’s story

Doug Hoffman arrived at the Ontario Agricultural College in 1939, a city kid attracted by rural life and an inexpensive education.

“I chose OAC for a number of reasons,” says Hoffman. “One was the fact that it was very inexpensive. For $22 a month, we would get three meals a day, a room of our own and all of our classes. We also had someone who washed our sheets and pillowcases once a week. They drew the line at underwear.”

He came to OAC at a time when Canadians were still feeling the effects of the Depression, but it was the Second World War that had the bigger impact on his OAC career. His enrolment followed on the heels of Hitler’s invasion of Poland Sept. 1, 1939. By Sept. 10, Canada was at war.

OAC president George Christie tried to convince his new students that the best way they could serve their country was by staying at school. Still, he encouraged them to join the war effort in conjunction with their studies as a precursor to active duty at graduation.

“The most important thing in the day was classes, then we would follow up with COTC (Canadian Officers' Training Corps) or football practice,” recalls Hoffman. “If football was scheduled first, you still had to do the COTC. We were required to go fairly often, five days a week for two hours. We would always go away for two weeks of camp in summer, usually in London, England. I can remember the last time I went to London, we ended up having tear gas sprayed all over the place so we’d become accustomed to it. It was harsh training.”

Slated to graduate in 1943, Hoffman didn’t cross the stage at War Memorial Hall until 1946 because his war service interrupted his studies. He joined the University Naval Training Detachment established in 1942 by Prof. A.W. “Jack” Baker.

“We went down to Hamilton to train for a day to find out if we were officer material, and all of us were successful,” says Hoffman. “So we trained at the boathouse where Gordon meets the Speed River. We had no boats, but we would train there.”

After a series of training stops, he eventually served on Fairmile, one of the smallest warships used by the Royal Canadian Navy. It had a wooden hull of 34 metres.

“We sailed the Labrador coast, Newfoundland, Nova Scotia and the Gulf of St. Lawrence. Rumour had it there was a German radar relay station on the coast of Labrador. We never found it.”

Swords and ploughshares

Although every Guelph student has memories of either painting the cannon or viewing someone else’s artistic work, Ernie Kendall, BSA ’32, has the earliest memory of all. He was two years old in 1910 when he sat on the iron barrel for a photograph.

By then Old Jeremiah had been a fixture on campus for about 30 years and was used for most of that time to instruct OAC students in gun drill and gunnery. For many politicians and parents of the day, and certainly for the OAC students who requested it, the formation of a battery of field artillery at the college in 1878 was a big deal in the early days of Canadian Confederation.

As Guelph historian Alexander Ross tells us in The College on the Hill: “From its earliest years, the college (Ontario Agricultural College) had treasured swords as well as ploughshares.”

Capt. Walter Clark, a veteran of the Crimean War, instructed OAC and Guelph volunteers in artillery and rifle drill for many years. The Ontario Field Battery of Guelph claimed a dominion prize of $100 for proficiency two years running, 1891 and 1892. Ross tells us there were 17 batteries of artillery in Canada at the time.

Several OAC men saw action in South Africa during the Boer War, but it wasn’t until the outbreak of the First World War in 1914 that college graduates, faculty and students were called to serve the country in great numbers.

A contingent of the Canadian Officers’ Training Corps was formed on
campus — once again at the behest of students. By March 1916, an all-OAC student battery was formed. By fall, these OAC men were fighting in France as members of the 56th and 66th batteries.

Ross's college history notes that hundreds more joined other branches of the service. Altogether, 789 OAC students and graduates enlisted; a bronze tablet in War Memorial Hall lists the names of 109 who died.

The COTC contingent functioned until 1919. It was reactivated in 1923 while War Men Hall was being built and flourished during the years up to the beginning of the Second World War, thanks to the leadership of men such as Major Ernest W. Kerstul, who also taught manual training at OAC and photographed his two-year-old son on the campus cannon in 1910.

War Memorial Hall was envisioned by and partially funded by OAC graduates and student veterans. Year '88 alumni, the first to graduate from the college; sent $125 each.

The Ontario Veterinary College moved from Toronto to Guelph in 1922, bringing its own history of veterinarian soldiers and veterinary units that cared for horses during the Great War. OVC students eventually joined the campus COTC, and many enlisted when Canada went to war again in 1939.

As COTC commander of the OAC-OVC contingent, Kendall Sr. accompanied 240 men — including Doug Hoffman — to a 14-day summer camp in England in 1940.

Training for air warfare

More than 1,000 students, staff and alumni enlisted during the Second World War, but it would be more appropriate to say the campus was drafted into service.

The conflict drastically transformed the campus that was home to OAC, OVC and Macdonald Institute. Vast portions of the property were ceded to the war effort, great expanses were fenced off, and the school's students were forced out of their residences. From May 1, 1941, to Feb. 22, 1945, the campus served as an Air Force training base for cooks, wireless operators and radio officers.

At Wireless School No. 4, the trainees studied radio theory and Morse code and learned how to swim and perform in military reviews and parades. It was reported that the school's graduates could be spotted anywhere they were stationed because of their textbook-perfect marching abilities.

An estimated 5,800 men from Canada, Britain, Australia, New Zealand, South Africa, Trinidad, Bermuda, Bahamas and the United States trained at Guelph before going on to bomber and gunner instruction. For some, flight training began at the Burtch airfield south of Guelph at Burlington, and most were eventually assigned to bomber, coastal or transport duties with the RCAF or RAF.


A five-foot-high Watchman's wire fence with three strands of barbed wire on top enclosed most of the main buildings on campus: Johnson, Blackwood, Drew, Watson, Creechman, Mills, Maids, War Memorial and Macdonald. Also within the ceded land were the Mac-

"During the Second World War, I was on campus at Macdonald Consolidated School, where we had a victory garden. The school was isolated by a high fence that ran alongside the road from Gordon Street up to Mac Institute."

LEE MASTER, BSA '56
When Guelph was chosen as one of four sites in Canada for wireless schools, the town, the campus and even the Air Force were wary. Some members of the Air Force expected they were in for a rough ride, particularly because Guelph was considered an army town, “a gunner’s town,” says retired OAC professor San1 Lougheed, BSA ’58 and MSA ’60. But those concerns were baseless, he says. “Originally, the people in Guelph didn’t want to have the Wireless School here and were very irritated by the plans, then, funny, when they closed it down, the people in Guelph wanted to keep it.”

A near-tragic event helped smooth things over, says Lougheed. “A disastrous fire in the OAC beef cattle barn helped in developing friendly relations among the (Wireless) School, OAC and the city. An airman returning late to the school on the cold night of March 10, 1942, noticed the fire and reported it to the guardhouse. The MPs on duty roused the barracks and the Guelph police and firemen. The airmen arrived first and, led by some with farm backgrounds, were able to lead to safety the animals from the burning barn and from the endangered horse barn close by.”

War-related activity wasn’t restricted to the walled-in wireless area of campus, however. Outside the wall, students could sign up for the COTC, the University Naval Training Detachment headed by Prof. E.H. “Eddy” Garrard. “Students had to or were strongly encouraged to join one of these groups,” says Lougheed. “President Christie took that approach because he didn’t want the whole thing (college) to come down.”

Wally Knapp, BSA ’48, recalls the Armed Forces arm twisting being somewhat forceful. “If you hadn’t been in the services, you were required to do training when you got to campus,” says Knapp, who arrived at Guelph in the fall of 1944. “The Army and Navy (and Air Force) were here, and you had to take one. I had been in the Highland Light Infantry in Cambridge, so I joined the Army and was made a sergeant.”

Christie’s efforts to encourage participation in the Forces may have avoided a six-year hiatus for the campus as an academic institution. In a 1990s essay about the Wireless School, Lougheed wrote: “At one point in 1939, there was talk that OAC, OVC and Macdonald Institute would all be closed down. There was widespread opposition to the proposal in the community, and in the end it was determined only a portion of OAC would be needed” for the school. When the dust settled, the academic program at Macdonald Institute was suspended in 1941, but the degree programs at OAC and OVC continued.

**The cookery**

Although the Wireless School was the dominating presence on campus, it was actually preceded by an Air Force cook-

“I spent seven months there in 1944. We fooled the RCAF brass for six months — convinced them we were ‘Bush Baptists.’ They couldn’t find a minister to suit, hence we missed out on Sunday church parades.”

R.W. “BOB” ALLEN, AUSTRALIA
ery school that relied on the services of Macdonald Institute and nutrition faculty who taught three-week short courses for RCAF and Army cooks. Many of them were members of the Armed Forces Women’s Division. According to Christie’s files, the main goal of the course was “to teach the best possible use of Army rations.” Prof. Hugh Branion of the animal nutrition department served as school liaison with the cookery, a job he retained when the Wireless School arrived.

Retired U of G botany professor Hugh Dale knows firsthand what a big impact the cookery school had on military life.

“I was posted twice to the station at Clinton, which was a radar teaching station,” he says. “The first time I was there, it was RAF Clinton, with RAF food. I later had dealings with the U.S. navy, and they had had people there, and they complained bitterly to me about the food. About two years later when I went back, it was RCAF Clinton and it was a completely different story. Hugh Branion and his people from Guelph were responsible.”

Branion’s approach to nutrition wasn’t necessarily an easy sell, says Dale. “I heard tales... that at some Air Force places, those being served took their plates and dumped them and said: ‘We want meat and potatoes — we don’t want any of this rabbit food.’ But in the end, it was very good.”

Branion’s work at the cookery was one instance of overlap between the RCAF and OAC. Another was the use of instructors from the college’s physics department to teach at the Wireless School. Their subjects included Morse code; mathematics; voice messages; electric, electronic and radio principles, problems and repairs; aircraft identification; and skeet shooting.

When Dale joined the faculty of OAC in 1957, he shared his military expertise with students and instructors in the COTC program, which continued on campus until the early 1960s.

Beyond the cookery and the Wireless School, the campus offered other services to the war effort, such as mounting a course for female radio announcers and sending 100 student volunteers to Saskatchewan to help with the 1942 harvest.

Still, it was the Wireless School’s arrival that brought about massive change on campus.

A place in history

“T he place was a hub of activity,” says Lougheed. “People came to the Wireless School from all over the country and elsewhere in the Commonwealth. There were a lot of Australians training here, and they were pretty wild.”

Bob Adams was with the RAF and was sent to Guelph from England as a 19-year-old. “Our small country was overloaded with operational squadrons, so we turned to Canada for our training,” he says.

Adams trained in Guelph on the Marconi 1082 transmitter, then later went to Comox, B.C., for operational training before returning to England. More than 60 years later, he still has materials from his time in Guelph, including a postcard of Johnston Hall.

In full operation, the Wireless School would involve 1,500 people on a daily

“Before I came to Guelph, the only thing I knew was that we had a stove at home in Montreal with Guelph on it.... The Ritz (King Eddie) had a dance hall upstairs with a jukebox. It was quite a hangout for the Air Force types.”

ED “LINK” TRAYNER, MONTREAL
basis. Lougheed says the numbers could be calculated because the RCAF paid the city for the sewage system and water supply based on the number of people at the school.

The RCAF made Johnston Hall its administration building, and the mess was in Creelman Hall. "Non-commissioned officers lived on the second floor of Johnston and on three floors in Maids dormitory, with a lounge and bar in the basement," he says.

Most Women's Division enlistees who were being trained at the cookery stayed at the Cutten Fields golf club-house.

Lougheed became an expert of sorts on the Wireless School after hearing in the early 1990s that a reunion was being planned. He put together a history of the school with some of the returnees, which allowed him to collect colourful details and stories, including one involving U of G's chancellor emeritus.

Guelph was the first stop in training for the Hon. Lincoln Alexander, who moved on quickly to Lachine, Que., and became a trainer. He welcomed veterans to campus in 1991 for the 50th anniversary of Wireless School No. 4.

"I remember the friendship and the fun," he says. "It made me a man. It taught me what authority was all about. It taught me to respect others. I'm proud of my service."

All the veterans who attended the anniversary were equally proud, including the late Vic Nielsen of North Bay, Ont., who founded the No. 4 Guelph Wireless School Association and organized its first reunion in 1987. The Guelph Mercury interviewed many of those attending in 1987, including Jack Ladly of Halifax, whose work as a radio operator changed history. Ladley flew Halifax bombers with the 517 Squadron RAF and flew June 5, 1944, on an 800-mile reconnaissance to check out a storm front coming from the Azores toward France. His radio message resulted in a one-day delay of the D-Day invasion at Normandy.

Art Davis, who was an instructor at the Wireless School, told The Mercury that half of the men who trained there died during the war.

Although Hoffman witnessed the arrival of the RCAF in 1941, Knapp witnessed its departure in 1945 as the campus was gradually returned to its original form.

"The fence was still up when we started in the fall of 1944," Knapp recalls, "and we had to live off campus all after Christmas. After Christmas and during second term, we were able to gradually filter back into residence. It was a busy time, with the fence coming down, the Air Force leaving and the students returning."

One of many veterans who returned to OAC, Hoffman completed his undergraduate studies in chemistry, followed by a master's degree in soil science and a PhD at the University of Waterloo. He taught at OAC for a short time before taking a faculty position in Waterloo's School of Urban and Regional Planning. He still lives in Guelph.

"I trained at No. 4 Wireless School. Studies included aircraft recognition, aircraft engines, meteorology and flight theory. When classes were over, we headed off to Dunnville to the Service Flying Training School."

R. Hugh Best, DVM '47
If there’s a distance runner in your family, you probably don’t need an introduction to U of G coach Dave Scott-Thomas.

He coaches champion runners and, through the achievements of his athletes, makes history.

U of G’s cross-country teams — both men and women — won back-to-back gold medals at the Canadian Interuniversity Sport (CIS) championships in 2006 and 2007. No other Canadian university has ever earned double gold two years running.

The CIS win Nov. 10 marked the third straight victory for the U of G women’s team. Lindsay Carson, a first-year biological engineering student, captured the gold medal in the women’s five-kilometre race with a time of 17:41.3. She led the event in Victoria, B.C., with both the CIS female athlete of the year and rookie of the year awards. The Guelph men, winners of six of the last nine championships, scored 59 points to beat their Ontario archrivals, the Windsor Lancers, by 20 points.

For his efforts, Scott-Thomas was named both women’s and men’s coach of the year. He’s the first CIS coach in history to achieve the double honour, and he’s done it twice. In fact, he has won 11 Ontario University Athletic (OUA) and five CIS coach of the year awards since coming to Guelph in 1997. He has also received the Fox 40 OUA coach of the year award for all sports.

No doubt about it: Scott-Thomas has established the running program at U of G as the premier distance program for men and women in the country.

He is also head coach at the National Endurance Centre (NEC) in Guelph, one of three endurance centres in Canada developing future Olympic athletes. The University of Guelph was selected four years ago to serve as an NEC site because of the concentration of high-level athletes already in the area — due primarily to the elite coaching available — as well as the location and ideal terrain for training.

National team coaching assignments have taken Scott-Thomas to a number of high-profile events in Canada, China, Mexico, the Cayman Islands and Japan.

He first came to the University of Guelph as an undergraduate student and earned a B.Sc. in biology in 1988 and a master’s degree in physiology in 1991. He also holds a bachelor of education from Queen’s University and a diploma of coaching from the National Coaching Institute in Victoria.

One of his greatest coaching skills may be his knack for attracting some of the nation’s top runners.

Carson chose Guelph because she wanted to work with him and follow in the footsteps of her mother, Leslie Carson, who had her own great success working with Scott-Thomas. Leslie earned a CIS bronze medal six years ago as a 38-year-old varsity athlete. A longtime dietician and sports nutritionist, she had returned to school in 2000 to pursue an executive MBA in hospitality and tourism management.

Guelph was an obvious choice for her, both academically and because she wanted to train as a Gryphon with Scott-Thomas.
"I specifically went to Guelph to run," says Leslie, who now works at St. Joseph's Health Centre in Guelph and lives with her family in Cambridge.

That sentiment was echoed in her daughter's move to Guelph last year. "This is the best running program in Canada," says Lindsay, 18, who plans to pursue medical studies after her engineering degree.

Tell Scott-Thomas that both Carsons peg him as their primary reason for choosing U of G and the 43-year-old coach smiles and says: "I still feel awkward when I hear things like that. I'm really proud that people would come and think that, but it's just about sharing dreams."

He notes that his team had risked becoming a victim of its own success this year. After that first CIS gold-medal sweep last year, he saw six of his All-Canadian athletes — three men and three women — graduate in the spring. Keen to avoid the euphemistic "rebuilding year" label, he welcomed runners in fall 2007 by saying: "Let's not rebuild, let's keep going with new people."

Straight off the heels of victory in Victoria, Scott-Thomas and his runners broke in a new 5.5-km two-loop course in the University's Arboretum, which he helped design and build specifically to host the national cross-country championships. Ten Gryphon athletes competed under the banner of the Speed River Track Club along with several alumni runners coached by Scott-Thomas through the city's track club.

This was the first time U of G had hosted the national race, which is a qualifier for the national team and is one of the largest cross-country races in Canada. Among the athletes who competed at the event were a number of top Canadian runners who have been coached by Scott-Thomas, including U of G graduate Reid Coolsaet, B.Comm. '02, who is the reigning 5,000-metre Canadian champion.

"Olympic athletes and other elite runners came from across North America to race here," says Scott-Thomas. "Close to a thousand runners competed, and another couple of thousand people came out to watch, so it was a great opportunity to showcase the University, especially to high school runners still deciding where they want to go."

He acknowledges that the the University of Guelph "is probably the best scene in distance running in the country."
Philanthropy alive and well

PHILANTHROPY — a practical benevolence — is encouraged, nurtured, celebrated and, in fact, deemed essential at the University of Guelph. I share great pride in being part of the University's thriving philanthropic culture and community.

Provost Maureen Mancuso recently wrote: “The University of Guelph has always distinguished itself by an exceptional commitment to social and communal relevance. The campus community and its members are deeply interested in and involved in the wider communities within which they are active participants.”

I see this on a daily basis. The philanthropy of our students, faculty, president, alumni, friends and supporters is a critical part of our culture and conversations. Our students continue to break national records in fundraising and food bank contributions, and our alumni remain dedicated to raising money for their alma mater and the wonderful students it develops. This creates a virtuous cycle that the University thrives on.

At a recent presentation, it was argued that one’s sense of social identity, the development of social capital, trust in one’s neighbours and an overall sense of community are essential to tackling the larger environmental, social, political and economic issues we grapple with. Not only does the University of Guelph understand this concept, but we also have it rooted in our mandate, campus history, curriculum and research and in our expectations of Guelph graduates.

Practical benevolence is part of the University of Guelph culture. The donations we receive contribute to growing and developing this legacy, supporting the president’s vision to engage citizens for sustainable communities across the planet. Through this legacy, we will understand life around us; prevent disease; promote health for people, animals and the planet; and shape our future.

How better to express our love of humankind?

On behalf of the University, I thank our alumni and donors for their enduring support, vision and commitment. Your philanthropy changes lives and improves life.

JOANNE SHOVELLER
Vice-President Alumni Affairs and Development
Knocking down silos

More than 500 alumni, students and Guelph community members turned out for "Knocking Down Silos," a networking event featuring guest speaker Dave Howlett, B.Sc. '81.

In his 25-year career, Howlett has worn many hats—scuba-diving instructor, Canadian naval officer, pharmaceutical sales manager and corporate executive. Today, he trains and helps to motivate other people. He has also attained the highest level of achievement in Toastmasters International and lectures on marathon running, having completed 12 marathons and four Ironman races.

Howlett received a warm welcome from his alma mater and generated a lot of discussion among attendees. The event raised $739 and several boxes of canned goods for the Central Student Association Food Bank.

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Winter 2008 25
In the 2007 photo, front row, left to right: Tim Thompson, Mike Parson (goalie coach), Paul Brydges (assistant coach), Marlin Muylaert (head coach), Ryan Bouman, Fred Ramprashad (academic advisor) and Chris Clancy (captain). Back row: Colin Hindle, Jeff Flanagan, Bill Monkman, Mark Gowan, Tim Spitzig, Kevin Hastings, Barry Johnson, Brian Thompson, Jason Haelele, Jason Reesor, Rob Saunders (manager) and Matt Mullin. Absent: Adam Christilaw, J.P. Davis, Chris Emerton, Ryan Foster, Paul Galbraith, Chris Logue, David Milek, Paul Rosebush, Michael Selkirk, Joe Van Volsen, Ryan Wels, Dean Woodman, Neil Srivastava (statistics), Dr. Barry Martin (team doctor) and Josh O'Keefe (trainer).

The Gryphon Hall of Fame induction ceremony each fall signals a great night for reminiscing, and that's just what happened Sept. 21 when the 1996/97 Gryphon men's hockey team was inducted in the team category. They won the national championship title in 1997 by defeating the University of New Brunswick 4-3 at Maple Leaf Gardens in front of a crowd of 5,733 fans. Coached by Marlin Muylaert, the Gryphons went through the regular season with 21 victories and only four losses in league play. En route to the national title, the Gryphons won the provincial championship by defeating York 3-0.

Goaltender Matt Mullin and defenceman J.P. Davis were named First-Team OUAA All-Stars and CIAU All-Canadians. Mullin also received the Senator Joseph A. Sullivan Trophy for Outstanding Player in the CIAU. Muylaert was named OUAA East Division Coach of the Year.

This year's Hall of Fame inductees in the individual category were Cassie Campbell, BA '97, hockey; Chris Crooks, B.Sc. '85, wrestling; Tony Kosztyo, B.Comm. '75, football, swimming and water polo; and Mike O'Shea, B.Sc. '94, football.

Chancellor emeritus Lincoln Alexander, foreground, with UGAA president Trish Walker and vice-president Colin Henry.

The UGAA presented the Honourable Lincoln Alexander with an honorary membership Oct. 18 at a tribute event for the chancellor emeritus. In the 15 years he served as U of G chancellor, Alexander conferred some 25,000 degrees. He is remembered for performing these duties with a warm smile, a handshake, words of congratulations and encouragement and a challenge for virtually every student who joined the alumni family.

So what did the chancellor say to you? The UGAA wants to compile these comments and present them to Alexander to show him how his words of wisdom remain with all of us today. Send your recollections to ugaauoguelph.ca.

Check out our new web look

Alumni Affairs and Development has recently launched a new website to make it easier and more fun for Guelph graduates to access the U of G Online Community, the University of Guelph Alumni Association and a myriad of services and events just for U of G alumni. Check it out at www.alumni.uoguelph.ca.
COMING EVENTS

Join us for Alumni Weekend June 20 and 21. Mark your calendar and let us know if your class is planning a reunion. Contact Wendy Jespersen at wjespers@uoguelph.ca.

Florida, here we come!
Louise Fleg, DHE 82, left, and Joan Wong (hat at the 2007 Florida Reunion, and we hope they’ll be back this year. All Guelph grads are invited to join U of G president Arne Sturmer for lunch Feb. 27 at Maute Lawn Golf and Country Club in Port Charlotte.

Feb. 5, March 4, April 1 & May 6 • Café Scientifique, 7 to 8:30 p.m. at the Blockstack in downtown Guelph; a series of science and technology discussions sponsored by the Faculty of Environmental Sciences. Visit www.uoguelph.ca/cas/scientifique for a schedule of speakers.

Feb. 23 • Ottawa Alumni Chapter curling bonspiel at Kanata, Ont. Individuals and teams at all levels of curling experience are welcome, cost $35 per person. Contact Alan Bentley at 519-829-8508.

March 4 • Shankman Lecture in Contemporary Art delivered by art critic Arthur Danto at 5 p.m. in War Memorial Hall, Inn.

Feb. 18 to 21 • U of G winter convocation and Reading Week

Feb. 27 • Guelph Alumni Florida Reunion. Contact Mary-Polito at mpolito@uoguelph.ca.

March 15 & 16 • College Royal, Saturday 8 a.m. to 6 p.m. and Sunday 10 a.m. to 4 p.m. Details at www.collegeroyal.uoguelph.ca.

April 30 • Ottawa Alumni Chapter reception. Contact Mary-Polito at mpolito@uoguelph.ca for details.

For more information, please visit www.alumni.uoguelph.ca or call 519-824-4120 ext. 53170 or mamoroz@uoguelph.ca.

Ready for College Royal?

HEAD BACK to campus March 15 and 16 for College Royal, the largest university open house event of its kind in North America. Be sure to visit the University of Guelph Alumni Association (UGAA) booth in the University Centre March 15 to receive a free gift and a chance to win an alumni gift pack.

Alumni and their families will want to visit the UGAA booth at OVC for prizes and fun activities.

HONOUR EXCELLENCE

I F YOU KNOW a U of G graduate, staff member or student who has made noteworthy contributions to his or her profession or community, consider nominating that person for the 2008 University of Guelph Alumni Association Awards of Excellence. Award categories are: Alumnus of Honour, Alumni Medal of Achievement, Alumni Volunteer, Employee Volunteer and Student Volunteer.

Don’t delay. To nominate a classmate, visit www.alumni.uoguelph.ca or contact Mary-Anne Moroz at 519-824-4120, ext. 53170, or mamoroz@uoguelph.ca.

ENJOY YOUR BENEFITS

A S A GRADUATE of the University of Guelph, you are eligible for discounts and benefits, including discounts on life, car and home insurance; deals on continuing education programs; membership in an online community; U of G souvenirs and merchandise; and cheap tickets for social and sporting events such as Toronto Raptor games.

One of your alumni association’s newest offers is the UGAA Mosaik MasterCard. By using this card, you can support your alma mater and the U of G Alumni Association with every purchase. For more details or to apply online, visit www.mosaikcard.com/offer and enter the code GUELPHALU.

The UGAA is always expanding its services and benefits, so visit the website www.alumni.uoguelph.ca for the latest in alumni deals.
Rob Winger, a 2003 MA graduate of U of G's English program, was a finalist for the 2007 Governor General's Literary Awards for a book in verse that he worked on as part of his master's thesis.

Winger was nominated for Muybridge's Horse: A Poem in Three Phases in the English poetry category, along with notable poets such as Margaret Atwood and Dennis Lee.

The jury citation said Muybridge's Horse "captured, in beautiful vignettes, the astonishing life of Eadweard Muybridge. With lavish imagery, Winger evokes the emotional intensity of a photographic genius caught up in the birth of a new technological era."

Rob Winger

Winger describes his book as "a biography in verse." The fictional work is based on the life of the renowned but eccentric British/American photographer Eadweard Muybridge.

“He was working on photography at a time when you had to be a chemist to take pictures because negatives weren’t invented yet,” says Winger.

“I’ve always been interested in photographic representation, what it means, and there was just something strange and intriguing about Muybridge,” Winger says. “I worked on Muybridge’s Horse for four or five years, most intensively while at U of G.”

His thesis supervisor was Prof. Janice Kulyk Keefer, herself a three-time nominee and 1974 recipient of a Governor General’s Award.

In 2003, Winger won first prize in the CBC Radio Literary Awards for an excerpt from the long poem. He teaches English at Carleton University in Ottawa and is also a doctoral candidate in Carleton’s Institute for Comparative Studies in Literature, Art and Culture. His PhD dissertation will focus on the study of the rise of the postmodern Canadian long poem during the 1970s.

These grads know food

U of G graduates Alvin Rebick, ADA ’76, and Ralph Giov inazzo, BA ’91, are competitors of sorts, each owning a fine-dining restaurant in Guelph, but they share the distinction of being reviewed in the prestigious Where to Eat in Canada restaurant guide.

The guide, which has been published annually for 37 years by Oberon Press, guarantees every restaurant has been personally tested by the reviewer, whose identity is not revealed.

Rebick owns Bistro Six with his wife, Glenna. They’ve been in the restaurant business for almost 30 years and feature regular music and art events at Bistro Six, located on Harvard Road at Gordon Street.

Giovinazzo co-owns La Cucina with Maurice Vidotto. Where to Eat in Canada describes their downtown Italian restaurant as a hidden gem. The menu is “authentic, and all the dishes are carefully cooked and attractively presented.”
Memories

news

Innovation cuts water use in greenhouses

Agronomist Jean Caron, PhD '91, is a scientist, inventor and businessman who is helping to innovate the greenhouse industry in North America. In October, he received the prestigious Prix J.-Armand-Bombardier for his work in soil physics to improve potting soils and the development of a greenhouse watering system that cuts water use almost in half.

A professor of soil physics at Laval University, he will oversee a new $15-million greenhouse and research complex scheduled to open this year. He also holds eight patents and is co-founder of Hortau, a company that specializes in advanced solutions designed to simplify the irrigation process in greenhouses.

Caron’s research has led to particularly significant technological innovations that are now successfully marketed. One is a capillary mat that lies on the soil surface or greenhouse table to deliver water and fertilizer to growing plants. The system reduces both water and fertilizer use and prevents losses into the environment. In conventional greenhouses and nurseries, irrigation can lead to water loss and contamination of local aquifers.

He also developed a technology to simplify the monitoring of irrigation systems. The Hortimètre probe measures soil tension (a measurement of humidity), enabling growers to optimize water use.

Caron says Guelph professor emeritus Dave Elrick is a long-term collaborator in some of these projects. “I remain particularly grateful to him and to some of my previous professors from the Department of Land Resource Science.”

Eco-award echoes environmental efforts

Former Alberta premier Ralph Klein with Marguerite Ceschi-Smith.

Marguerite Ceschi-Smith, BA '80 and M.Sc. '81, was named eco-councillor of the year at the Federation of Canadian Municipalities (FCM) annual meeting in Calgary in June. She was also elected to the federation's board of directors for the seventh consecutive year.

The award stems from her long-standing efforts to help cities deal with urban blights called brownfields and the thorny environmental, social and economic issues they present. Brownfields are abandoned and derelict industrial sites that can be serious threats to the people and the environment around them. Brantford, Ont., where she has been a city councillor since 1993, has its share of brownfields thanks to the city's rank as the third-largest manufacturing centre in Canada during the first half of the 20th century.

Ceschi-Smith has worked at both the provincial and federal levels to give municipalities the power and financial assistance needed to deal with brownfields. Her efforts led to passage of the 2001 Brownfields Amendment Act in Ontario and brought the issue to the FCM’s national agenda by helping to establish and chair the FCM Brownfields Committee. She piloted the FCM’s acquisition of the first federal funds ($150 million) ever to be allocated to brownfields redevelopment.
W is for writers

Joanne Stanbridge, BA '83, is an illustrator, writer and full-time reference librarian in Kingston, Ont., who was recognized by the University of Guelph Library in November as part of its "Campus Authors" program for her 2006 publication of Famous Dead Canadians 2.

The first Famous Dead Canadians won a Silver Birch Award from the Ontario Library Association and was shortlisted for British Columbia's Red Cedar Award. It also made the "Our Choice" list of the Canadian Centre for Children's Books.

Stanbridge has written and/or illustrated a number of children's books. She painted Walrus Writing a Whodunnit for a 2004 poster produced by the Canadian Society for Children's Authors, Illustrators and Performers. To see more of her work, visit www.joannestanbridge.com.

Each year, Guelph faculty, staff, students and alumni write, edit and translate an impressive number of books that demonstrate a diversity of talent and interest. The Library adds those books to its holdings and celebrates U of G authors in an annual fall event. To submit your own books published in 2007 and 2008, visit www.author.lib.uoguelph.ca.

1950
- Johan Dormaar, BSA '57 and MSA '58, retired from Agriculture and Agri-Food Canada in 1997 as a principal research scientist in environmental health. After retirement, he began to summarize his data on landscapes of southern Alberta and northern Montana and eventually wrote two books on the subject — Sweetgrass Hills: A Natural and Cultural History and Oil City: Black Gold in Waterton Park.

1960
- Ron Andison, ADA '60, and his wife, Judy, of Powassan, Ont., sold their business in 2005 and are now enjoying retirement as they spend their time volunteering, gardening, greenhouse growing and RVing.
- Bruce Holub, B.Sc.(Agr.) '67, received the Distinguished Nutrition Leadership Award from the Danone Institute. A University professor emeritus in U of G's Department of Human Health and Nutritional Sciences, he founded the DHA/EPA Omega-3 Institute with his son, Stephen, BA '01, to help educate health professionals and the public about the nutrients docosahexaenoic acid and eicosapentaenoic acid, which are found in fish, fish oils and other food sources. For information, visit www.dhaomeg3.org.
- Ron Lewis, DVM '69, received Hill's Public Relations Award for his work cultivating public support for agricultural programs by profiling the work of veterinarians in livestock production and food safety. He is director of the Animal Health Branch and chief veterinary officer for the B.C. Ministry of Agriculture and Lands.

1970
- Kathryn Ayers, B.A.Sc. '73, continued her education at the University of British Columbia, where she earned an M.Ed. in adult education.
- Gary Ablett, M.Sc. '78 and PhD '87, was recently named Agriculturist of the Year by the Chatham and District Chamber of Commerce. A former director of the University's Ridgetown Campus, he started the environmental management diploma program there and, more recently, the bachelor of bioresource management degree program. Now Ridgetown's research program director, Ablett is a noted soybean seed breeder who has developed 35 improved soybean varieties. Another lasting legacy of his career is his leadership role in raising funds for the Rudy H. Brown Rural Development Centre at Ridgetown.
- David Barker, OAC '74, was recently appointed the Dr. W.H. McBain Chair of Pastoral Studies at Heritage Theological Seminary in Cambridge, Ont. After graduating from U of G, he spent four years at a seminary in Indiana, where he earned master's degrees in divinity and theology. He went on to teach and pastor in Fellowship Baptist churches before receiving his doctor of theology degree in 1984.
- Michael Cranfield, DVM '77 and GD '81, was one of 29 people nominated for the 2008 Indianapolis Prize, which was established by the Indianapolis Zoo to bring the world's attention to animal conservation. As project director of the Mountain Gorilla Veterinary Project (MGVP), Cranfield was nominated for the veterinary care and management of mountain gorillas in Rwanda, Uganda and the Democratic Republic of the Congo. MGVP is based at the Maryland Zoo in Baltimore, where the OVC grad is director of animal health, research and conservation. One of a few conservation programs in the world to provide health care to an endangered species in its natural habitat, the project has played a major role in increasing the gorilla population by more than 17 per cent in the last 20 years. In 2006, Cranfield's work was recognized by the American Association of Zoo Veterinarians.
- John Gordon, BA '76, recently returned to Guelph as editor-in-chief of eMedia Interactive Inc. He has spent the last 30 years running his own communications and consulting firm,
serving as managing editor of
two national magazines, writing
eight books and holding senior
posts with the Ontario Golf
Association and the Royal Cana-
dian Golf Association.

- **Steve Halicki, BA '76**, is a
  marine owner and operator in
  southern Ontario and an invento-
  r who has designed a green-
  powered marine buggy.

- **Clayton MacKay, DVM '70**, is
director of veterinary affairs at
Hill's Pet Nutrition Canada.
He was recently awarded the
Canadian Veterinary Medical
Association Industry Award for
contributions to the advance-
ment of veterinary medicine.
He has 37 years of experience
in the profession, has been
involved in many professional
associations and is the only
Canadian to have served as
president of the American Animal
Hospital Association.

- **Barry McCarthy, BA '75**, is
an artist in Elora, Ont. A major
exhibit of his past and recent
works was hosted in the fall by
the Wellington County Museum
and Archives. "Barry McCarthy: Quiet Moments" featured watercolour landscapes, seascapes and still-life examples of his three main subject areas — Cape Breton, the Kitchener-Waterloo countryside and the Elora Gorge. In the past se-
veral years, he has extended his
landscape painting to oils, and
the museum exhibited for the
first time his interpretations of
the Elora Gorge in oil.

- **Robert Moore, BA '76**, is
the new CEO of Leeward Cap-
tal Corporation of Calgary. He's
been involved in the brokerage
industry since graduation and
most recently moved into cor-
porate finance, raising more than
$50 million for various compa-
nies over the last several years.
He was instrumental in arrang-
ing the most recent financing
for Leeward's Nithi Mountain
Moly Project and, as CEO, will
be responsible for financing,
marketing, investor relations and
general administration.

- **Terry Moore, M.Sc. '79**, has
spent more than 20 years study-
ing muscle physiology and plans
to market a patent-pending
approach to treating muscle pain
and dysfunction. Moore
MyoSystems, which combines
electro-relaxation of muscles
with a customized exercise pro-
gram, is already in use at his
Guelph business, Moore Mus-
cle Therapy and Rehabilitation,
opened in 1988. Prior to estab-
lishing the clinic, he taught
kinesthetics students at U of G
and was supervisor of the
human physiological laborato-
ries until 1983, when he turned
his attention full time to PhD
research on the intricate rela-
tionships that exist among
the muscles, blood flow, oxygen
uptake and various forms of
stimulation.

- **Donald Noakes, B.Sc.(Eng.)
'77**, was awarded the Universi-
ity of Waterloo's Faculty of Engi-
neering Alumni Achievement
Medal for his outstanding lead-
ership in protecting Canada's
natural resources and develop-
ing its fisheries, as well as his
international reputation in
understanding climate change.
He completed graduate studies
at Waterloo, then spent 19 years
as a public servant, including 10
as director of the Pacific Bio-
logical Station in Nanaimo, B.C.
He then joined Thompson
Rivers University in Kamloops
as professor and dean of the
School of Advanced Technolo-
gies and Mathematics. He
received the Queen's Golden
Jubilee Medal in 2002.

- **Don Nunn, B.Sc.(P.E.) '73**, is
a teacher and artist. He and
his wife, Rita, own and operate
Crazy Chameleon, an airbrush-
business in Brantford, Ont.,
where they "paint anything on
everything."

- **Walter Rickli, ADA '76**, has
spent more than 25 years in his
family's landscaping business,
where designing and building
gardens led him to experiment
with creating small stone basins.
He studied in Vermont with
some of North America's best
granite sculptors and eventually
developed a large carving stu-
dio in a quarry near Milton,
Ont., where he combines old-
world techniques with modern
technology. Much of his work
is dedicated to the healing
world, creating sculptures for
cancer centres, extended-heath-
care facilities and hospices, but
he also produces stone sinks for
interior designs, outdoor memo-
rals and garden art.

- **Roger Shier, B.Sc.(Agr.) '73**, director of government and
industry relations for Agriculture
and Agri-Food Canada in
Ottawa, has many family con-
nections to U of G. His great-
grandfather **John Warren**
graduated from OAC in 1878,
and his grandfather **Fred Warren**, in
1908. Shier's second cousin **Clare
Rennie**, BSA '47, represents
the next generation, followed by Shi-
er himself and his first cousin
**Wendy (Warren) Colcuc**, B.Sc.(Agr.) '93. Coluc's niece Lisa
Warren is currently studying at
Guelph, and Shier's daughter,
Nadine, is enrolled in a classical
studies program.

- **Deborah Tropea, B.Sc.(Agr.)
'77**, has just begun a four-year
term on the board of directors
of the Federal Bridge Corpora-
tion Limited, the organization
responsible for the safety of
bridges, tunnels, roadways and
other structures under its con-
trol. Tropea is a chartered
accountant and a certified finan-
cial planner and is currently
principal accountant with John-
ston Beaudette Chartered
Accountants in Cornwall, Ont.

1980

- **Denise (Seegal), B.A.Sc. '87, and Rich Besworth, BA '88**, met at U of G, and both
became high school teachers.
He teaches in Peel region, she's
with the Halton board and they
live in Georgetown, Ont. They
have three children: Haley (14),
Jake (12) and Cole (9).

- **Ranjana Bird, PhD '81**, be-
came vice-president, research,
at the University of Windsor in
October. She was previously
dean of graduate studies at the
University of Waterloo and
spent 14 years at the Universi-
justifiably proud of its ranking as one of the five most sustainable cities in Ontario. The ranking came in September in a study published by the Pembina Institute. The institute looked at 33 indicators of sustainability across three categories — smart growth, livability and economic vitality — to develop an overall community sustainability index for 27 municipalities across Ontario. Ranked above Guelph were Toronto, Ottawa, Halton Region and Stratford, which also has a Guelph graduate, Dan Mathieson, BA '93, at the helm. The Ontario Community Sustainability Report — 2007 is available at www.pembina.org/pub/1512.

- **Shelagh Macdonald**, BA '82, is national programs director for the Canadian Federation of Humane Societies (CFHS) and was a guest speaker at OVC's annual animal welfare forum in September. She has worked with the federation since 1992 and has led its charge on amendments to the animal cruelty sections of Canada's Criminal Code for the past seven years. After graduating from Guelph with a degree in French, she began her career in sports administration, doing marketing and communications for the national cross-country ski team for seven years. She then spent a year with Canadian Guide Dogs for the Blind before joining the CFHS. Macdonald lives in Nepean, Ont., with two Nova Scotia duck tolling retrievers and competes in obedience, field, conformation and agility with them.

- **Laura (Allison)**, BA '87, and her husband, **Terry McDonald**, BSc '85, recently returned to Guelph with their daughter, Allison, after seven years of teaching overseas in Tanzania and England.

- **Julie (Robinson) Small**, BSc(Agr.) '80, transferred from the beef cattle program at the Agriculture and Agri-Food Canada research centre in Brandon, Man., to the dairy program in Nova Scotia. She is currently located at the Nova Scotia Agricultural College in Truro. She writes: "Cheers to the OAC '80 grads!"

- **Fred Wagner**, MA '86, is executive director of the Community Mental Health Clinic in Guelph. He was previously director of programs for the clinic and was at Grand River Hospital in Kitchener for five years.

1990

- **Jennifer Ailles**, BA '98 and MA '00, completed her PhD in English at the University of Rochester, successfully defending her dissertation on "The Fairy/Queen/Mab: Mediating Elizabeth in Early Modern England." She is now a visiting assistant professor in English at Rollins College in Winter Park, Fla.

- **Patricia Berry**, BA '91, is a GIS analyst and lives in Toronto with her husband, Mario Smole, and their four children: Stephen, Christopher, Sean and Alison. She welcomes messages from friends at berry149@hotmail.com.

- **Tricia Bertram Gallant**, BA '94 and M.Sc. '99, is an academic integrity co-ordinator at the University of California, San Diego. A former staff member in U of G's student affairs office, she wrote this note after receiving a copy of the 2007 President's Report: "I wanted to send a quick e-mail to congratulate you on a wonderful President's Report! I felt such great pride to be a U of G alum (and former employee) throughout the document; then when I read the page on Lincoln Alexander, tears came to my eyes. One thing in particular stood out for me. There is institutional congruency and integrity within U of G. For example, we don't just talk about concern for the environment — our students study it, our faculty research it (and work on improving it), and we follow that through to our administrative decisions: "improving life by reducing our environmental footprint." Now, as a scholar of higher-education organizations, I know that such congruency and integrity are more rare than they are common, and I am so pleased that my alma mater strives to attain that. As for me, I work with the academic senate at UC, San Diego and others on enhancing integrity in the academic work of students and researchers. I also write and present on the topic."

- **Liana Di Marco**, BA '94, recently released a CD called I See No Rain that takes her from songwriter to singer, performer and producer. Originally from Toronto, she completed master's studies that examined the music-cultural-social structures in Ontario, Quebec, the United States and Europe. When not entertaining, she teaches fine arts to adults and children and is a chaplain licensed to perform weddings and funerals. She is also active in various arts and music organizations. Friends are invited to visit www.liana.biz.

- **Paul Gallina**, PhD '90, has been promoted to professor at Williams School of Business, Bishop's University, in Sherbrooke, Que. He teaches law and employment relations and recently served as academic adviser and expert researcher for the Federal Labour Standards Review, submitting a report on new compliance strategies.

- **Lee Gooding**, B.Comm. '95, lives in Barbados, where he owns a real estate and property management company. He employs another Guelph grad, **Jason McFarlane**, BA '91. Gooding plans to visit Canada this year and hopes to make a stop in Guelph.

- **Elizabeth Goodyear-Grant**, BA '99, and her husband, Andrew, started tenure-track faculty appointments in the Department of Political Studies at Queen's University in July 2006. They recently pur-
chased their first house.

- **Chris Lewis**, B.Sc.(Agr.) ’92, is a high school teacher in New Zealand and shares news about his new business, Breathe for Life. “We help people control illnesses such as asthma, hay fever, eczema, sleep apnea, snoring and more without medication.”

- **Paul McEwan**, BA ’94, is an assistant professor of media and communication and associate director of film studies at Muhlenberg College in Allentown, Pa. He and his wife, Eileen, had their first child in October.

- **Jason Rent**, BA ’91, a former Gryphon hockey player, has been named general manager of a new Central Hockey League expansion team in Rapid City, S.D. The team will begin play in the 2008/2009 season. Rent spent the last seven seasons as general manager of the Bossier-Shreveport Mudbugs and worked previously for the Lubbock Cotton Kings, the Amarillo Rattlers and the Hamilton Bulldogs. He and his wife, Kim, have two daughters, Sydney and Gracie.

- **Deborah Lynn (Rumble) Matthews**, BA ’95, was married in December 2006 in London, England, to Arjan Matthews. Their son, Lyndune Peter, was born July 7, 2007. The family can be reached by e-mail at tinkerbellcursor@yahoo.ca.

- **Tyrone Sluymers**, B.Sc. ’94, and his wife, Stephanie, welcomed their second child, Hannah, in August 2007. He is on leave from his job as an elementary school teacher for 18 months to be a stay-at-home dad for Hannah and her older brother, Tyson. The family still live in their own 15-acre forest and welcome news from U of G friends at tyrone_sluymers@hotmail.com.

- **Andrew Sparling**, DVM ’99, and Manon Lafraibnois were married Sept. 1 at their home south of Ottawa. In attendance were Guelph alumni Ollie Gellner, DVM ’85; Devia Hunt and Glenn Smith, DVM ’90; Evan Mavromatis, DVM ’99; and Jeff Sleeth, DVM ’99, and his wife, Jennifer Sronk, B.Sc. ’95 and PhD ’02.

- **Lise (McCann) Stransky**, BA ’96, works in career services at the University of Calgary. After graduation, she completed the career development practitioner program at Conestoga College and worked as a liaison and recruitment officer at U of G before moving to Calgary in 2000 to become a travel writer for the Canadian Automobile Association. She married Jeff Stransky in December 2005.

- **Elisa Thiago**, MA ’97, is teaching in southern Brazil after completing a PhD in language and literature at the University of São Paulo.

- **Darryl Worsley**, BA ’90 and MBA ’05, and Michelle Steele were married in April 2007 and live in Toronto. He is a senior consultant on business banking with CIBC.

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He’s found a better bean

According to his former boss at First Line Seeds in Guelph, Alejandro Hernandez, B.Sc.(Agr.) ’83 and M.Sc. ’86, has helped to transform the soybean industry in Ontario.

The accolade is from Peter Hannam, BSA ’62 and H.D.La.’07, who hired Hernandez in 1986 to work as a plant breeder on corn and soybeans at First Line Seeds in Guelph. In that year, just under a million acres of soybeans were planted in Ontario; today the acreage is approaching three million acres, an increase due in part to better short-season varieties developed by Hernandez.

He is credited with developing the first early maturing Roundup Ready soybean varieties suitable for growing in southern Ontario.

First Line Seeds was bought by Monsanto in 2004, and Hernandez is now the northern regional manager for North American soybean breeding at Monsanto Canada. He continues to focus his research efforts on the needs of the agricultural market and was rewarded in 2007 with the annual plant breeding and genetics award from the Canadian Seed Trade Association.

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**2000**

Lesley Emma Bouza, BA ’00, received $500 from the Edward Johnson Music Foundation to begin a post-graduate diploma in voice and opera performance at the Royal Welsh College of Music and Drama in Cardiff, Wales.

Brent Campbell, BA ’06, received a diploma in human resource management from Conestoga College and created an online company called Dreamfit, which is geared to nutrition and fitness. He recently bought a nightclub called The Vault in Waterloo, Ont., and manages it with his sister, Nicole.

- **Rachel Flanagan**, B.Sc. ’03, a former captain of the Gryphon women’s hockey team, has been named the new
**Climate change matters**

Those who are inheriting the Earth’s environmental problems are speaking out as members of an international youth movement. Seven U of G graduates and a current student participated in the Canadian Youth Delegation (CYD) at the United Nations Climate Change Conference in Bali, Indonesia, in December.

David Noble, B.Sc. ’00 and M.Sc. ’03, (lower left in the photo) served as a youth mentor. Moving clockwise, current student Aiden Abram was delegation co-ordinator. They were joined by Trevor Bennett, BA ’07; Adam Scott, BA ’07; Derek Pieper, B.Sc. ’07; and Jennie McDowell, B.Sc. ’07. Genevieve Gilbert, BA ’07, of Ottawa, and Melanie Mullen, B.Sc. (Eng.) ’07, of Niagara Falls, Ont., also attended.

The CYD was established in fall 2006 as a non-partisan youth organization dedicated to educating young people and promoting government action on climate change issues.

In total, 30 young Canadians attended the Bali conference as part of the CYD, along with scientists, climatologists and 130 environment ministers from around the world.

The CYD members participated as official observers. Their purpose was to learn about global negotiations, international governance and how people from other nations address such issues.

The Guelph contingent also shared their own strategies for success, including a 2007 student referendum at U of G in which Guelph undergraduate students committed more than $4.3 million over 12 years to energy conservation on campus.

Pieper, Scott and McDowell were leaders in mounting the referendum, which was proposed by the Student Executive Council, a broad coalition of all student governments, and Guelph Students for Environmental Change. As a result, Guelph students have committed $10 per semester for the next 12 years. All money raised will be matched by the University and directed towards energy conservation measures on campus, which may range from lighting and heating to water efficiency to retrofitting.

The University’s Student Renewable Energy Group received an honourable mention from Oklos International in November for the student energy initiative. It also received recognition last spring from the Ontario Power Authority’s Conservation Bureau.

**Meet the delegates:**

Aiden Abram is studying earth sciences and international development at U of G and is an experienced volunteer and activist in the areas of community development and social justice. He works for 2degreesC and participated in the last UN conference in Nairobi, giving him a taste for global youth action.

Trevor Bennett has a degree in international development and a passion for the outdoors. He has travelled extensively throughout Canada and Europe, studied at the University of Iceland and travelled to Greenland. He is now a consultant for 2degreesC on sustainability issues such as climate change, health and communities.

Genevieve Gilbert completed her Guelph degree in geography and is now pursuing a master’s degree in climate change impact and adaptation at the University of Ottawa. She has become involved with the Ottawa Canadian Youth Climate Coalition, helping to organize and participate in protests on Parliament Hill.

Jennie McDowell worked on several campus projects while completing her degree in ecology, and has attended several international conferences on climate change and sustainable development. She now works for the City of Guelph, developing policy, programming and infrastructural improvements to facilitate sustainable transportation alternatives.

Melanie Mullen helped enhance the recycling program while at U of G, was involved in developing a $4.3-million energy conservation program and was a member of the Sierra Youth Coalition of Canada. She has also run for the Green Party of Ontario in the Niagara Falls riding.

David Noble earned a degree in rural planning and development and is the founder of 2degreesC, a Guelph-based consultancy that has worked with clients in more than 20 countries. He participated in previous UN climate conferences in Montreal in 2005 and Nairobi in 2006, and is an associate of the International Institute for Sustainable Development and a research associate of the Centre for Urban Health Initiatives.

Derek Pieper came to U of G from East York, Ont., as a President’s Scholar, graduated with a B.Sc. in biological science, served as academic commissioner of the Central Student Association and has been nominated for a Rhodes Scholarship.

Adam Scott pushed environmental protection as a U of G student leader and spent his summers working to protect the Great Lakes as a project co-ordinator for the Georgian Bay Association, monitoring water quality, wetland integrity, forest health and transboundary air pollution. He now works for the Global Environmental Change Group at U of G, focusing on climate change impacts, vulnerability assessment and adaptation.
head coach of women's hockey at U of G. She received an education degree at Lakehead University and is a certified kinesiologist, personal trainer and level-one sports conditioning specialist.

- **Dominic Gregorio**, BA '02, received $500 from the Edward Johnson Music Foundation to continue work on his doctoral of music arts degree in choral music/choral conducting at the University of Southern California.

- **Noah Jensen**, B.Comm. '06, was incorrectly identified when this photo appeared in a story about the Guelph Campus Co-op in the Fall 2007 issue of The Portico. We regret the error but applaud Jensen's involvement as president of the co-op, which has opened a new "green" house on College Avenue. The house accommodates 12 U of G students, is fully accessible for students with mobility challenges and visual impairments, and is one of the most environmentally friendly homes in the city, complete with rainwater collection and grey-water infrastructure that allows water to be recycled (from the shower to the toilet, for example). For more information, visit www.guelphcampus.coop.

- **Andrew Kaszowski**, BAA, '06, put his University of Guelph-Humber media studies degree to use when he launched a freelance communications business after spending more than a year as a communications consultant with the Lawson Health Research Institute in London, Ont. This January, he sets sail as assistant editor of guest publications for Crystal Cruises on a four-month world cruise leaving from Los Angeles.

- **Nilay Lad**, B.Comm. '04, writes to say she is now married and working in the United Kingdom as a market research executive at Alliance Leicestershire, Carlton Park, Narborough, one of the top European banks. She's involved in market development and product development.

- **Jennifer (Truax) Lamarre**, B.Sc.'03, and her husband, Dan, had their second child, Nicholas Daniel, Oct. 4. Their daughter, Paige, will be three in February. The Lamarrés live in Lindsay, Ont.

- **Kristen Lee Lawrie**, BA '04, is enrolled in a post-graduate program in fundraising and volunteer management at Humber College Institute of Ottawa honours innovator

**James Ford**, PhD '06, was one of three young Canadian researchers chosen to receive the 2007 Networks of Centres of Excellence (NCE) Young Innovator Awards. The NCE is a federal program aimed at mobilizing Canada's best research talent and applying it to the task of developing the economy and improving the quality of life of Canadians.

While completing PhD research with Guelph professor Barry Smit, Ford recognized the vulnerability of Inuit populations to climate change and the importance of collaborating with indigenous people about policies affecting their communities. During his work with the ArcticNet NCE, he combined physical science with traditional Inuit knowledge. This enabled him to more accurately predict climate vulnerability in Nunavut and across the Arctic.

In 2006, he co-founded ArcticNorth Consulting with **Tristan Pearce**, MA '06, who is now completing a PhD at Guelph. The company works with public, private and not-for-profit organizations in climate change program development.

Ford is currently a Social Sciences and Humanities Research Council post-doctoral fellow in McGill University's Department of Geography. He is married to **Lea Berrang-Ford**, B.Sc. '00 and PhD '06, an assistant professor in the same department. Before joining McGill, she worked with the Public Health Agency of Canada in Saint Hyacinthe, Que., as an environmental epidemiologist and medical geographer, specializing in vector-borne zoonotic disease mapping and environmental health research.
Mary Ellen Russell and Shannon Loughran, both B.Comm. '03, were married in Guelph Feb. 3, 2007. This photo was taken at -17 C at the portico on Johnston Green, the same spot where they posed together for their graduation photos four years earlier. They live in Guelph and are expecting their first child this spring. 

Mary Ellen Russell and Shannon Loughran, both social development projects.

Christine (Jacobsen) Mattimoe, B.Sc.(Econ.) '00, has been an elementary school teacher in Mississauga, Ont., for four years and married Tim Mattimoe Aug. 5, 2006. Together, they are following their passions and have moved to Niger, West Africa, where she is teaching at an international school and he is working in relief and development. Friends can visit their blog at http://timchristine.blogspot.com.

Lisa Miall, B.A. '02, is living, studying and working in Seoul, Korea, where she is enrolled at Sogang University as a Korean language student. She says Korea offers many opportunities for teaching English as a second language that also allow you to travel and earn a good salary, and she wants to make sure other Guelph graduates know about them. Find out more from Miall by visiting the U of G Online Community at www.olcnetwork.com/olcnetwork.

Dave Vadnais, PhD '01, is a technologist at Nipissing University in North Bay, Ont. He says he loves the job and the surrounding countryside. "It's a great place for the kids and my family to live and work."

Amberlea Williams, B.A. '03, married Mark Thompson in Terra Cotta, Ont., Sept. 15, 2007. She is a graphic designer in downtown Toronto.

Alexis Williams, B.A.Sc. '03 and M.Sc. '04, is director of operations for Primacy's Healthy Living Dietitian Program. She works with 90 dietitians across Ontario to provide free nutrition consultations in grocery stores.
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