The slime factor

Biologist pulls secrets from the ocean floor

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in and around the university

The biodiversity Institute of Ontario recruits 1,000 international researchers and 2,000 Ontario schoolchildren. A new U of G institute uses musical improvisation as a model for community building, and the Macdonald Stewart Art Centre turns 35.

on the cover
Biologist Doug Fudge has his hands full of hagfish slime.

PHOTO BY DEAN PALMER

College News
Look inside for news from your college and alumni association. See page 19.

alumni matters

Get ready to celebrate 50 years since the campus received university status. The Guelph Campus Co-op passes its 100-year milestone, and UGAA challenges all alumni to show their Gryphon pride.

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Integrative biologists learn how the lowly hagfish produces mucus filled with super fibres that could replace oil-based polymers in textiles and other consumer goods.

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GREAT GUELPH GRADS
A restaurateur and an editor find rewarding careers by changing course.

International Grads
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The Portico

Business at Guelph
for nearly 50 years

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When I have the opportunity to thank someone personally who has donated to The BetterPlanet Project fundraising campaign, they often tell me they believe the University of Guelph is a good place to invest their gift because they know it will produce positive results. And it doesn’t matter whether I’m talking to one of our alumni who contributed to a scholarship fund or the CEO of a major corporation that supports a research chair.

I’ve also heard the words “invest” and “results” in recent conversations about our top showing in a national survey that evaluated inventiveness at Canadian universities. For the second year in a row, U of G was identified as having the lowest per-invention cost of any Canadian university: less than $1 million per disclosure.

In total, the University’s $150-million research budget produced 181 invention disclosures in the past year evaluated by The Impact Group consulting firm.

It’s not surprising that many U of G discoveries relate to new crop varieties and technologies that improve food processing. Our research history began in agriculture, but our long-standing agreement with the Ontario ministries of agriculture and food and rural affairs now supports a diverse menu of research, teaching and outreach programs that benefit all Ontarians.

Guelph innovations improve our food supply, our health, our communities, culture and society as well as the health of animals and the environment we all share. In financial terms, Ontario’s $88 million annual investment in U of G innovation returns about $1.15 billion in economic impact across the province.

We are continually expanding the University’s sphere of innovation as new technologies allow us to look deeper into the biology of plants and animals. A U of G invention licensed this summer illustrates that point. Our investment in a patented technology developed by chemistry professor Mario Monteiro will be used to manufacture human vaccines to treat *Clostridium difficile* infections. The potential benefits for human health are enormous.

To press the point a little further, other Guelph technologies now available for licensing include trans-free, low saturate shortening designed for bakery products; a line of canola resistant to root maggot; and a new way to synthesize metal sulfides used in lithium battery cathodes and photoconductors.

Our inventive mindset is also evident in new fellowships awarded to PhD students who are working to commercialize two Guelph ideas: a portable probe to help verify seafood species using DNA barcodes and a palm-sized metal fish that can combat life-threatening anemia in developing countries by releasing iron when boiled with food in a cooking pot.

Not all University innovations can be patented, but their impact on society, on the education sector and on our students, in particular, can be profound.

The summer also brought news of a large federal grant that will allow professor and musician Ajay Heble to advance his community-based work in musical improvisation – it’s an area of academic research and outreach “invented” by his team of scholars in the arts and humanities.

Research published by postdoc Ian Mosby generated public outrage across Canada with the finding that aboriginal children and adults were once used as unwitting subjects in nutritional experiments by government officials.

History professor Jacqueline Murray and business professor Trent Tucker will return to their classrooms this fall with national teaching awards: she for her work with enquiry-based learning in first-year seminars, he for creative instruction that allows first-year students to benefit from experiential programs normally reserved for upper-year courses.

Inventiveness is evident across campus, embraced by researchers and teachers and increasingly by students who share our belief that the results we achieve here can improve our own lives and living conditions for other people around the world. There is no better result from the investment of intellect, time and money in the future of the University of Guelph.

Alastair Summerlee, President
DNA Barcode Project Expands

In early spring, students at 60 schools in southwestern Ontario set up malaise traps in their schoolyards for two weeks to collect insects for U of G’s Biodiversity Institute of Ontario (BIO). The students learned about biodiversity and DNA barcoding technology developed at Guelph. BIO added 276 species from this school program to its database.

The spring project netted 95,500 specimens that were sorted by Guelph biologists. Of those, more than 22,600 specimens were barcoded at iBOL headquarters in the new Centre for Biodiversity Genomics (CBG) at U of G.

Officially opened in July, CBG has more than tripled the space available on campus for discovering, identifying and cataloguing species from around the world using DNA barcoding.

CBG is now the scientific hub for iBOL, the largest initiative ever undertaken in biodiversity genomics. The project involves more than 1,000 researchers in 26 countries developing a DNA barcode reference library as well as new informatics tools and technologies.

The iBOL research team plans to barcode 500,000 species of organisms by late 2015. The Ontario school malaise trap program is one contributor to that global effort, which represents a major step in developing a DNA-based bio-surveillance system.

“We are witnessing alarming rates of species extinction, and efforts to reverse this trend are hampered by huge gaps in our knowledge about the distribution and diversity of life,” says integrative biologist Paul Hebert, who is director of BIO and iBOL’s scientific director.

He was the first scientist to propose DNA barcoding to identify animal and plant species using short, standard regions of genetic material.

CBG is a $16-million high-tech facility funded by matching $7.1-million investments from the Canada Foundation for Innovation (CFI) and the Ontario Ministry of Research and Innovation (MRI), coupled with $2 million from Genome Canada. CFI and MRI also invested in the original BIO facility opened in 2007, and both agencies support ongoing research.

Guelph Hockey Goes Gryphon

Young hockey players in Guelph will wear the Gryphon logo this fall under new U of G partnerships with the Guelph Minor Hockey Association (GMHA) and the Guelph Girls Hockey Association (GGHA).

This is believed to be the first sponsorship of a local municipal sports association by an Ontario university. Gryphon Athletics will provide support and training opportunities for players and coaches of the GMHA and GGHA to build a strong hockey community in Guelph. Athletics will also provide ice time at U of G, free admission for young players to varsity hockey games and discounts on other Gryphon programs and products.

Director of athletics Tom Kendall says the partnerships create “a great opportunity to engage with the Guelph sports community. We hope that we can help their young players develop and, in turn, we are excited to have them and their parents in the stands cheering on our Gryphon teams.”
How can people learn to live together in an increasingly global world? An important clue may be found through improvised performance practices, says English professor Ajay Heble.

Somehow, musicians who have never rehearsed together or even met, who play different instruments, and who may not even share a common language can come together and make magic happen. “There’s something going on in the moment, something that resonates with musicians and artists adapting to each other,” says Heble, a musician and artistic director and founder of the Guelph Jazz Festival.

That “something” might translate to other venues and issues, providing lessons about co-operation, negotiating differences, fostering trust and meeting social obligations. In fact, musical improvisation just may hold the key to building successful communities, here and around the globe, he says.

The Social Sciences and Humanities Research Council of Canada (SSHRC) seems to agree. The federal agency recently awarded Heble and his research team a $2.5-million partnership grant to launch an International Institute for Critical Studies in Improvisation.

The new institute stems from the Improvisation, Community and Social Practice (ICASP) research project directed by Heble, now in the seventh year of an equally generous SSHRC grant. ICASP uses musical improvisation as a model for community building.

Heble says the initial SSHRC funding enabled ICASP to establish tremendous momentum in this new field of interdisciplinary study. The institute will bring together the arts, scholarship and collaborative action; forge partnerships with academics and community groups; facilitate programs for children and at-risk youth; and create novel software programs.

It will involve 56 international scholars from 20 institutions and more than 30 community partners.
MSAC Celebrates 35 Years

The Macdonald Stewart Art Centre (MSAC) is marking its 35th-anniversary year by exhibiting contemporary and Inuit art from its permanent collection, which now totals some 8,000 pieces.

The art centre mounted a show of contemporary art this summer, ranging from paintings to sculpture, photos, aboriginal works, silver and textiles. On exhibit until Dec. 15 are sculptures in bone, stone and ivory from the Beverley Ludwig Borins family collection of Inuit art. Gifted to MSAC in 2011, the Borins collection includes more than 200 Inuit sculptures dating from the 1960s to the late 1990s.

Inuit art has been a major focus for the Guelph art centre since it was established in 1978. The collection now has more than 1,000 Inuit wall hangings, sculptures, paintings and other works.

Since 1983, MSAC has also acquired 37 pieces of public art for its outdoor Donald Forster Sculpture Park.

Director Judy Nasby arrived on campus in 1968 and has overseen MSAC’s growth from the original 150 works in the U of G art collection. Much of the collection then was displayed in the L-shaped main corridor of the brand-new MacKinnon Building. In the early 1970s, Nasby moved it to the main floor of the McLaughlin Library, where she exhibited works on portable panels.

She worked with the late Donald Forster, then U of G president, to establish a new art centre in the former consolidated school. From the start, they envisioned a public gallery run by partners: the University, the city, the county and the public school board.

“The consolidated school had originally been given to school trustees as a gift by Sir William Macdonald,” she says. MSAC operates separately from U of G, although its staff members are all University employees.

Under the original bequest, the school “always had to be used for educational purposes. We essentially had to prove that a public art gallery was educational. The only way to do that was to incorporate as a non-prof-
it through the province.”

In 1978, a private member’s bill to set up the institution was passed in the Ontario legislature. Since then, she adds, “We have been very aggressive in building the collection.” The centre has about $60,000 a year for acquisitions, including funds raised by its volunteer association and matching amounts from the Canada Council for the Arts.

The art centre also retains its primary focus on education, creating about a dozen exhibitions each year that explore regional, national and international contemporary and historical visual art. MSAC offers special programming for school groups and artist talks, family days and staff-led tours for the broader community. Many of its exhibitions also tour nationally and internationally.

Located at the corner of Gordon Street and College Avenue, the art centre is open Tuesday to Sunday from noon to 5 p.m.; admission is free. For more information on MSAC programs, visit www.m sac.ca/.

BY ANDREW VOWLES
Research Aims to Improve Health

BIOINFORMATICS

Do your genes mark you out for cancer, heart disease or diabetes? Ideas that might ultimately help to answer such real-life questions have earned top international honours for two young researchers in Guelph’s Department of Mathematics and Statistics. Jeff Andrews won this year’s Distinguished Dissertation Award from the Classification Society, and Sanjeena Dang received honourable mention.

Both completed doctorates in 2012 with Prof. Paul McNicholas and are now post-docs in the department. Their studies are intended to improve stats tools and models used in making sense of lots of data.

This summer, Dang worked on a nutritional sciences project looking at genetic mutations associated with fatty acid metabolism, a factor in heart disease. Andrews has looked at medical compliance data to learn why some patients follow a prescription drug regimen while others don’t.

FOOD ADDICTIONS

In a new study of food addictions published in the journal Addiction Biology, Guelph researchers found rats that favoured sugary foods also preferred cocaine. After feeding cookies and rice cakes to rats, the researchers allowed the animals to self-dose with cocaine. Rats favouring high-sugar cookies were more likely to dose themselves with cocaine.

“When we looked at our animals, we observed that foods high in sugar and fat are preferred and engender addictive-like responses,” said psychology professor Francesco Leri. “In addition, these foods and cocaine produce similar effects on goal-oriented behaviours.”

Leri and PhD student Anne Marie Levy began studying food addictions in 2008. They wondered why, with the same foods available, certain people develop food addictions and others do not. They hope their animal studies will lead to viable treatment options for humans who overeat.

Some rats were much more driven by the cookies, said Levy. “We have studies planned to investigate possible genetic markers and mechanisms in the brain associated with vulnerability to addictive foods and addictive drugs. We’ll then be able to go beyond understanding that food addiction does happen to knowing why it happens and how it could be treated.”

CONVOCATION UPDATE

During the last academic year, the University of Guelph awarded honorary degrees to diverse international leaders, including three Guelph graduates. The recipients were:

• Shawn A-in-chut Atleo, national chief of the Assembly of First Nations and a promoter of education;
• Martha Billes, B.H.Sc. ’63, director and controlling shareholder of Canadian Tire Corp., and a philanthropist who works to remove barriers to sports and recreation for children;
• Brian Evans, B.Sc.(Agr.) ’74 and DVM ’78, former chief veterinary officer, Canadian Food Inspection Agency;
• Peter Greenberg, an expert in socio-microbiology and professor at the University of Washington;
• David Harpp, professor of chemistry at McGill University;
• Barbara Iglewski, leading bacterial pathogenesis researcher at the University of Rochester;
• Chandra Madramootoo, dean of the faculty of agricultural and environmental sciences at McGill University;
• Donald Rennie, BA ’76, federal court judge with major contributions to justice and human rights in Canada;
• Cynthia Rosenzweig, senior research scientist, NASA Goddard Institute for Space Studies;
• Steven Squyres, Cornell University professor, chair of NASA's science advisory council, and co-investigator for two Mars rover instruments, including the U of G-designed alpha particle X-ray spectrometer;
• Neil Turok, renowned physicist and director of Canada’s Perimeter Institute for Theoretical Physics;
• Clifford Will, expert in theoretical physics at the University of Florida.

U of G awarded about 3,500 diplomas and degrees during convocation ceremonies in October, February and June.
As the names of new major gift donors were added to The BetterPlanet Project donor wall on June 3, the University paid tribute to its long-standing relationship with Jean and Colwyn Rich and the Jean Rich Foundation.

Colwyn Rich passed away recently, but his wife and other family members attended the dedication.

As philanthropists and community volunteers, the couple had a special interest in higher education. They were long-time donors to the Ontario Veterinary College (OVC) and supported student awards in several U of G colleges that are named for their friends and family.

Keeping Ontario and Canada at the forefront of dairy production and health is the goal of a $3-million gift from Dairy Farmers of Ontario (DFO). The award will support a permanent faculty position in dairy microbiology in the Ontario Agricultural College (OAC) and a research chair in dairy cattle health in the Ontario Veterinary College (OVC).

“This is a wonderful opportunity for the University and industry,” said OAC dean Rob Gordon. “Across our University, there are dozens of professors, researchers and students engaged in dairy-related projects. This will allow us to further strengthen those efforts and support new innovations.”

OVC dean Elizabeth Stone said the gift will lead to major improvements in dairy cattle health and food safety, and will help OVC recruit and train the scientists and veterinarians who protect the health of dairy herds.

DFO will invest $200,000 a year in each position, supporting the OVC research chair for five years and the OAC professorship for 10 years. Establishing the new positions coincides with the construction of a $25-million, state-of-the-art dairy research facility at the U of G-run Elora Research Station; DFO has committed up to $5 million to the project on behalf of industry stakeholders.

“DFO has enjoyed a long-standing relationship with the University of Guelph, and especially with OVC and OAC over the years,” said Bill Emmott, chair of the DFO board of directors. “We look forward to building on this excellent relationship for the benefit of the dairy producers and the industry we serve.”

Peter Gould, DFO general manager and CEO, added that research is critical for the long-term viability of the industry. “The areas of innovation, animal care, food safety and productivity are key research priorities for DFO,” he said.

OAC will conduct a search to fill the new professorship in the Department of Food Science. The position will focus on dairy microbiology, specifically probiotic and other beneficial micro-organisms.

The OVC chair will be held by population medicine professor David Kelton. He will study infectious diseases, on-farm milk quality, biosecurity, welfare issues, and dairy cattle reproductive health and efficiency.
FOOD INSTITUTE GETS FUNDING BOOST

When Longo Brothers Fruit Markets was invited to campus to be recognized for its $500,000 gift to the U of G Food Institute, company president Anthony Longo was accompanied by 16 members of his corporate team. He explained that Longo’s emphasizes family values and community growth.

The company’s gift will establish the Longo’s Food Retail Innovation Fund and help create a research team to study grocery retailing and food service, technology, and health and wellness.

Spanning all seven U of G colleges, the new institute will share University strengths in food education and research with food producers and processors, consumers, non-governmental organizations and other partners locally, nationally and internationally. It will involve faculty experts across campus as well as undergraduate and graduate students.

“This unique opportunity to support new innovation in the food and grocery retail industry is very much in line with our own values of food, family, health and community,” said Longo. “We are excited to be able to establish this new fund to support the new food institute, Guelph’s students and, ultimately, the betterment of our communities.”
The Portico

RESEARCH MAY LEAD TO SUPER FIBRES FOR MEDICINE, INDUSTRY

U OF G BIOLOGISTS SEE POTENTIAL IN A MESS OF

“So just how long have you been working on hagfish slime anyway?” That was one listener’s question after Guelph biologist Doug Fudge gave a talk during his research leave this past year at the University of California, Los Angeles. Good question. The answer was as surprising to the researcher as to anyone else.

“I realized it’s been 16 years,” says Fudge. Half of that time he has spent in U of G’s Department of Integrative Biology, where, yes, his primary focus is the gooey mess produced by a candidate for an award for nature’s most homely creature.

“Take a foot-long piece of fat brown garden hose, add whisker-like appendages at the front end, and you’ve got a hagfish. Resembling eels and lacking jaws and paired fins, these animals spend their days on the sea floor, scavenging detritus from decaying fish to the marine manna of whale fall. The closest relatives of hagfishes are lampreys; a distant cousin is notorious for having invaded the Great Lakes. Hagfish are now considered a separate group of ancient creatures whose ancestors go back more than 500 million years, predating anything with a backbone. It was those ancestors that gave rise to every other vertebrate animal that swims or runs or flies on Earth, including us.

That’s one good reason for a biologist to devote himself to their study, but there’s more to working with hagfish than digging around at the roots of our family tree. Since returning to his alma mater in 2005, Fudge has set up the comparative biomaterials lab in U of G’s Science Complex. He and his co-researchers are interested in lots of materials made by animals, from nanoscale filaments to keratin in whale baleen to slime made by hagfish – and especially the latter.

As unlikely as it seems, hagfish goop may hold secrets for making a range of products, including “green” materials used in textiles and furniture, while lessening our reliance on non-renewable oil-based polymers such as nylon, rayon and polyester. To understand why, you need to look closely at the trait that vaults the homely hagfish near the top of the list of contestants for nature’s most bizarre creature.

Speaking over pumps and other equipment roaring away in one containment room of the University’s Hagen Aqualab, Julia Herr explains that two kinds of hagfish are housed here. One round chest-high vat with a sandy bottom is home to the version found off Canada’s Atlantic coast. To snare specimens for study, researchers stir the bottom with a long-handled net to rouse and move the creatures into a water-filled bucket.

“You have to do it carefully,” says Herr, who completed a master’s degree this year and is now a research associate in Fudge’s lab. “They will slime if they think they’re threatened.”

The other vat contains not sand but pieces of plastic tubing, mimicking the rocks and other hidey-holes favoured by the Pacific hagfish. They’re often easier to snag: lift a “tube toy” from the bottom and empty its creature contents into the pail.

Look closely into the bucket or the net, and you’ll likely see a milky gelatinous film adrift in the water. That’s the slime, made in glands running like a series of portholes down both sides of the animal’s body.
stuff defends hagfish against predators, notably fish, by gumming up mouths and gills and hampering their respiratory system. The hagfish rids itself of its own secretions Houdini-like, knotting itself and passing the knot down its body to scrape away the slime.

That slime contains two key ingredients: mucus and filaments called threads. The former has occupied Herr for much of the past five years. As a zoology undergrad at Guelph, she started looking at how the animal keeps slime mucus intact inside its body and then releases it when threatened.

She is still looking at everything from elements such as calcium in mucus to the structure of vesicle membranes. But that’s only half of the story; along with those mucus vesicles, slime contains bundles of protein fibres coiled like skeins of yarn. When released into seawater, the threads unravel and stretch, causing large amounts of water to be trapped in the mucus.

A hagfish can make huge quantities of slime in no time: gently prod one or a couple of the animals in that lab bucket, and soon you can barely make out their bodies through an opaque mess. “Hagfish slime is explosive,” says Herr.

A curiosity, maybe, but why would an academic devote much of his research career to it? It’s a question Fudge has gotten used to fielding, even in self-deprecating style. “It’s a little bit silly as something to dedicate your life to,” he says. “Hagfish slime has risen to dominate research in my lab in a way that I never could have predicted.”

He’d first encountered hagfish and their slippery ways while studying biology at Cornell University in the early 1990s. Those studies included visits to the Shoals Marine Laboratory, Cornell’s field station off the coast of Maine. That’s home surf for Fudge, who grew up fishing for bluefin tuna with his father. He came to Guelph to study bluefin tuna anatomy and physiology before heading to the University of British Columbia for a doctorate. In 2005, he returned here to take up a faculty appointment.

“When I got to Guelph, I thought hagfish slime was going to be on the back burner, because it had led to so many other cool things,” he says.

One of those things has brought lots of media interest to his lab over the past year or so. In a paper published in 2012, the researchers described making fibres and films from slime threads. Lead author and research associate Atsuko Negishi had harvested slime, isolated its protein threads and used special equipment to spin the material into fibres.


Fudge says no one has promised to spin slime into gold in the form of textiles or clothing any time soon. Still, he says there’s any number of potential uses for sustainable alternatives to oil-based fibres in textiles, clothing, furniture and other fabrics.

Negishi is now working on making larger...
amounts of hagfish fibres and comparing their performance with those of others, from silkworm thread to nylon. Thinner than other fibres, hagfish threads might yield softer-than-silk materials.

Also intriguing are unusual things happening with the proteins at the micro and even nano scales. Stretched enough, the protein molecules snap into different arrangements, becoming stronger and tougher. That suggests more applications, including anything from bullet-proof vests to ropes or artificial tendons.

A custom-made desktop fibre stretcher allows Negishi to test strength and mechanical properties such as stiffness and elasticity. She has shown that hagfish threads are as strong as nylon, although she has lots of work ahead before she can match the attributes of the Holy Grail of fibres.

That’s spider silk, the strongest known material by weight in nature. Spider silk proteins are large and complex and difficult to copy, never mind the challenges in farming spiders for silk. Scientists elsewhere have even tried to produce the substance in the milk of genetically engineered goats.

Natural processes also differ: a spider spins and extrudes its silk from solution in its abdomen. Slime threads come prepackaged inside cells within the slime glands, says Negishi, “like assembling Lego.” Through more study and testing, the Guelph researchers hope to use hagfish threads for a cheaper, easier alternative to replicating what spiders do.

“It’s a materials question,” says Negishi, who had worked earlier on biomaterials equipment in U of G’s physics department. “We’re trying to understand how biology makes these materials.”

In another line of exploration, Guelph researchers are taking hagfish threads as a model for testing other natural cellular fibres. Slime threads are examples of intermediate filaments, which occur in all animal cells. Arranged like scaffolding, intermediate filaments make up the cytoskeleton, maintaining the cell’s integrity and flexibility.

A common and well-studied kind of intermediate filament is vimentin. Nicole Pinto, whose master’s degree completed in late 2012 was co-advised by Fudge, worked with bacteria genetically altered to produce lots of vimentin protein. Besides coaxing the microbes to make vimentin, she purified the protein and nudged it to assemble itself into filaments to make bio-fibres.

Tests showed the fibres were about one-
ponents of hagfish slime: round mucus cells and ovoid thread cells that make the 15-centimetre-long protein threads.

Research associate Atsuko Negishi recently published a paper on making fibres and films from solubilized hagfish slime thread proteins. Future research will focus on the process of purifying and spinning slime threads into sustainable, synthetic fibres.

quarter as strong as spider silk. “Hagfish slime threads are very strong, and their properties are comparable to spider silk, but we’re not able to mimic them in the lab,” says Pinto.

Fudge provided the biomaterials smarts for her project, while protein production know-how came from her co-adviser, Prof. Todd Gillis.

Nor can biologists entertain some kind of hagfish farming venture to yield industrial quantities of slime. Although hagfishes have been known for centuries, much about the creatures remains unknown, including their longevity and reproduction. “You can’t get them to breed in captivity,” says Gillis, a comparative physiologist.

He and Fudge were master’s students at Guelph together before heading to the west coast for their doctorates – Gillis to Simon Fraser University, Fudge to the University of British Columbia. Both took up faculty appointments in U of G’s Department of Integrative Biology in 2005 and, in fact, share the same Science Complex lab. It’s an arrangement that encourages the sharing of expertise and resources.

In the half of their shared space, Fudge is looking at yet another form of intermediate filament: the keratin proteins that make up whale baleen – as well as horn, hair and nails in other creatures. Huge plates of baleen in their jaws allow whales to filter food from seawater. Along with collaborators in the physics department and abroad, Fudge’s lab has looked at chemical elements in baleen to learn how the substance works.

In another project involving human health, postdoc Oualid Haddad manipulated skin cells to learn about what happens when intermediate filaments fail to do their job. In about one in 30,000 births, a gene defect causes epidermolysis bullosa simplex (EBS). No cure exists for this disease, which makes skin overly sensitive even to mild bumping or scraping. Haddad compared effects of cell-sized shearing forces in EBS and normal cells, information that might ultimately help in diagnosis or treatment of the ailment.

“I have learned a lot here; Doug has an obsession for the scientific method,” says the French scientist, who worked on the EBS project with Fudge and collaborators at the University of Dundee in Scotland.

The hagfish yuck-factor attracts attention but Fudge says it’s their biomaterials potential that draws enthusiastic, passionate students. “It was not the hagfish themselves
that necessarily charmed me, adds Herr. Rather, “I like problem-solving. You learn the questions no one’s even asked before, and it’s up to you to figure out what the answer could be and the best way to test it.”

The mysteries posed by the creatures pose a powerful attraction. Aside from a few earlier papers about mucus vesicles – “I’ve definitely cited the heck out of those,” she says – much of what scientists know about working with hagfish and slime components has been learned right here in her supervisor’s lab. She also relishes the challenges. “I work on a cell that’s designed to explode. Any wrong turn, and your petri dish is a mess of mucus.”

Adds Tim Winegard, who finished his master’s degree in Fudge’s lab this year, “There are so many holes in the puzzle; that’s what has kept Doug and me going. The more you learn about it, the more questions you have.” Winegard has grown slime gland cells and used sophisticated imaging equipment to study development of the threads. He’s also been the lab’s unofficial Atlantic hagfish fisherman.

To attract the bottom-dwellers more than 100 metres down in the Gulf of Maine and the Bay of Fundy, he says, you lower a trap containing “the most rotten smelly fish you can find.” Pacific hagfish specimens are shipped to Guelph from the Bamfield Marine Sciences Centre in British Columbia.

Fudge also likes the excitement of swimming in a mostly empty research ocean. “It’s an area that is still so wide open, whatever we publish is interesting.” And maybe the field appeals to the contrarian in him: “When I see a lot of people working on something, my instinct is to run in the other direction.

“As a grad student, when I learned about these cells, I honestly thought I would not in my lifetime understand how they did this. These cells are so amazing and complex, and the structures they make are boggling.”

As for the future, he tells us to prepare for more astonishment. He’s cagey about details, for good reason: any decent scientist knows enough not to get ahead of his own unpublished work. Still, he says, “In the next couple of years, it’s going to be mind-blowing what we’re going to publish in hagfish slime. It’s all coming together in a sense.”

If you want to learn more about hagfish and witness their slimy action on video, search for the Fudge Lab on U of G’s website: www.uoguelph.ca.
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Who’s Using the Library?

- 1.5 million annual visits
- More than 1.2 million volumes
- Book storage takes 41% of space
- Study seats = 34% of space
- Staff use 25% of space

What’s New in the Library?

- 93% of the study space found on campus
- 890 new power outlets
- 43% more seats than in 2006
- One-on-one sessions with students up 137%
- 151% growth over six years in group study

Note: Library cards are free to U of G alumni; pick them up at Alumni House or email libcirc2@uoguelph.ca.
Don’t cut up your library card just yet; libraries and librarians are becoming even more relevant in the digital age.

Today’s librarians are human search engines who use sophisticated technology to help people find the information they’re looking for. That information is increasingly found online, but sifting through vast amounts of data is the first of many steps in the research process. Evaluating its relevance, validity and credibility is also part of a librarian’s role.

“There are more types of information online and spaces where anyone can create and add information, and I think it’s hard for people to make sense of that,” says M.J. D’Elia, acting head of learning and curriculum support at the U of G library and an instructor in the Department of Marketing and Consumer Studies. “Librarians in particular have this geeky side to them: they love information, and they’re naturally curious about where it comes from, how it’s created and how it’s curated.”

Although D’Elia sees a bright future for librarians, he also sees them moving from their traditional role as “gatekeepers to information” that was almost always contained in books to navigating oceans of online sources.

To stay relevant, libraries need to keep on top of emerging trends and technologies. “It’s imperative that we play more of a role in understanding the impact of technology, whether it’s the ubiquitous mobile device or whatever’s next,” says D’Elia. “Figuring out where we fit into that is where the future is.”

To keep up with the growing demand of plugged-in students, the library has added almost 900 electrical outlets since 2005.

Libraries will change, he says, as they offer even more access to online resources. But don’t worry if you see fewer bookshelves; e-books and e-journals are replacing some of their paper counterparts and freeing up valuable study space. Built in 1968 when the University had 9,000 students, the library now serves almost 22,000 undergraduate and graduate students. On a busy day, more than 13,000 people visit the library.

Running a one-stop shop, U of G librarians teach students how to do research, help them develop study skills and show them how to prepare for exams. But students aren’t the only ones going to the library for help; their professors are, too.

Librarians often work with educators incorporating new teaching methods and technologies into their classes. For example, instructors who need technical support with non-traditional assignments can get assistance at the library. “There’s a learning curve associated with doing something other than writing a paper,” says D’Elia, and that learning curve applies to both students and faculty.

Writing a paper involves compiling data from other sources, he says, whereas multimedia assignments such as podcasts and videos can engage students more in learning. Instructors are also looking for new ways to evaluate their students. “Once you’ve read 200 papers, you get paper fatigue,” he says.

D’Elia advises instructors to give students a clear list of guidelines for the content and delivery of multimedia assignments. The library’s learning services division can help them develop a rubric.

He also recommends giving students examples of previous successful assignments. “Let them know that it’s not like pulling together a paper at the last minute,” he says. “It actually takes way longer than you think to put together a really good multimedia product.” A five-minute YouTube video, for example, could take several hours to produce, including developing a storyboard, writing the script, filming and editing.

The changing role of the library reflects the changing University. “There’s been a real transformation in higher education and in research libraries over the last decade,” says Catherine Steeves, deputy CIO and associate chief librarian. She adds that these changes are driven not only by technology but also by the University’s teaching and learning initiatives.

Back in 1998, the library partnered with other service units on campus – Student Affairs, Teaching Support Services, and Computing and Communications Services – to launch a project called the Learning Commons.

“The Learning Commons really tries to look at students holistically and support them in their academic skill development and success,” says Steeves. Workshops on topics such as critical thinking, information literacy, academic integrity, time management and procrastination are offered for individuals and groups. The response is almost overwhelming, with one-on-one student consultations increasing by 137 per cent from 2006 to 2012.

The library offers workshops not just on reading and writing but also on arithmetic in the form of numeracy and statistical analysis skills. Students taking particularly challenging courses can participate in supported learning groups, or small tutorial groups led by upper-year student volunteers. Accessibility services help students with physical disabilities or learning difficulties.

The library participates in a campus-wide effort to support graduate students, and a new research and scholarly communications team helps both graduate students and faculty with research and data management. “Their focus is to look at how we can support the campus research enterprise in new ways.”

The library also provides a collaborative space for researchers working on projects with multiple institutions. And library users may now view graduate theses online through the library’s Atrium website.

Electronic thesis submission is another example of how bookshelves are shrinking to make way for more computer terminals and study spaces. Students continually ask for more seats in the library and more power outlets to plug in multiple devices.

As a place for study and academic research, the library is here to stay – and so is the technology that helps make sense of the digital world.
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When she started putting decorative stickers on her goggles in high school chemistry class, perhaps Colleen Tully should have known that a science career wasn’t for her. “I was starved for creativity,” she says. In fact, she actually won some awards for her writing in high school. “But I spent a lot of time riding horses and I wanted to be a vet, so I felt I had to focus on science and math.”

Tully, who grew up in Elora, Ont., enrolled at U of G in agriculture but soon switched her major to English. “My heart just wasn’t in science and biology,” she says. “I found myself poring over novels, and I realized that I just wasn’t going to make it to vet school. I am so happy that I made that change.”

So are readers of the new Canadian magazine *Fresh Juice*; Tully is currently the senior editor. She moved there after five years as food editor for *Canadian Living*’s website. “Just like a fashion magazine helps you navigate the mall, *Fresh Juice* helps you navigate the grocery store,” she says of the year-old publication. “We do embrace convenience foods, but they are healthy convenience foods, like frozen edamame. Our recipes are fast and easy, but also healthy.”

She hadn’t anticipated a big learning curve, but says it was more challenging than she’d expected. “Most of my career has been digital, and you don’t have that hard deadline that you do with a print publication. There are also space constraints that I wasn’t used to. But this is exactly what I was looking for — a new experience to stretch me a little and keep me on my toes.”

And don’t think Tully has forgotten her digital roots now that she’s working on a print publication. “Still do about 70 per cent digital work, including social media platforms and video,” she says. That percentage may grow as she develops a digital edition of the magazine. *Canadian Living* offered an established audience for Tully’s website posts and Twitter feed, but she’s had to build a community from scratch for *Fresh Juice*.

On the print side, Tully wrote the first five of the magazine’s popular “grocery cart makeovers.” She explains: “I talk to people about their grocery list, then we have a nutritionist and food expert review what they buy and help them make better choices.” One issue featured a couple wanting to decrease sodium and lose weight; the article suggested mixing salad dressing with fat-free yogurt for a lower-sodium dressing.

Tully’s route to her current job took her through a detour to Asia about six months after she graduated from U of G. “I was farm-sitting and working nights at the Royal Bank,” she recalls, “but I wanted to travel, so I decided to become an English teacher abroad.” She was hired to work in South Korea for a year. There she designed a creative writing course for the school and worked part-time as a freelance editor for the *Korea Herald* newspaper.

It was that newspaper experience that helped her get into the post-graduate journalism program at Centennial College. “After I returned from South Korea, I taught special needs children and ESL in Canada, while I tried to decide on my next step,” she says. Should she go into creative writing or journalism? Knowing that it would be easier to make a living as a journalist — and with her Korean newspaper experience — Tully applied to Centennial and was accepted.

During the final semester of the program, students do an unpaid internship, and Tully says she was lucky enough to land at *Canadian Living*. “My science background turned out to be a benefit, because I was brought into the health department on the print side,” she says. “I could write about new neurosurgery, and I had the knowledge to understand what the doctor was talking about.”

After her stint on the print magazine, Tully was offered an internship on the digital side. Learning to write for search engines as well as human readers can be challenging. After her internship, she freelanced for a time.

Shortly after that, the food editor position came up. “I’ve always been interested in food. I grew up in Elora, and I remember riding my bike to get corn from a local farmer and putting a dollar in a cup and riding back with the corn. That’s local food,” she says. Her interest in local food and cooking continues today, and she loves having the opportunity to help others: “What I can do online is fill out the details they just couldn’t fit into the magazine. They might have a complicated recipe; we can put up 15 slides that show all the steps to making it.”

Tully’s husband previously worked for TC Media (the publisher of *Canadian Living* and *Fresh Juice*) but moved to a new role at Torstar Digital the same day she moved to *Fresh Juice*. “Strange, but true,” she says.

She adds: “My writing career is enhanced by the breadth of courses I was able to take at the University of Guelph. I especially loved the small seminar courses where you read and chat and debate.” She maintains her connection with the University, having returned this past February to speak on “Writing to Please People and Robots.” Tully explains: “To be a successful writer or editor for the web, you have to do both. Getting your copy noticed takes more than snappy prose — you have to tailor your content to search engines as well as pleasing readers.”

BY TERESA PITMAN
Colleen Tully moves from print to digital to social media as senior editor for the new Canadian magazine Fresh Juice.
**PUB OWNER BET HIS FUTURE ON LOCAL FOOD AND CRAFT BEER**

**University of Guelph alumnus and award-winning restaurateur Bob Desautels was green long before green was hip.**

When he ventured into the restaurant and bar business in the 1970s, he started buying local and advocated for the environment. At one point – inspired perhaps by his love of philosophy and one of his heroes, Henry David Thoreau – Desautels pondered moving with his wife and two young children to an island. 

At the time, he was working in restaurants and hotels. Running his own restaurant was just a dream. “I started working in the service industry when I was 14 and always loved the idea of creating something of my own,” he says. 

He turned that dream into reality when he founded the Neighbourhood Group of Companies, which operates the hugely successful gastro pub The Woolwich Arrow in Guelph – known affectionately as the “Wooly.”

With Desautels as CEO, the Neighbourhood Group also runs Borealis Grille & Bar and two upscale casual restaurants in Guelph and Kitchener; plans call for a third in north Waterloo.

“Turns out I’m a fool,” he says with a smile. “It’s a hard business, too hard sometimes, but strangely satisfying.”

His restaurants are now green from farm to fork, with local and regional meats, beers, wines and produce on the menu. Water is heated with solar panels, electricity comes from green power, and food waste is used for composting. 

He won the Green Leadership Award from Canadian Foodservice and Hospitality magazine in June. Among similar accolades, he earned a gold award this year from the Ontario Hostelry Institute for building the local food movement and championing environmental causes. And, to Desautels’s delight, the Wooly just won a local food movement and championing environmental causes. And, to Desautels’s delight, the Wooly just won a local...
Bob Desautels is proud of the fact that his Guelph pub, the “Wooly,” was voted the most family friendly restaurant in town.

Eating officer for the Neighbourhood Group, and his daughter, Emily, co-manager of the Wooly. She leads marketing efforts for new Taste of Ontario condiments that Desautels is creating.

“I always advised my family against going into this; it’s a tough business, but it gets in your blood, I think.”

He and Sue plan to travel more – in an electric or hybrid car – and write an e-zine about the best artisanal food and beverages around the country. “I always thought it was the way we should live: a simple life. “The only way to do is to be,” he says, borrowing a line from another favourite philosopher, Lao Tzu. “I want to instill that in young people. Instead of saying, ‘I want to play golf professionally,’ say, ‘I am a professional golfer’ or ‘I am a green businessman.’ That way, there is no decision about what type of person you want to be – you already are a certain type of person.”

By Lori Bona Hunt
When the Guelph Campus Co-op unveiled the cornerstone to its new housing complex June 14, Tom Klein Beernink, manager of housing and member relations, coined the line: “This is the house that co-operation built.”

He was referring to the 100 years that the co-op has been part of the University of Guelph campus and the 14 years that it took to move the sustainable housing complex from concept to construction. As the centrepiece of the organization’s centennial celebration, the $5-million Campus Co-op Commons is located behind the co-op office on College Avenue West. The apartment building will house 72 students in 18 rental units and is scheduled for completion by January 2014.

The new building will incorporate environmental design features, including a rainwater collection system, passive solar design and in-floor radiant heat. The complex will also provide one fully accessible unit funded through the affordable housing initiative of the Central Student Association (CSA).

The CSA also supported the co-op’s 2007 renovation of the stone house on College; that 12-person eco-friendly residence maximizes solar heating, collects rainwater and recycles grey water. It is also fully accessible to students who use a wheelchair or have visual or hearing impairments.

Affordable student housing has long been a co-op concern, along with affordable textbooks and other student services. When seven students in the Ontario Agricultural College established the OAC Students’ Co-operative Association in 1913, one of their first tasks was to build an outdoor skating rink. The student co-op opened a bookstore that still operates on campus today, its members raised money to help build War Memorial Hall, and the co-op ran a popular coffee shop in the basement of Massey Hall from 1951 to 1998.

Renamed the Guelph Campus Co-operative in 1962, it is the oldest continuing student co-operative in Canada.

Klein Beernink says the co-op remains committed to its motto “By Students, For Students.”

For more information about its history and 100th-anniversary events, visit the Guelph Campus-Co-op website at www.guelphcampus.coop/.

By Mary Dickieson
U of G Gears Up for Anniversary

There is a lot to celebrate at U of G this fall as we prepare for the University’s 50th anniversary in 2014. Plan now to attend next year’s Alumni Weekend on June 21 and 22, when the Conversat Ball will return to campus. Conversat will celebrate the University’s 50th with a dinner on Johnston Green and evening entertainment at several campus locations.

I’m delighted with the launch of our alumni travel program Spread Your Wings. Beginning in 2014, alumni will visit some of the world’s most incredible places, and we invite you to join like-minded travellers on these amazing journeys. Each trip will be an exceptional educational experience. View travel dates at www.alumni.uoguelph.ca/travel.

U of G’s 50th anniversary will also mark the close of The BetterPlanet Project’s $200-million fundraising campaign. The BetterPlanet Project is having an incredible impact, from reviving elm trees to transforming teaching and learning through our unique first-year seminar program, to delivering advanced cancer treatment to companion animals.

We encourage our alumni and friends to help us do more. Please join the committed donors who are helping us make a difference: www.thebetterplanetproject.ca.

We look forward to an exciting year and to sharing our anniversary celebrations with you.

JASON MORETON, BA ’00
ASSISTANT VICE-PRESIDENT, ALUMNI ADVANCEMENT

Fall 2013 25
**COMING EVENTS**

**Sept. 21 • Homecoming 2013***
- Gryphons host McMaster at 1 p.m. Join fellow alumni in the new stadium bleachers off East Ring Road. Game tickets at www.alumni.uoguelph.ca/hc. Visit the alumni welcome tent at Gate 2 for a free gift and enter a prize draw sponsored by Manulife.
- CME Alumni Reunion at the Brass Taps, 11:30 a.m., complimentary appetizers and cash bar.
- Redmen Football Reunion with 1988 Gryphons, all-day event.
- SoLaL, Cinc à Sept Reception in Rozanski Hall, 5 to 7 p.m.

**Sept. 22 • HKSK Alumni Fun Run or Walk in the Arboretum***

**Oct. 11 • Join Ottawa alumni at Carleton University as the football Gryphons meet the Ravens, 7 p.m. Contact mamoroz@uoguelph.ca.**

**Nov. 2 • School of Engineering Honours and Awards Banquet** You can help the school honour five alumni at this annual event.

**Nov. 16 • U of G Hockey Day** Alumni and friends are invited to this annual hockey reunion.

**Nov. 21 to 24 • Fair November Open Thursday and Friday 10 a.m. to 9 p.m.; Saturday and Sunday 10 a.m. to 5 p.m.**

**Jan. 4 • U of G 50th-Anniversary Exhibit opens at the Guelph Civic Museum, 1 to 5 p.m. daily.**

**June 21 and 22 • Alumni Weekend 2014 Celebrate U of G’s anniversary in a big way! We’ll help you plan a reunion for your friends from residence, student government, peer helpers and other groups. Contact Annie Benko at abenko@uoguelph.ca.**

*Visit www.alumni.uoguelph.ca or call 1-888-266-3108 for details.*

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**The Gryphon: Strength and Majesty**

A LION’S BODY AND AN EAGLE’S HEAD and claws: What other creature than a gryphon would be a more majestic symbol of the University of Guelph? A bronze statue of this mythological guardian of knowledge and seeker of treasure will soon stand in a new front entrance at the corner of Stone Road and Gordon Street.

As a proud supporter of this initiative, the University of Guelph Alumni Association (UGAA) invites everyone on campus and in the greater community to be part of this project.

Join the UGAA challenge fund! Your alumni association has kicked off the campaign with a lead gift of $50,000, and we are counting on your support. To express our continued enthusiasm and commitment, UGAA will match the next $100,000 donated.

Contribute by Feb. 28, 2014, as an individual, or challenge your friends and family to participate as a group. What better way to show your Gryphon pride?

Your name can become part of the artistic design; recognition opportunities begin at $1,000. The more money you raise, the more prominent your name will be.

The gryphon myth originated in the Middle East, where depictions of the creature appear in ancient Babylonian, Assyrian and Persian paintings and sculptures. The gryphon became the Pharaoh’s companion in ancient Egypt around 3,000 B.C., but I’d like to think the Gryphon has found its greatest home with us and will symbolize our University’s strength, pride and success for years to come.

Be part of history and help the Gryphon rise on campus. Details at www.thebetterplanetproject.ca/gryphon.

*BRAD ROONEY, ADA ‘93 AND B.SC.(AGR.) ‘97*  
UGAA PRESIDENT

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The Badger save the Elm. By cloning the survivors and reproducing a tree resistant to Dutch Elm Disease, U of G researchers are bringing this tree and other species back from the brink of extinction.
The BetterPlanet Project has helped create the world’s first reference library of DNA barcodes, which will expose market fraud, protect endangered species, monitor the environment and fight disease.
Help us do more.

We need more support from alumni to have an even greater impact on the areas that matter most to all of us. Your donation has an impact for both the university and society. With your help we are able to invest in teaching and learning, faculty, research, scholarships and facilities. Help us create ground breaking discoveries, innovative technologies and build on our legacy of caring for our neighbours, near and far.

Join the 16,272 alumni who have made a gift.

To donate: www.thebetterplanetproject.ca
IT’S TIME TO START PROTECTING WILDLIFE

“IT’S TIME TO START PROTECTING WILDLIFE

“I am shocked when I go into a grocery store and see people still using plastic bags,” says Scarlett Magda, B.Sc. ’05 and DVM ’09. “I have the same reaction when I see people buying bottled water; each year, 6.5 billion kilos of plastic waste are thrown into the oceans. It’s an insult to the Earth.”

Respect for the planet and all it contains is Magda’s touchstone. For her, there is a direct relationship between the environment, the health of wild and domestic animals, and human health. She’s committed to making others aware of this connection and the issues surrounding it.

While she works full-time in an emergency referral veterinary clinic in Riverhead, N.Y., she also devotes considerable time and energy to the Wildlife Conservation Film Festival (WCFF). “WCFF began as a festival in Sag Harbor. I joined the project last year as executive director and suggested we move it to Manhattan.

“We screen wildlife films, then bring in experts to inform, engage and empower the audience. For example, we showed Rhino Wars by Anne Goddard, about the slaughter of rhinos for their horns. National Geographic reporter Bryan Christy was there to discuss the illegal ivory trade.”

Because of the festival’s success, similar events are now offered in Miami and Washington, D.C., and organizers are talking about taking the film festival to San Francisco or Los Angeles.

Magda’s deep concern for animals began when she was a child enjoying summers at the family cottage in the Kawarthas. There she spent long periods of time exploring nature, collecting frogs, canoeing and hiking. While in high school, she travelled to Central America for a taste of international wildlife conservation work. She wanted to become a veterinarian to help our shared ecosystems, and found new opportunities while studying at the Ontario Veterinary College (OVC).

She got involved with Vets Without Borders (VWB) and helped care for elephants in Thailand and India. One summer project taught her about some of the challenges of animal welfare. Many of the elephants had injuries caused by the saddles used for tourism rides. Her research produced recommendations to help prevent the injuries, but they weren’t implemented because the saddles were part of a long tradition.

“The people who owned the elephants felt it would be disrespectful to their ancestors to change them,” she says. “Since working on that project, I have learned a lot about the importance of understanding the culture and getting local buy-in.”

She now works with organizations that provide sanctuaries for elephants, rather than those that force the animals to be ridden or to perform for entertainment.

In Africa with VWB, Magda worked with an NGO that provides milking goats for communities with children orphaned by AIDS. Now she is the U.S. representative on the VWB Canada board of directors. “This is my passion, and I am trying to create more awareness of VWB in the United States.”

Magda’s work as an emergency referral veterinarian also brings plenty of variety, including treating a surprising number of wild animals. “We look after any animal that will fit through the door, and we often see injured birds, snakes, turtles, deer, and, of course, dogs and cats.”

BY TERESA PITMAN
1960

■ Mac 1961 — Norma Panton, left, and Linda Skoropad, hold a silver vase donated to Macdonald Institute by their graduating class in 1961. Valued at $4,500, the vase was recently restored by Guelph silversmith Lois Betteridge and is now on display in the Macdonald Institute Building.

■ Anne Croy, DVM ’69, was inducted into the Canadian Academy of Health Sciences (CAHS) last fall. A former Ontario Veterinary College professor, she is now a professor of biomedical and molecular sciences at Queen’s University. The honour recognizes her leadership in reproductive sciences and the impact of her studies on changes in the immune and cardiovascular systems during pregnancy. In particular, her groundbreaking description of uterine natural killer cells and their functions has improved understanding of maternal and infant health. Fellowship in CAHS is considered one of the highest honours in the Canadian health sciences community.

■ Jean Mills, MA ’69, completed her master’s degree in English literature and returned home to England, where she enjoyed a varied teaching career in primary education. She became deputy of the language support service in Birmingham, and then senior lecturer in the School of Education at the University of Birmingham and leader of the university’s BA program in childhood studies. She completed a PhD in bilingual development in 2000 and published several academic studies. She has co-authored several books with her husband, Richard. She retired in 2007. One of their sons is an oil and energy consultant in the Middle East, and the other is a freelance musician and composer in Britain.

■ Catherine Wherry, B.Sc. ’68, retired from her job as a librarian after more than 40 years in corporate and academic libraries, mainly in Melbourne, Australia. She moved to northeast Victoria and opened a second-hand bookshop in Yarck with her partner, Jeremy Morrison. She writes: “It doesn’t get as cold here as Guelph, but it did snow once at our property in October 2010.”

1970

■ Nancy Brown Andison, B.Sc.(Agr.) ’79, was appointed to the board of directors of the Royal Agricultural Winter Fair in April 2013 and re-appointed as treasurer of Farm Radio International in November 2012.

■ Rodney Dale, BA ’70, is a senior trial lawyer in a firm of 120 lawyers with offices in London and Toronto. He says he has maintained his passion for physical fitness by participating in triathlons, equestrian activities, body-building, mountain climbing and adventure travel. And he still performs each year with his band at a fundraising event to support community food programs. He is married to Wendy (McLeod) and says they fell in love at U of G. They now have three sons and five grandchildren.

Sara Bonham, M.A.Sc. ’11, is a research and development associate with Polymer Specialties International Ltd. in Newmarket, Ont. She researches new bioplastics, biocomposites and petro-based plastic blends, and assists multinational companies with scale-up trials for commercialization.

Bonham credits her U of G experience for helping her career advance. During her master’s studies, she worked with engineering and plant agriculture professors Manju Misra and Amar Mohanty to create cost-competitive sustainable packaging for the food and automotive industries using agricultural crop residues. Her research received funding from the Hannam Soybean Utilization Fund.

She then applied her lab work to an industry setting during an internship at General Mills, where she looked for ways to reduce the cost of bioproducts while improving their quality. She also completed the Highly Qualified Personnel (HQP) Scholarship Program funded by the OMAF and MRA-U of G Partnership.

“The HQP program was a really great resource for me,” says Bonham. It provided me with relevant real-world experience as well as the tools I needed to transfer my skills to the industry with credibility.”
The Portico

Strath Davis, BA ’73 and MA ’81, went on to earn a PhD from the University of Waterloo in 1986 and an MSW from Wilfrid Laurier University in 1990. She was a psychiatric social worker at Homewood Health Centre in Guelph before retiring in 2004 and returning to England in 2011. Living in Dorset, she teaches Latin and Shakespeare’s plays as a volunteer with the popular University of the Third Age. Celebrating the 40th anniversary of receiving her Guelph BA in geography, she says she “fondly remembers those wonderful undergraduate years.”

Robert and Clara Flanigan, both B.Sc. ’71, recently relocated from Halifax to Toronto, where they are managing the Overseas Missionary Fellowship (OMF) guest home. They joined OMF in 2005 to serve as Atlantic regional directors.

James McRae, MA ’77, is a geography graduate in resources development (now the School of Environmental Design and Rural Development). He has worked at Agriculture Canada and Environment Canada in Ottawa and volunteered with CUSO International in land use planning in Botswana. He earned a master’s degree in social policy, specializing in community development, at Carleton University, and worked in mental health and addictions. He recently published the book World Awakening and is writing another manuscript titled The African Diaries.

Stephen Thompson, MA ’79, of Wellington, New Zealand, started his career with Agriculture Canada in 1984. In 1995 he accepted a faculty position at the University of New Brunswick in sustainable development. He moved to New Zealand to lead its science funding agency and became head of the Royal Society of New Zealand before moving to the British High Commission as science officer.

1980

Robert Colborne, B.Sc. (H.K.) ’80, recently moved to New Zealand after living in the United Kingdom for 16 years. He says, “I’m not really interested in the ‘decade of pain’ that is promised around Europe and the U.K. On to a better life!”

Catina Wai Fong Li, BA ’86, works for a property development company in Hong Kong as general manager in the property management department. One of her sons graduated from the University of Western Ontario; the other is studying at the University of Waterloo.

Ruperto Victor Gongora, DVM ’86, is a consultant with Pro-Qua Livestock Consulting Services in Belize. He writes that working with poultry exposed him to the nutritional qualities of eggs and says, “This led to a school breakfast program, feeding a free healthy and hearty breakfast of eggs, beans, whole wheat buns, milk and bananas to needy schoolchildren.” The program has been running for four school terms in the Central American country “with excellent results.”

Nicholas Manousos, B.Comm. ’89, is general manager of the Divani Corfu Palace hotel on Corfu Island, Greece. It’s part of the Divani Collection Hotels.

Anne Miner, BA ’80 and MBA ’99, is founder and president of The Dunvegan Group Ltd., specialists in customer care and retention. She was among the best selection of candidates, start now at www.recruitguelph.ca or (519) 824-4120 ext. 52323
the first Canadian researchers to be named Certified Marketing Research Professional by the Marketing Research and Intelligence Association. She authored *Measuring Up! A Guide to Success with Customer Satisfaction* and is about to publish *The Bottom Line on Customer Retention: It Pays to Care!* based on 10 years of research on customer relationships. She has also contributed to many professional associations and community groups.

**Humphrey Mbugua**, M.Sc. ’85, is practising poultry veterinary medicine in East Africa and working as technical consultant and adviser to a Kenyan poultry breeders’ association.

**Monika Melichar**, B.Sc. ’87, operates Woodlands Wildlife Sanctuary in Minden, Ont., where she rehabilitates and releases orphaned and injured animals. “This is a full-time labour of love for me, and I couldn’t be happier,” she says. “My studies at Guelph provided me with a solid background on many North American species, and now I use my knowledge hands-on, helping wild animals get back on their feet.”

**Mariam Othman**, BA ’87, completed a PhD in statistics and measurement at the University of Manchester in 2010.

**Rob Tripp**, BA ’81, moved from his hometown of Guelph to Kingston, Ont., after graduation. Working in radio, TV and print journalism, he has won a number of awards, including a National Newspaper Award, Canada’s highest honour in print journalism. He was the first reporter on the scene when the bodies of four women from the now infamous Shafia family were pulled from a car submerged in a canal near Kingston.

**HAFA HTM Take to the Links**

The annual HAFA HTM golf tournament was held June 17 at the Royal Woodbine Golf Club in Toronto. Participants included, from left, Kerry Godfrey, director, School of Hospitality and Tourism Management; 1976 grad Heidi Wilker; 1981 grad Peter Watson; and Julia Christensen Hughes, dean, College of Management and Economics.

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U of G connects student affairs professionals across Canada

Award winner Heather Lane Vetere, front left corner, thought all her Guelph friends should be in the picture, too.

Heather Lane Vetere, B.A.Sc. ’89, was honoured at the 2012 Canadian Association of College and University Student Services (CACUSS) conference. She had a lot of support from grads and professional colleagues connected to the University of Guelph.

One of those supporters is CACUSS executive director Jennifer Hamilton, BA ’94, who sent in this photo. “The University of Guelph is known within our field as having a very strong contribution to the student affairs profession in Canada,” she says. “This connection to our alma mater has evolved over time, and it has been lovingly given its own nickname; some refer to the network of professionals who studied and worked in student affairs at U of G as the ‘Guelph Mafia.’”

Lane Vetere received the CACUSS Award of Honour – the association’s highest member award – for her long-standing contribution to student affairs in Canada, her research and her support of CACUSS. She was president of the group from 2002 to 2004.

in 2009. He followed the case daily until the murder conviction and sentencing of the family patriarch, his wife and their son. Tripp’s book on the case, Without Honour: The True Story of the Shafia Family and the Kingston Canal Murders, was published last fall by HarperCollins Canada.

■ Stephanie Valberg, DVM ’83, was inducted last fall into the University of Kentucky Equine Research Hall of Fame. She is the first woman to receive the honour. A professor and director of the University of Minnesota Equine Centre, she is recognized as a pioneer in uncovering the genetic basis of muscular disorders such as “tying up” and in developing nutritional strategies to reduce muscle pain in horses.

■ David Warrilow, B.Sc.(Agr.) ’83, divides his time between Canada and Ukraine.

■ David Wellhauser, BA ’83 and MA ’91, author of The Sonnat Construct, The Dog Particle and When Dogs Could Talk, will publish Fortuna’s Bastard in September 2013. His intellectual thrillers are available on Amazon.com in print and ebook formats.

1990

■ Lee-Ann Chevrette, B.Sc. ’94, of Sault Ste. Marie, Ont., has worked as an ecologist in British Columbia, Yukon and Northwest Territories. Also an herbalist, she uses her varied skills in her business Boreal Forest Teas, which earned her a Premier’s Award for Agri-Food Innovation Excellence in 2012. She began selling herbal teas in 2009 during graduate studies at Lakehead University in Thunder Bay, Ont. Her eight tea blends combine organic cultivated herbs and wild-harvested boreal forest plants.

■ James Forest, M.Sc. ’90 and PhD ’94, and Kari Dalnoki-Veress, M.Sc. ’95 and PhD ’98, received Brockhouse Medals this spring from the Canadian Association of Physicists for their joint studies of the physics of thin films. Forest is a professor at the University of Waterloo; Dalnoki-Veress is on faculty at McMaster University. They began working together in the lab of U of G physics professor John Dutcher.

■ Janet Rowat Kraiss, B.Sc. ’99, lives in Aurora, Ill., and works for the Suter Co. in Sycamore. When she completed a master’s degree in food safety in May 2013 through Michigan State University, she celebrated with her husband of almost 13 years and two children.

■ Lois Mansfield, MA ’90, was married in 1996, earned a PhD and now works at a university in northern England’s Lake District. She is looking for collaborators on topics in agricultural and rural development.

■ Jake McKay, BA ’97, teaches music at Het Baken, a secondary school in Almere, Netherlands. His school ensemble Trinitas Band has won much acclaim and has performed in the internationally renowned Amsterdam Concertgebouw. He runs a community music program called Big Band Bakken for adults. Learn more on his website: www.nbmusic.nl.

■ Linda (Bray) Mertinkat, B.A.Sc. ’91, has lived and worked in Germany for almost 20 years. After graduating, she was married, and worked in Child and Family Services in Kitchener, Ont. Now a physician’s assistant with a gynecologist in Bielefeld, she says, “I would love to hear from classmates and other Guelphites living here in Germany: l.mertinkat@t-online.de.”

■ Richard McCurdy, B.Sc. ’94 and M.Sc. ’98, completed a PhD in developmental neurobiology at Griffith University in Australia and worked as a postdoc for several years. He has been a biomedical editor with the University of Pennsylvania’s Penn Editor’s Association and with American Journal Experts. He provides editorial services for manuscripts and grant proposals for faculty and postdocs, and welcomes inquiries at richardmccurdy@hotmail.com.

■ Marc Patry, M.Sc. ’92, studied rural planning and development and has worked at UNESCO’s World Heritage Centre in Paris for 10 years. He says he is always pleased to meet U of G friends: “Please drop me a line ma.patry@unesco.org.”

■ Lori Quinlan, B.Sc. ’93, started her U of G studies with the class of 1988, but her progress was slowed by family
commitments. She would like to contact a few friends from the late 1980s, especially Elizabeth and Jennifer. Contact her through alumni@uoguelph.ca. • Andrea Stenberg, BA ’92, is a social media marketing consultant, coach and president of BNI Synergistics in Owen Sound, Ont. Her LinkedIn profile was among the top five per cent of “most-viewed” profiles in 2012.

PASSAGES

Samuel Aboud, BSA ’45, July 11, 2013
Robert Adams, BSA ’39, March 7, 2012
Marion (Barrie) Aitkin, DHE ’41, May 17, 2013
Stewart Anderson, ADA ’49, May 22, 2013
Peter Appleyard, H.D.Lett. ’10, July 17, 2013
Edgar Barrett, BA ’72, Sept. 12, 2011
Murrel Bauman, DVM ’61, June 14, 2013
Ronald Beals, BSA ’54, Dec. 13, 2012
Andrew Beelik, MSA ’52, July 2012
Colin Bernhardt, BA ’76, Dec. 18, 2012
Robert Black, BSA ’48, June 11, 2013
John Boughen, ADA ’62, June 27, 2013
Myra (Collins) Brown, DHE ’33, March 24, 2013
Roger Brown, BSA ’36, April 2, 2013
Lillian (Warren) Campbell, BSA ’51, March 5, 2013
Neil Campbell, B.Sc. ’69, April 11, 2013
Robert Carruthers, K.Dip. ’46, June 14, 2012
George Collin, MLA ’96, July 3, 2013
Bryan Cope, B.Sc.(Agr.) ’70, July 26, 2012
Russell Cowan, B.Sc.(Agr.) ’83, June 15, 2013
Alan Craig, BSA ’55, April 30, 2013
Katherine Dugmore, M.Sc. ’03, March 24, 2013
Jason Edwards, BA ’96, in 2012
Morris Freeman, BSA ’55, June 15, 2013
Margaret (Noice) Gilpin, DHE ’39, Feb. 18, 2011
Paul Goulet, BA ’74, Jan. 17, 2013
William Hamilton, BSA ’55, April 20, 2013
William Harrison, ADA ’53, April 17, 2013
Burge Harvey, ADA ’49, July 20, 2012
Maureen (Liddle) Herod, B.Sc. ’70, June 16, 2008
Leslie Higginson, BSA ’51, July 11, 2013
Robert Hill, B.Sc.(Agr.) ’76, June 13, 2013
Barry Irvine, BSA ’51, March 26, 2013
Barbara (Westcott) Lang, DHE ’49, June 9, 2013
Darwin Lund, DVM ’60, April 9, 2013
Keith Marling, DVM ’58, Dec. 13, 2012
John Massey, BSA ’54, Oct. 28, 2012
Donald Master, DVM ’40, June 11, 2013
Jean (Richardson) McCracken, DHE ’48, June 26, 2013
Jean (Kennedy) McCulloch, DHE ’41, April 28, 2010
William McElheran, DVM ’61, Nov. 16, 2012
John McGill, BSA ’48, March 31, 2013
Eric McLeod, B.Sc.(Agr.) ’76, April 22, 2013
Ursula (Meeks) McMurray, BSA ’76, March 25, 2013
Harold Milling, BSA ’57, May 6, 2013
Allan Murray, ADA ’55, July 2, 2013
Winston Muschett, BSA ’48, Dec. 19, 2012
Muriel (Hughes) O’Reilly, DHE ’41, March 1, 2013
Robert Pace, BSA ’48, July 1, 2012
Mark Peterson, MLA ’88, May 17, 2013
Donald Presant, BSA ’51, March 23, 2013
Ernests Reinbergs, MSA ’54, June 20, 2013
Larry Richardson, B.Sc.(Agr.) ’70, May 5, 2013
Floyd Roadhouse, BSA ’43, Jan. 20, 2012
Phyllis (Lanthier) Robinson, DHE ’49, Sept. 16, 2011

Helen (Passmore) Rogers, DHE ’32, Feb. 23, 2013
Elverda (Billing) Ruston, DHE ’38, Feb. 27, 2013
Jaffray Rutherford, BSA ’43, April 12, 2013
Joan (Bale) Ryder, B.H.Sc. ’53, June 29, 2013
Henry Sennema, ODH ’68, March 5, 2013
Kirk Silver, B.Sc. ’93, April 2, 2013
Alton Smith, DVM ’50, April 4, 2012
Philip Somerville, ADA ’80, April 9, 2013
Donald Stobo, ADA ’64, Sept. 13, 2012
Judy (Ellis) Thomson, BA ’72, Jan. 6, 2013
Jacob Unger, BSA ’63, Jan. 25, 2009
Spencer Urquhart, BSA ’50, June 6, 2013
Norman Watson, BSA ’52, May 28, 2013
Joseph Wellington, DVM ’51, Jan. 24, 2013
Melanie Williams, DVM ’74, May 3, 2013
William Wharry, BSA ’54, Nov. 24, 2010
Frederick Wilson, BSA ’49, June 17, 2013
Donald Woods, H.D.Sc. ’01, April 26, 2013

FACULTY
Leonard Adams, Professor Emeritus, School of Languages and Literatures, July 27, 2013
Charles Waywell, Retired, Department of Botany and Horticultural Science, May 30, 2013

To honour alumni who have passed away, the University of Guelph Alumni Association makes an annual donation to the Alumni Legacy Scholarship.
recovering from substance abuse while pregnant and/or parenting young children.

2000

■ Dian Chaaban, B.Com. ’08, was recently licensed as an investment adviser at RBC Dominion Securities in downtown Toronto. A volunteer on the board of directors of the University of Guelph Alumni Association, she says: “I love U of G.”

■ Hiu Yeung Henry Choi, BA ’05, works at the Hong Kong Export Credit Insurance Corp. He says, “I can use my knowledge learned from U of G on macro-economics to advise clients about the world economy. I also need to advise clients to mitigate credit risk by using credit insurance when trading with foreign buyers.”

■ Daniella Cross, BAA ’07, has moved back to Ontario after three years in London. She joined Toronto’s Infusion as global marketing manager.

■ Lucas Habib, B.Sc. ’02, completed a master’s degree in 2006 at the University of Alberta. A park warden in Alberta’s Jasper National Park, he is a freelance writer in science and other topics. Follow his career and travels at lhabib.pressfolios.com.

■ Valerie Hawke, B.Sc.(H.K.) ’01, lives in New South Wales, Australia, with her husband, Brian, and their son, Matthew, and infant daughter, Adele Elizabeth, born Feb. 25.

■ Aimee Huff, B.Com. ’02, received her PhD in marketing this summer from the Ivey Business School at Western University. She starts this fall as an assistant professor of marketing in the College of Business at Oregon State University.

■ Lindsay Ly, BA ’06, teaches in Guelph. She and her husband, Bang, have a one-year-old son named Henry.

■ Kristine Middlemiss, B.Comp. ’04, worked on the animation pipeline and tools for the video game Grand Theft Auto 5.

■ Laurie Thomas, M.Sc. ’04, owns Carrick Hill Farms in Mildmay, Ont. The small Bruce County farm raises premium quality meats – poultry, lamb and pork – from animals raised naturally and humanely. Thomas promotes local food and uses the Community Supported Agriculture model to build relationships with customers.

2010

■ Michelle Clarabut, MA ’12, is pursuing a doctorate in Italian studies at Royal Holloway, University of London. She taught English in France for eight months, which she says “was an amazing experience that I would recommend to anyone.”

■ Gloria Higdon, MA ’12, is a professional leadership trainer in Ottawa. She co-wrote the article “Engage Your Competitive Advantage: People,” published in Your Workplace magazine and based on her U of G research paper.

■ William Morrison, BA ’13, has been accepted into the Arthur Kroeger College of Public Affairs at Carleton University for a master’s program in political management.

■ Elaine Shantz, MA ’10, of Wellesley, Ont., has been named chair of the board of directors of the MAX Canada Insurance Co. She is COO of peopleCare Inc., which operates six long-term care homes for seniors in Ontario. Previously, she was operations manager of Mennonite Savings and Credit Union in Waterloo. She holds a diploma in adult education from St. Francis Xavier University in Nova Scotia.
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