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PHYSICISTS AT U OF G DISCOVER A REVOLUTIONARY NEW NANOPARTICLE, THE BARCODE OF LIFE PROJECT GETS A BOOST FROM THE ONTARIO GOVERNMENT, AND GUELPH RESEARCHERS TEST ASTRONAUTS TO SEE WHY THEIR FEET TINGLE DURING SPACE FLIGHT. DICK POUND IS RECOGNIZED FOR HIS OLYMPIC LEADERSHIP, AND PROF. JACK WEINER EXPLAINS WHY "MATH IS FUN."

HOW TO BUILD A BETTER PLANET
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In recent years, we have talked about the University of Guelph as an institution that is changing lives and improving life. That is certainly true when you think about the roles of our graduates within society and the contributions of our researchers and scholars. University of Guelph innovations have a direct, ongoing impact on the quality and safety of the food we eat, the success and livelihood of our communities, our personal health, and the health of this planet we share.

We are proud of our contributions and the achievements of our alumni. But we believe we can do even more to make the world a better place — and we will.

This month the University launches The BetterPlanet Project: a heartfelt vision of what we think we can accomplish, a fundraising campaign to help build human capacity, and a strategy for accelerating the pace of Guelph discovery and knowledge transfer. We have dug deep into the University’s past to envision our future contributions. We have looked at the many challenges facing our world. And we have developed a plan to work harder and faster in those areas where Guelph has the expertise and the potential to make positive change: food, environment, health and communities.

Few institutions in the world have the depth of life science expertise that joins these critical areas.

We know food. We have earned an international reputation as the place for solving food-related problems. Our proficiency in caring for food animals expanded long ago to encompass all species, including humans. U of G’s focus on “one health” has deepened understanding of life and life cycles from molecules to entire ecosystems. We know much about what makes up a healthy environment and how human activity both impacts and depends on the quality of water, soil and air.

Guelph scholars also explore the humanity in human life: creative expression through song, literature and the visual arts; work, play and cultural practices that make us who we are; and our enduring need to know the how, when and why of our very existence. The knowledge gained in these endeavours has made U of G a leader in education and outreach that improve quality of life for all of us.

Do we dare to think that the University of Guelph with its 24,000 students and 2,800 employees can build a better planet?

Yes.

The BetterPlanet Project is about mobilizing minds and knowledge in ways that make a difference — one idea at a time. Virtually every innovation that has allowed humanity to progress has started out as a simple idea, often in a university classroom or laboratory. At U of G, we believe the bigger our ambition, the bigger our results will be. Our world needs big ideas to spur transformational change that will solve the challenges ahead.

And, of course, we are not alone on the 400 hectares of the University’s Guelph campus. Our province-wide network of campuses and research facilities extends our influence from rural Ontario to metropolitan Toronto, the location of the University of Guelph-Humber. We are also privileged to work with many partners across Canada in the private sector, in other educational institutions and in all levels of government. And we have a worldwide alumni network — a unique group of people who know what the University of Guelph can accomplish.

Tye Burt is among them — a successful businessman, a member of the University’s Board of Governors and now chair of The Better Planet Project. He tells his own story in this special issue of The Portico and sets the tone for a fundraising campaign that will raise more than $200 million. That campaign will provide the human assets and the tools required for discovery and for translating Guelph innovations into practical, useful knowledge that will indeed improve life on Planet Earth.

Alastair Summerlee, President
Ontario invests in global effort to barcode life

The Ontario government is investing an additional $8.1 million in the University of Guelph-based International Barcode of Life (iBOL) project, the world's largest biodiversity genomics project.

Guelph's Biodiversity Institute of Ontario (BIO) will be the scientific hub for iBOL, which will officially begin this fall. Already researchers are quickly amassing barcodes or identifiers for a growing database of life forms and developing new informatics tools and technologies. Once fully activated, the project will involve more than 100 researchers from 26 countries. The goal is to grow the DNA barcode library to 500,000 species within BIO's first five years.

The funding comes from the Ministry of Research and Innovation's Global Leadership Round in Genomics and Life Sciences. It builds on a $5-million provincial investment in iBOL from 2008.

iBOL will be headed by U of G professor and BIO director Paul Hebert. He was the first scientist to propose that a short DNA sequence from a standard gene region shared by all multicellular life could be used to identify species.

DNA barcoding will reduce species identification time to hours and, ultimately, to minutes. Analysis extends to all life stages and to fragments of organisms. The technology has led to the discovery of overlooked species around the world. Its numerous practical applications range from ecosystem conservation to bio-surveillance and food safety.

CONVOCATION ADDS 3,200 NEW ALUMNI

University of Guelph awarded seven honorary degrees and more than 2,600 degrees and diplomas during summer convocation ceremonies in June. Another 600 degrees were awarded during the University of Guelph-Humber convocation June 21.

Honorary degrees were presented to:

- Peter Appleyard, a Canadian jazz vibraphonist, percussionist and composer who has performed and recorded internationally and contributed to numerous arts and civic endeavours;
- Simon Cooper, chief operating officer of the Ritz–Carlton Hotel, who is a strong proponent of education and Canadian tourism;
- Frank Hasenfratz, a former political refugee who founded Linamar, a diversified global manufacturing company and Guelph's best-known industry;
- Jay Hope, deputy minister of correctional services and the country’s first black deputy chief of police, who has spent 27 years with the Ontario Provincial Police;
- Audrey McLaughlin, DHE ’55, the first New Democrat to represent Yukon in the federal parliament and the first woman to head a Canadian federal political party (NDP, 1989–1995);
- Stephanie Nolen, author and award-winning journalist for the Globe and Mail who has reported on major conflicts of the past 15 years, including the wars in Iraq and Afghanistan; and
- Roger Warren, an advocate for health sciences and veterinary medicine who helped create the Ontario Veterinary College Pet Trust Fund 22 years ago.
University of Guelph physics professor John Dutcher and his team in the Polymer Surface and Interface Group have discovered a revolutionary new nanoparticle with nearly countless applications. What’s more, the nanoparticle is all natural and safe for people and the environment.

The researchers have named their discovery PHYTOSPHERIC™ polysaccharide nanoparticles and are currently increasing production for use in product development trials.

These particles are extremely tiny. Dutcher and his team measure them in nanometres (one-billionth of a metre). They’re also unique in that they have uniform size and surface chemistry. The human body has enzymes to break them down, which makes the particles safe and particularly attractive for biomedical applications.

“You can think of these particles as making any product more environmentally friendly,” says Dutcher. “They can serve as non-toxic biodegradable replacements for current synthetic nanoparticles or petroleum ingredients.”

Paint and cosmetic companies are interested in the particles’ light-scattering properties, which enhance colour vibrancy and sheen. The nanoparticles can create a pearl-like opaque appearance desired by consumers in an eco-friendly way.

And because the nanoparticles absorb and retain water, they have a natural moisturizing effect. Dutcher and his team found they can incorporate the particles into creams to create effective non-greasy moisturizers. In addition, a slight modification to the particles’ surface gives them other properties that are desirable in paint and cosmetics applications.

The researchers envision many other uses for the nanoparticles, including biomedical applications such as drug delivery.

“It’s about being imaginative about what kind of molecules you can attach to the particle’s outside surface to get the function you want,” says Dutcher. “We can work with companies to do this at an economical price and in an eco-friendly manner.”

Dick Pound receives U of G’s highest leadership award

International Olympic Committee (IOC) member Dick Pound received the Lincoln Alexander Outstanding Leader Award May 13 from U of G’s College of Management and Economics (CME).

Pound is the third recipient of this honour, first awarded in 2006 to former U of G chancellor Lincoln Alexander. It recognizes Canadians whose extraordinary leadership activities and accomplishments demonstrate a commitment to learning, collaboration, advocacy and service.

Pound was honoured for his leadership contributions to international sport and business. A member of the IOC since 1978, he revolutionized the Olympic movement using television and sponsorship deals to transform the IOC into a multi-billion-dollar enterprise.

He was president of the Canadian Olympic Committee and was director of the Vancouver Organizing Committee of the 2010 Olympic and Paralympic Winter Games.

Best known for his relentless efforts to rid sport of performance-enhancing drugs, he was the founding chair of the World Anti-Doping Agency from 1999 to 2007. Pound campaigned for strict drug testing despite strong criticism from sporting organizations. His passionate advocacy earned him a spot among Time magazine’s 100 most influential people in the world.
University of Guelph plant agriculture researchers plan to repopulate the American elm by developing new techniques for cloning and producing trees resistant to its biggest killer: Dutch elm disease.

The popular trees, which at one time lined boulevards and decorated city centres, were almost wiped out in Ontario in the 1970s by a fungal infection that prevents nutrient transport in the tree.

Profs. Praveen Saxena and Alan Sullivan aim to bring back the American elm population through micropropagation, based on selecting tissue samples from surviving disease-resistant trees. Duplicating disease-resistant elms is no easy task because only one of about 100,000 elm trees has natural resistance, said Saxena.

“Other elms still in existence may have simply managed to escape infection. Unless the tree’s tissues are disease-resistant, there’s no guarantee that they wouldn’t fall victim to Dutch elm disease again.”

Cell culture technology allows the researchers to select germplasm with the desired traits.

“The end goal is to gradually reintroduce the disease-resistant trees into their natural environment,” said Sullivan.

Even students who don’t love math love Jack Weiner

For more than 25 years, calculus students at Guelph have been educated and entertained by Prof. Jack Weiner, Mathematics and Statistics. They’ve come to love his five-minute “Friday Specials,” a collection of humorous real-world stories that show the use and frequent abuse of math.

“It is math for fun,” says Weiner, “but also for empowerment. Many of these stories illustrate a misleading use of math, intentional or otherwise.”

Weiner suspects his passion for teaching is partly hard-wired but mostly inspired by many of his own teachers. “Caring teachers are so important,” says Weiner, who left school midway through Grade 12 but was encouraged by several teachers to return to the classroom. “Math may be my subject, but for me, teaching is more about caring and bringing out the best in students.”

His passion is one of the traits that earned him the 2010 John Bell Award, which celebrates outstanding contributions to education at the University of Guelph. He received his award during summer convocation ceremonies for the College of Physical and Engineering Science.

Weiner earned the 2007 University of Guelph Central Student Association Award for Teaching Excellence, a 2007 Leadership in Faculty Teaching Award and a 1994 Ontario Confederation of University Faculty Associations teaching award. He was cited as a “popular professor” in Maclean’s annual Canada-wide university survey in eight of nine years. He was a director of the Ontario Association for Mathematics Education from 1984 to 2007.

Weiner has spoken to numerous high school students, teachers and the public. Recently, he developed an innovative software package to better prepare incoming students for university-level mathematics and science education. In the past four years, he has worked closely with mathematics software icon Maplesoft to develop best uses of technology in education.

At the beginning of each class, Weiner scans the room, makes eye contact with each student, yells “hello,” and receives a resounding “hello” back.

“We are people first. We interact with one another and respect one another first as people, then as students and teacher. My classes are about active learning. I’m constantly working to evolve my teaching to be the best it can be.”
Horses Test a New Treatment for Arthritis

A University of Guelph investigation into why an astronaut’s feet tingle during a space mission could lead to improving balance in seniors.

Prof. Leah Bent, B.Sc.(H.K.) ’96 and M.Sc. ’98, tested three of the six crew members of the space shuttle Atlantis before it launched May 14 and again after completion of their 12-day mission, hoping to determine which balance receptors are more active when the body is in zero gravity. She will also test crew members on the next two space missions, Discovery and Endeavour.

“We depend on a number of receptors for balance, such as our eyes, inner ear, joints, muscles and the skin on the bottom of our feet,” said Bent, who is working on the study with PhD student Catherine Lowrey, B.Sc.(H.K.) ’04 and M.Sc. ’07. “But when you are in zero gravity, you lose balance information from your inner ear; as a result, the body has to compensate and increase its reliance on the other sensory systems.”

Their “hyper-sole” study, which is funded by the Canadian Space Agency, tests sensitivity levels by using a vibrating probe to stimulate different sole receptors, including those that detect pressure, slipping, stretching and contact with a surface.

Bent predicts the test results will show that zero gravity causes the body to rely more on skin sole receptors for maintaining balance during normal activities and space walks. This explains why astronauts experience hyper-sensitivity in their feet during and shortly after a flight.

By pinpointing which feet receptors are vital to balance, the researchers expect to be able to help develop technologies to improve balance in Earth-bound seniors.

“How do astronauts have tingly feet?” asked Bent, who is working on the study with PhD student Catherine Lowrey, B.Sc.(H.K.) ’04 and M.Sc. ’07. “But when you are in zero gravity, you lose balance information from your inner ear; as a result, the body has to compensate and increase its reliance on the other sensory systems.”

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Part of the reason seniors lose their ability to balance is because the skin on the bottom of the feet becomes thicker and less hydrated, so it’s less sensitive,” said Bent.

Horses don’t normally drink tea, mint-flavoured or not. But U of G tests have found that feeding horses a souped-up mint supplement developed on campus might help counter joint inflammation. As a result, Guelph researchers may soon investigate spearmint as a possible treatment for human arthritis.

They’re not promising a cure for the disease. But results of in vitro tests and last year’s horse study hold promise for using mint extract to reduce inflammation and pain and perhaps to slow the progression of arthritis, says Wendy Pearson, B.Sc.(Agr.) ’97, M.Sc. ’04 and PhD ’08. The three-time Guelph grad is now studying medicinal plants for horses as a post-doc in the Department of Plant Agriculture.

Pearson says arthritis is common among horses. Veterinarians use oral and injected drugs — including phenylbutazone, or “aspirin for horses” — to treat joint pain, but those products can speed up cartilage breakdown and cause side effects, including stomach ulcers. Pearson, a longtime rider who keeps horses on her Milton hobby farm, says finding alternative therapies might benefit animals.

It might also help people who suffer from various forms of the disease. Arthritis affects some 4.5 million Canadians at an estimated cost of $18 billion a year.

“For diseases like osteoarthritis, this is a great opportunity for people with interest in medicinal plants to focus their work. It’s a chronic disease, and we do not have a drug cure,” says Pearson.

Last year, she fed two horses mint containing high amounts of an anti-inflammatory substance called rosmarinic acid (Ros-A). Those animals produced lower levels of pain molecules associated with joint inflammation than two horses eating a control diet. She plans to repeat the study this year with four more animals.
Guelph alumnus and campaign leader sets a gold standard for U of G fundraising

**Believe him when he says he wants to build a better planet**

*When Guelph alumnus Tye Burt* tells you that he wants to build a better planet, you not only believe that he will do it but you’re also inspired to get involved.

There’s just something about him, something so quietly determined, earnest and passionate, that when he speaks of the importance and the shared responsibility of making a difference in the world, you want to be a part of the action.

Of course, those who know Burt as president and chief executive officer of Kinross Gold Corporation or as vice-chair of the University of Guelph’s board of governors are well aware of what generates that aura.

He is a respected and experienced business leader and a builder of boats, corporate teams and multimillion-dollar companies. A captain on the water and in the boardroom, Burt has pretty much conquered everything he has ever set out to do, whether it’s reviving troubled companies or restoring a neglected 47-foot wooden schooner that he first set his sights on as a child.

So when the University launched The BetterPlanet Project, which includes its strategic direction for the future and its most ambitious fundraising campaign in history, Burt was a natural choice to take the helm. The BetterPlanet Project aims to accelerate the pace of discovery at U of G and to raise $200 million to build human capacity, with the promise of using teaching and research to change lives and improve life around the world. It’s a lofty undertaking for any university, anywhere — to say the least.

Add to the mix a philanthropic environment that is still feeling the lingering effects of the global financial crisis. The economic downturn has taken a toll on corporate and individual bank accounts alike, challenging even the most seasoned of fundraisers.

But Burt is confident that The BetterPlanet Project will be a success. Actually, he is more than confident. He is sure of it.

“This is a unique time in history,” he says, adding you only need to scan the headlines of any newspaper on any day as proof. “We have H1N1, listeria, contaminated water, dwindling food supplies, new diseases and oil spills in the ocean. Canada and the world are facing some big problems.”

And U of G is in the unique position of being able to do something about them, he says. The University has excelled in research related to environmental sustainability, public health, food, water and animals for more than 150 years — the very issues at the root of today’s global crises.

“We can provide progressive answers and solutions through research, teaching and the application of research.”

Burt believes that people are eager to get involved and help but often feel overwhelmed and powerless. “We can turn that around and empower people by showing them they can help bring about change.”

The critical turning point is now, he says. “Our generation got us into this, got us to this point. It’s our duty, our obligation, to the next generation and the next next generation to find solutions to the problems we’ve created.”

He feels strongly that it’s the responsibility of every person to contribute in a meaningful way. “It’s not enough to be a part of...
society by paying taxes, by voting. You must be a personal, global citizen.” That’s one of Burt’s core values, something he applies in his work and home life, a notion he has taught his three children — Andrew (18), Annie (16) and Mary (11) — from a young age.

“I have been extremely fortunate in my life. I had a peaceful, happy upbringing, a great education and good fortune in business that led me to a spot where I can give back, and I welcome that opportunity.”

And for Burt, that has always involved the University in some way. He has served on the board of governors since 2006. In 2008, Kinross donated $1 million to U of G to create a new education and research network between Guelph and Brazil to develop environmental initiatives focused on the use and remediation of land and water. Now he’s leading the fundraising initiative for The Better-Planet Project, which will occupy a chunk of his time for the next few years, and has made a personal gift of $1 million to the campaign.

It’s an impressive way to christen the ship that will fund the University’s planetary goals, but a commitment of time and money that this captain is happy to make. “For me, it’s a chance to support a cause that is close to my heart and to help make the world a better place. When I think about giving back to the various causes that helped me gain success, Guelph is at the top of the list.”

Burt’s relationship with U of G started long before he first set foot on the campus in 1975 at age 17. His father, Larry, was a 1953 agriculture graduate and always talked fondly about his years at the Ontario Agricultural College. He ran an apple farm in Greenwood when Tye was young.

“I had a very pastoral upbringing. My grandparents and, for a time, my great-grandparents and our family all lived together in the same house. For the first few years of my school life, I walked to a one-room red brick schoolhouse.”

The family wasn’t wealthy, so everyone helped out on the farm. Vacations were spent camping, boating and enjoying the outdoors. There was an appreciation for skill and craftsmanship, for building and creating.

“I grew up in a community and in a family where the fruits of your labours, literally and metaphorically, had a direct correlation to how hard you worked,” Burt says. “It’s definitely laid the foundation for how

we live our lives today.”

Among his favourite childhood memories was going to the 1967 World Expo in Montreal. He was 10 years old. He and his father pitched a tent nearby the night before they visited. “It was so exciting for me. I didn’t get to travel the world as a kid: well, I travelled the world, but it was via the public library. So I was fascinated by the booths and the expos.”

He was especially intrigued by an exhibit in the Atlantic provinces’ pavilion where a man named David Stevens was building a 47-foot fishing-style wooden schooner called Atlantica. “I watched him for hours while he chiselled away working at his craft. I asked my dad if we could get a boat like that one day, and we joked that maybe we would if we won the lottery. Well, that never happened: the winning the lottery part.”

Decades later, Tye and his wife, Janet, whom he met while playing golf at her father’s golf course in Muskoka, happened across an ad for a boat for sale. They were in Nova Scotia, passing some time before a 2000 wedding reception, and decided to take a look. It turned out to be the Atlantica. “It had peeling paint and a sluggish engine; it needed attention, but it was the very same boat,” he says.

Burt spent two years restoring and rebuilding the neglected vessel. He has the schooner in the water as much as possible and races it several times a year. A couple of years ago he even took the Earl of Wessex out for a sail during a fundraiser for the Duke of Edinburgh’s Award. “Today I think it’s one of the most beautiful boats anywhere in the world.”

Burt’s family moved from Greenwood to “the city” of Port Perry when he was 13. His father took a high school teaching job and Burt discovered his interest in all things sports-related, including sailing, football, skiing and golf. But he never forgot his rural roots. So when it came time for university, U of G was an obvious choice. “The whole agriculture cycle of crops and harvest was familiar to me.”

He moved to Guelph and into Mills Hall with his best friend from high school and quickly fell into a routine of sports, pub life, classes and girlfriends in Macdonald Hall. “My first-year experience was fabulous,” he says with a grin while walking across campus.

He stops near Johnston Green and reminisces: “That’s where many Mills vs. Johnston
Hall games were played... When I came to Guelph it was the first time in my life that I felt I truly had an independent life, that I was an individual.”

No doubt Burt's fond memories of his first year on campus were a factor in making his gift to The BetterPlanet Project. He's supporting the University's first-year seminar programs. Designed to provide an interactive, small-group learning experience, these seminars are all multidisciplinary and have provocative themes. They're taught by some of the University's most innovative and experienced faculty and administrators, who are sharing their specialized research interests.

“Through his gift, Ty has committed to the University’s mandate to educate leaders for a sustainable future,” says Joanne Shoveller, vice-president (alumni affairs and development). “Instinctively, he understands that tomorrow’s leaders must be complex thinkers, be engaged and active and committed to all disciplines when developing plans and solutions.”

When he first came to U of G, Burt started out in engineering. But somewhere in that first year he realized the sciences were not his calling. Instead, he discovered a love of history, reading and primary research, and an unquenchable thirst to know more and more. It lingers today. “I read anything I can get my hands on; I read at least two newspapers a day,” he says, adding that he is also known as a ruthless editor. “My staff wince when they see me approaching, red pen in hand.”

Burt graduated from U of G in 1980 with an honours bachelor of arts degree in history, leaving the campus to his younger sister, Virginia, who studied landscape architecture.

He went on to Osgoode Hall Law School, graduating in 1983 and joining the corporate world, where he found that he was more interested in the legal side of banking than in the goings-on inside a courtroom. He went to work for the brokerage house Burns Fry in 1986 and, in 1997, joined Deutsche Bank, where he created a global mining team. He moved to Barrick Gold Corporation in 2002 and was working as its vice-chair and executive director of corporate development when headhunters came calling three years later, asking if he wanted to head the then-faltering Kinross.

The idea of restoring a smaller, struggling company was appealing to Burt, who seems fond of rescues and challenges. Since then, he has orchestrated what has been called by some as a “stunning turnaround,” positioning the company as a world leader in the mining industry.

Burt says he is propelled by the idea of building, of creating and leading teams. He also has a diehard devotion to the concept that there is always room for improvement. In fact, someone once wrote of Burt that he is motivated by “chronic discontent.”

“I prefer to call it an uncompromising pursuit of ambition,” he says with a laugh. Joking aside, he says it’s critical for any winning organization. “The key is never being content with the status quo; everything you do, you can do better.”

For example, Kinross has an excellent safety record, he says, is one where “every single one of our employees, every single day we are in business, makes it home safely to their families. Until that is our rating, we can do better. That is what we aspire to.”

U of G president Alastair Summerlee says that attitude is part of Burt’s appeal as a leader. “He has a passionate commitment to ensuring that the practices of Kinross are sustainable at every level,” says Summerlee. “He is very intrigued by what the University of Guelph has done, and he absolutely believes that we can do more. He is fascinated by the ability to deal with relative, real-world problems and find solutions.”

Indeed, one of Burt’s favourite business gurus is Jim Collins, the author of books such as Good to Great. The notion is that no matter how “good” you are, it’s not good enough; you must be great. Collins is also an advocate of the “hedgehog concept,” named for how the animal will do the one thing it knows how to do, over and over, when confronted with danger: curl into a prickly ball. All sorts of predators come at it from all angles, but none can break through.

“As an institution, you have to find that one thing that defines you and then decide where you are going and how you are going to get there. Those are the foundational building blocks you need to succeed,” says Burt.

For the University of Guelph, that means focusing on its strengths in food, water, the environment and communities. These are the foundation of The BetterPlanet Project. It also means investing — now and in the future — in great minds and the scientific and creative explorations those minds can generate.

“When you are young and go to university, you have lofty ideas and goals. If you are taught by professors who also have lofty ideas and goals, and they, in turn, inspire other faculty in teaching and research, it spirals upward; it’s viral in a positive way.”

Burt loves the idea of a fundraising campaign that’s built on expertise and ideas rather than bricks and mortar. He may sit in the captain’s chair, but he’s looking to fill many others with talented faculty, building the human capacity needed to achieve the University’s lofty goals.

“I am a builder; I am the guy who constantly has to build, whether it’s a company or a boat. I love leading teams and working on teams. So for me, The BetterPlanet Project is a passion; it’s a way that I can make a difference.”

Devoted to the belief that there is always room for improvement
We can all build a better planet

In a matter of days, the University of Guelph will announce a plan to improve the conditions of your life and the lives of people around the world. Named The BetterPlanet Project, this road map for innovation includes the launch of a $200-million fundraising campaign that will increase the University’s capacity for research and ensure that Guelph students have access to the latest discoveries in their field.

Campaign chair Tye Burt, BA ’80, says The BetterPlanet Project is about mobilizing minds and knowledge in ways that make a difference to address urgent 21st-century challenges. “It’s a strategy that individuals, organizations and business can all support; it will empower people by showing them they can help bring about change.”

The campaign will fund student support programs, infrastructure across the campus and 50 faculty positions, says Joanne Shoveller, vice-president (alumni affairs and development).

“We hope to name 50 chairs by 2014 to honour the 50th anniversary of the establishment of the University of Guelph.

“The scholars and researchers supported by this fundraising campaign will serve a critical function of highlighting and strengthening the University’s key priorities and the chosen directions of The BetterPlanet Project. Strategically positioned in the University’s areas of strength — food, environment, health, community and teaching — they will provide the human assets required to meet our goals and lead Guelph to new levels of academic excellence.”

Retaining and recruiting outstanding professors has a multiplier effect, adds Prof. Maureen Mancuso, vice-president (academic). “Great faculty attract bright students, build robust research programs and provide the best education for those who will ultimately determine Canada’s future directions in research, commerce, industry and social programs.”

In addition, the campaign will seek funding for student support through scholarships, bursaries, travel grants and important learning initiatives to help first-year students move from high school to university and graduating students make a successful first step in their careers.

The BetterPlanet Project campaign will also raise funds to support targeted upgrades to infrastructure, including classroom renovations, athletics facilities, an addition to the engineering building and new buildings for the College of Management and Economics and the Ontario Veterinary College Health Sciences Centre.

Many of these projects are mentioned in this special issue of The Portico, with full details available online: www.thebetterplanetproject.ca.
EVERYTHING IS CONNECTED

The Spirograph is a child’s toy many of us know well. If we work carefully and do not lift our pencil from the paper, we can produce an intricate geometric design. A mathematician sees hypocycloids, an artist colour and shape. But a biologist may see the essence of life, where seemingly separate lines are, in fact, one continuous mark.

The outer points on the adjacent illustration represent U of G’s outstanding faculty, and the coloured lines reach out in cross-disciplinary collaborations that are a U of G hallmark. Each point is connected to every other to symbolize University-wide efforts to foster partnerships and creative research teams that bring the full range of Guelph scholarship to bear on today’s global challenges.

The overall beauty and intricate detail of the Spirograph’s design symbolize the University’s plan to transform the talents of its researchers and scholars into new discoveries that will effect positive and powerful change in our world.

The BetterPlanet Project is a call to action for the University of Guelph community and concerned citizens everywhere to work together to find solutions for a healthy, equitable and sustainable world.

■ It begins with a vision to accelerate Guelph research in areas where the University has the potential to make transformative change.

■ A $200-million fundraising campaign will provide the human assets and the tools required.

■ And a strategy will blend education, research and citizenship to create innovation and develop committed leaders.

At its core, The BetterPlanet Project is about developing the talent of people who study, discover and work at the University of Guelph. It’s about attracting great minds and focusing their work on strategic areas where the University has a history of expertise and the potential to spark positive change in the world.

President Alastair Summerlee points to the cadre of Guelph faculty, staff and students who are already advancing Guelph’s better-planet agenda and describes the University’s desire to fill additional faculty positions with “transformational leaders” who will share their vision and inspire them to achieve even more.

“The chairs funded through The BetterPlanet Project campaign will allow the University to recruit and retain pre-eminent academics and professionals. While recognizing past and potential contributions of the individual, an endowed chair will provide funding to support teaching initiatives, build robust research programs and generate outreach activities.

“These important faculty positions will be made possible through the generosity of donors who believe strongly in the need to support an area of study that will benefit society.”

In the pages that follow, The Portico features 14 young U of G professors whose teaching and research goals are already aligned with Guelph’s mandate to change lives and improve life. Their stories reflect the potential for U of G research to help people around the world improve the quality of their food, the environment they live in, their health and their communities. These 14 faculty display an enthusiasm for learning that speaks to the University’s desire to provide the best education and student experience available in Canada.

The BetterPlanet Project, says Summerlee, will invest in their potential and the potential of students they inspire.
Prof. Vladimir Ladizhansky, Physics, is peering into the atomic heart of matter. What he sees may one day help in understanding and treating such ailments as Alzheimer’s disease and multiple sclerosis (MS).

Physics and medicine may seem worlds apart. But tools such as nuclear magnetic resonance (NMR) imaging used to tease apart the complex makeup of protein and drug molecules bring the Guelph physicist’s field close to human health and medicine. “This is of great interest to the pharmaceutical industry,” says Ladizhansky, holder of the Canada Research Chair in Biophysics.

Not that he expects to work directly with doctors or drug companies. Working a few steps removed from the bedside, he hopes to help improve tools and techniques used to study matter and materials.

Take this pencil, says Ladizhansky. Scientists might employ various tools for probing its inner workings. X-ray diffraction, for example, looks at the telltale patterns of X-rays scattered from a sample. His favoured tool — NMR spectroscopy — uses not X-rays but powerful magnets. Inside the magnet, atomic nuclei in an object like the pencil absorb and release energy, again in characteristic patterns. By measuring distances between nuclei, the instrument tells the researcher something about the sample’s molecular structure.

Looking at a pencil is fairly straightforward. Examining a typically twisted and folded protein poses more challenges. Yet, clearly viewing that 3-D structure is the key to understanding how a biological molecule works.

Several NMR machines already operate at Guelph, including those in the NMR centre in the MacNaughton Building and in the Advanced Analysis Centre located in the science complex.

Ladizhansky says: “We are trying to push the field. We’re working at the edge of what’s possible in molecule size and complexity.”

Which molecules?

Along with Guelph biophysicist Leonid Brown, he’s looking at rhodopsins. These light-sensitive molecules are found in bacteria and fungi, where they help turn light into energy. Studying them will allow the researchers to better understand the organization of molecules, including ones that may be important for medicine.

For about seven years, Ladizhansky has worked with Prof. George Harauz, Molecular and Cellular Biology (MCB). They have used solid-state NMR to study mechanisms in multiple sclerosis, particularly how nerve signals are disrupted in people with the disease. Studying myelin basic proteins — the molecules in the insulating sheath around nerves — is difficult to do with traditional biochemical techniques.

He’s also exploring possible collaborations with MCB Prof. Frances Sharom. She’s interested in transporter molecules in cell membranes that normally pump unwanted substances out of cells. By offering a better look at those mol-

OVC works to improve health

The BetterPlanet campaign will support the revitalization of the Ontario Veterinary College and the creation of the OVC Health Sciences Centre. This centre will extend the role that veterinary medicine plays not only in animal health but in human health. The faculty positions, facilities and infrastructure funded by the campaign will expand OVC’s focus on training future veterinarians, providing treatment for animals, monitoring emerging diseases and engaging in comparative health research.
ecules, Guelph’s NMR equipment might give researchers ideas about how to counter the cellular pump and prevent cancer-fighting drugs from being expelled.

Discussing the use of NMR for studying protein structure, Ladizhansky points to what happens in your mechanic’s garage. “The workings of a car are best understood by taking the car apart and examining its pieces. In the same way, the function of a protein may be better understood by examining its structure.”

Born in Russia, Ladizhansky studied physics in Moscow and completed his PhD at the Weizmann Institute of Science in Israel. After a post-doc at the Massachusetts Institute of Technology, he came to Guelph in 2003.

“I was really fascinated by nature,” says Ladizhansky, who considers himself an experimentalist rather than a theorist. He says he brings tools to help biologists better understand nature and, ideally, to help them correct what goes wrong. “They understand chemistry and biology, and I bring the NMR expertise.”

BY ANDREW VOWLES

Endowed chair a first at OVC

The Department of Clinical Studies is recruiting a new faculty member to lead a unique research program in canine and feline clinical nutrition, thanks to a $3-million commitment from Royal Canin Canada.

“This innovative new faculty position will help us find answers to important questions about how we should feed our cats and dogs,” says OVC dean Elizabeth Stone. “In addition, this gift enables us to start a new graduate program in the area.”

The Royal Canin Veterinary Diet Endowed Chair in Canine and Feline Clinical Nutrition will develop and lead a collaborative research program. The new professor will supervise graduate students and establish a teaching program in the field.

“As a pet-first company, we know this investment will have a beneficial impact on the health of dogs and cats,” said Xavier Unkovic when making the announcement in 2008 as Royal Canin CEO.

U of G president Alastair Summerlee, left, and former Royal Canin CEO Xavier Unkovic.
Three days before the G20 summit in June, about 90 protestors led media and police on a so-called Toxic Tour of Toronto. Compared to the march that followed on the summit’s opening day, this one was peaceful and colourful and received considerable press coverage for its environmental messages, many about oil extraction on land and in deep water.

So did the “toxic tour” affect world leaders gathered for the summit? Or were the protestors just small fish swimming against the currents of global politics?

Guelph geography professor Noella Gray says it depends on how you define success. “Effecting a sea change in international policy is not a one-time effort where the nations of the world listen to the arguments of various environmental groups and then make a decision that everybody adopts. Environmental policy-making has always been an evolutionary process,” she says, whether you’re dealing with a small municipal government or a global summit.

That process is what drives Gray’s research at U of G. She studies conservation efforts to protect biodiversity in the oceans and the impact of those measures on people who use marine resources.

Oceans cover about 70 per cent of the planet’s surface, mostly waters outside national boundaries. “If you have any interest in environmental sustainability, it would be foolish to ignore more than half the planet. Global fisheries are in a state of collapse, and climate change and other broad environmental concerns are directly related to the health of the oceans.

“But how should marine environments be protected? And who wins and loses in the process?”

Gray developed her research interest by studying marine protected areas (MPAs) within the national boundary of Belize, a small Central American country that boasts a barrier reef second in size only to Australia’s Great Barrier Reef.

She spent a year there gathering data on MPAs for a PhD completed at Duke University in North Carolina. Originally from St. Catharines, Ont., she joined the U of G faculty last fall.

MPAs are parks in water instead of on land. There are about 6,000 MPAs in the world, and 14 of them are in Belize.

The level of protection provided to marine life and the rules for people who use the MPAs vary widely around the world, she says. “In some areas, the MPA means no fishing at all. In Belize, many of the MPAs are protecting coral reefs, and the country allows limited fishing and promotes them as tourist destinations for snorkelling and scuba diving.”

Decisions about where these MPAs should be located and the establishment of rules and levels of access are complex political processes, she says.

Gray documented the effectiveness of co-management arrangements in Belize where groups concerned about local fisheries share power with the national government to manage marine areas.

“Co-management works in the sense that multiple interest groups strategize together and see an advantage in staying involved,” she says. “That’s not to say there aren’t contentions and that the process isn’t riddled with conflict.”

She’s interested in how various groups — fishers, government, scientists — use knowledge to try to influence policy decisions, design marine protected areas and determine who can use those areas. Often, the same scientific evidence is used to argue both for and against a policy.

In addition, there are inevitable economic and political concerns. Do the positive environmental impacts of a policy decision — closing a fishery to protect a declining fish population,
for example — outweigh the financial impact on local communities and livelihoods? Are the interests of local fishers more important than the economic benefits of tourism or preserving a national heritage site?

If the 314,000 people in Belize struggle to find a lasting consensus to govern their coastal waters, how can we expect to regulate vast areas of the ocean where there are no national boundaries?

Gray acknowledges there’s an even bigger challenge when industrial fishing, transportation and international defence interests enter the picture. Expanding on her Belize studies, her current research focuses on efforts to establish marine protected areas on the high seas, an example of the evolution of global environmental governance. As part of this work, she’s involved in a collaborative analysis of the Convention on Biological Diversity, a 1993 multilateral environmental agreement intended to preserve biological diversity.

“It’s a legally binding agreement that doesn’t have a lot of teeth but does have considerable influence,” says Gray.

With a group of colleagues, she studies changing governance arrangements related to other topics, such as forest conservation, biofuels, climate change and invasive species. Funded by the National Science Foundation in the United States, they are looking at how these conservation efforts are tied together through international agreements and are comparing how different groups participate and use knowledge to inform decision-making. In particular, they want to know how decisions are made, what the trade-offs are, and how those decisions affect international and national policies.

What’s driving international priorities and strategies, and how do local groups in places like Belize respond to this? Gray explores that question in a paper, “Sea Change: Exploring the International Effort to Promote Marine Protected Areas,” planned for publication this fall.

BY MARY DICKIESON

Bioproduct research in demand

With a cross appointment in the School of Engineering and the Department of Plant Agriculture, Prof. Manju Misra is trying to supplant our petroleum-based economy with more biobased materials. Her lab is located in Guelph’s new Bioproducts Discovery and Development Centre, a hub for research on using agricultural crops to develop novel industrial products from car parts and building materials to fuel.

Misra is interested in “green” nanotechnology, looking closely at materials and their changing properties on the scale of billionths of metres. She’s investigating how to use biomaterials with or instead of oil-based plastics and says there are plenty of research questions in this still-new field.

Unlike polyethylene, which looks and acts the same wherever it’s made, biomaterials still vary in properties and function. “We’re working on chemistry and engineering to reduce this hurdle.”

Alternative materials also need to meet tests of economy, ecology and technology, she says. And sometimes, if being used in packaging, they need to degrade after use.
The dollop of wasabi that sits in your packaged bento box may not be there just to provide an extra kick to your sushi. U of G food scientist Loong-Tak Lim says it also contains allyl isothiocyanate, an antimicrobial compound that extends the shelf life of the sushi by inhibiting bacterial growth.

Wasabi isn’t a great match for most food products, but Lim and PhD student Ana Cristina Lugo, M.Sc. ’09, have developed what they believe is a practical solution that allows allyl isothiocyanate to interact with foods that have medium-to-high moisture content, including packaged bread, produce and fresh pasta.

Allyl isothiocyanate is a colourless organosulfur oil that gives mustard, horseradish and wasabi their pungent flavour. Lim, who completed a Guelph doctoral program in food science in 1999, has developed a method of encapsulating the oil using microfibres that are 500 to 700 times finer than human hair. These “invisible” fibres are spun in Lim’s lab. Unwoven membranes formed from these ultrafine fibres are cut into small patches that can then be attached to the inside of plastic food packaging.

“Conventional packages protect food by passively isolating the product from the surrounding environment,” says Lim, who, before returning to Guelph as a faculty member, managed a prototype project that led to the development of the world’s first plant-based compostable water bottle.

“By contrast, active packages are capable of sensing components of the packaged food and dynamically carrying out an action to enhance the protective function. The patch we’ve created senses the presence of moisture in the package, which triggers the release of the anti-microbial agent that prevents the growth of micro-organisms.”

Lim’s patch is not yet available for commercial purposes, but he sees this innovation as a way for food distributors to improve the shelf life and maintain the quality of their products. The improved stability may allow some products to be shipped by ground transportation instead of air freight, says Lim.

Lim and his team of human “spiders” are also using the electro-spinning process to encapsulate other active food compounds, such as omega-3 fatty acids, folic acid, lutein and polyphenol. Although in the research stage at this point, these compounds — which Lim’s team is trying to stabilize and protect using the microfibre — may one day be added to a whole host of food products as a way to boost their nutritional value.

“We know these micronutrients and nutraceuticals are good for our health, but adding them to our foods can be a challenge. Adding omega-3 to a cookie, for example, would leave an odour, and the fatty acid would be unstable due to oxidation and UV light and heat from processing,” says Lim. “The objective is to use this fibre to encapsulate it and make it more stable, while improving the properties related to colour, odour and taste.”

Some bioactive components are sensitive to the acidity in the stomach, says Lim. By encapsulating them in nanofibres, they are protected from the harsh acidic environment, thereby maintaining their activity when they arrive at the intestine, where they are absorbed by the body. He adds that the encapsulated bioactive components will also pass through the gastrointestinal tract more slowly, potentially allowing them to be absorbed more effectively. And because of their small size, consumers won’t be able to detect them; they won’t affect the sensory properties of the food.
Although adding nanofibre like this might seem a little unusual, it causes no known risk to human health since the fibres are spun from food protein and polysaccharides.

“In food, we have nanosystems already present. DNA is nanomaterial, and some of the proteins in cells are at the nano level,” explains Lim. “We’ve been consuming these things for centuries. The difference now is that the size is incredibly small and compact.”

A third thread of Lim’s research program involves developing soy-based films that can be used to create edible and biodegradable packaging. The key to creating soy plastics for packaging applications is to ensure that they’re strong enough to remain intact on the shelf and that they break down only at the end of their useful life cycle. An important goal of the research is to develop ways to extract cellulose microfibrils, such as pods, husks, stems and leaves, from harvest and process wastes and incorporate them into soy-protein films.

“Most of the packaging material we use today is based on limited, non-renewable resources, such as petroleum, fossil fuel and crude oil,” says Lim. “The production of these plastics can emit carbon dioxide, a greenhouse gas. By using renewable resources like soy, we’re essentially recycling carbon. As a soy plant grows, it fixes atmospheric carbon dioxide.”

Instead of waiting millions of years for new supplies of crude oil, soy supply can be replenished each growing season.

Gift bears fruit

Jingyun Liu, a master’s student from Qingdao, China, is studying tree fruit production in Ontario thanks to a bequest from the late Walter and Laura Scott. The couple, owners of an apple orchard near Lynden, Ont., wanted students to appreciate the importance of rural life and food production. Liu received the annual Scott scholarship for studies with plant agriculture professor Gale Bozzo. They look at pigments called carotenoids and anthocyanins that lend fruits and vegetables their colours and that display antioxidant activity.

Bozzo is studying why stored produce sometimes fades or becomes brown in storage and how to prevent or slow these changes. He says preserving produce in storage will help to maintain healthful food, increase shelf life and attract consumers to locally grown commodities.
H ave you checked Facebook today? Tweeted, updated your location on Foursquare, added photos to Flickr or posted a note to your blog? Maybe, like many people, you’ve done all five. Or maybe, like many others, none of this makes any sense to you.

Whether you understand the tools of social media and how they work in the ever-changing face of global communication or not, they’re here to stay, says media studies professor Mark Lipton.

“As new social media become more prevalent in the lives of young people and in the lives of most people, it’s going to become increasingly important to be more media literate.”

The way people communicate and share information is of great interest to Lipton, who joined U of G in 2004 after studying at Concordia University and New York University (NYU) and teaching at NYU, Vassar College and the University of Toronto. Lipton also taught media in high school and middle school in New York City. He says he wanted to come to Ontario because of its international record for teaching media literacy.

Media education was integrated into Ontario’s curriculum in grades 9 through 12 more than 20 years ago, and a 2006 provincial mandate added it to elementary schools. Nevertheless, Lipton has found Ontario teachers aren’t completely prepared to teach this component, “especially since the elements of any media literacy curriculum are changing as a result of emerging social media.” As new media platforms like Facebook and Twitter surface and become everyday practice, media literacy becomes increasingly important, he says.

With this in mind, Lipton launched mediaeducationproject.ca, a digital learning commons filled with open educational resources for educators who teach kindergarten to Grade 12. Launched in 2007, the site aims to help teachers enhance their teaching by using some of these technologies. So far, the site has logged about 15,000 unique visitors and nearly 140,000 page views.

When Lipton was a child, his media diet included large helpings of books and television. “Both inspired me to think in creative ways. Both inspired my vocabulary, and both inspired me to think critically,” he says. In third grade, he wrote a play, cast his classmates in the roles and directed their performance.

“It was a series of short skits based on my experience watching Sesame Street and Electric Company. I’ve always been inspired by children’s television and still watch it when I can. I think it’s important to be able to talk to young people about what they care about.”

Today, the media menu has moved beyond books and television — and even beyond other staples like radio, magazines and newspapers — to become a smorgasbord of digital music and games, websites and applications for mobile devices like cell phones and iPods.

“This technology isn’t going away. In fact, it’s growing at an unprecedented rate, making it necessary for children and young people to understand how to use these tools, rather than be used by them.”

According to a 2008 Statistics Canada survey, 84.3 per cent of Canadians now have Internet service at home. And a recent study by the Kaiser Family Foundation found that youth ages eight to 18 spend almost 7 ½ hours per day con-
connected to media.

“That’s time they’re spending on the computer, watching television, listening to music and playing video games. Personal media use has almost become a full-time job,” says Lipton.

The study also found that 66 per cent of kids have their own cell phone and spend an average of 33 minutes per day on the phone; students in grades 7 to 12 spend up to 90 minutes a day texting.

“The challenge is for the education system to leverage these media to create relevant learning experiences that mirror students’ daily lives and the reality of their futures.”

His research findings suggest that one of the main barriers to technology implementation in Ontario classrooms is rooted in teaching philosophies that favour traditional methods of instruction; responsibilities that put a single teacher in a classroom of students who each have different needs, abilities and learning styles; and a lack of administrative support from the schools and school boards.

While these factors contribute to a slow-moving change in the delivery of education, Lipton says the main hindrance is rooted elsewhere.

“The number one reason why media literacy is so broad and unstructured in Ontario classrooms has to do with technical competence. There’s a huge range of understanding among teachers.”

He says previous research indicated this range of understanding was linked to things like the age of a teacher and whether he or she worked in a rural or urban setting. “I haven’t found this to be true at all,” he says. “It has more to do with a teacher’s access to and competence with today’s educational tools and the teacher’s philosophical approach to teaching media literacy.

“Teachers need to be rewarded for risk-taking and know what’s available in terms of free resources. If we aren’t engaging kids in discussion surrounding technology and social media, then we’re missing a real opportunity.”

By Rebecca Kendall

The first year is all-important

When Gavin Armstrong enrolled in U of G’s marketing management program, he had little interest in student politics and thought that business was all about making money. That changed when he signed up for a first-year seminar course.

“Fired up” by the lively interaction between the roughly dozen students and the professor in a discussion-based course on politics, science and the environment, Armstrong immediately began to get involved. Four years later, he won the University’s R.P. Gilmor Award for student leadership.

His experience illustrates why campaign chair Tye Burt chose to support the first-year seminar program with a $1-million gift to The Better-Planet Project. The small seminar classes encourage problem-based learning and foster student engagement. Faculty bring their research interests into the undergraduate classroom and link student learning to those life-changing efforts.

“Business can have an environmental side, a scientific side and a political side to it. Guelph isn’t training leaders for today. It’s training leaders for tomorrow,” says Armstrong. “Sustainability is where the future is.”
"I wanted to understand the causes of violence... and the solutions."

When I was a graduate student, I was involved in evaluating a pilot project,” says Prof. Myrna Dawson, Sociology and Anthropology. “But before we finished the evaluation, it was being replicated in other communities. I find that very frustrating. We’re in an environment where there is a lot of demand and few resources for tackling the problems of violence, and we need to take a step back from just throwing money at this and that.”

Dawson is passionate about the importance of doing good research and assessment, and she’s equally passionate about the serious issue of violence in Canada.

As a young newspaper reporter working in New Brunswick, she was assigned to cover stories of crime, abuse and even a murder trial. “There were a lot of problems related to poverty and unemployment in the community.” She found the stories of violence and abuse hard to take at times, but they also sparked her interest in digging deeper.

“As a reporter, you don’t get to delve into issues, you typically only see the surface,” she says. “When I decided to go back to school, I knew that I wanted to understand more about the causes of violence — and the solutions.”

After working for six years as a journalist, Dawson enrolled in an undergraduate program at York University, then master’s and PhD programs in sociology at the University of Toronto. As a graduate student in the mid-1990s, she became involved in a project reviewing all the cases in Ontario where women were killed from 1974 to 1994.

“It soon became apparent that most of these women had been killed by their intimate partners,” she says. Her later research showed that those who kill intimate partners tend to get lighter sentences than those convicted in other homicide cases. But she also noted a 30-year trend suggesting the court system was beginning to take “domestic violence” cases more seriously.

The court system, though, is just one small part of the community’s response to violence. “Canada has actually been pretty progressive when it comes to domestic violence,” Dawson says, “but we haven’t had the data to examine what’s really effective. There’s an assumption that communities with plenty of shelter beds, support groups for women, programs for men and so on will have lower rates of violence. But we don’t have the data to show this.

Through her involvement in the Ontario Domestic Violence Death Review Committee and the Canadian Observatory on the Justice System’s Response to Intimate Partner Violence, Dawson has been able to connect with others

COA provides insight, understanding

U of G boasts a long history of providing an excellent liberal arts education and relies today on the College of Arts to enrich the campus and provide insight for the University’s mission to understand life. The college strives to develop creativity of all kinds and provide students with a critical understanding of the human condition. The BetterPlanet Project campaign will advance its programs in creative practice and the humanities and support efforts to build bridges to other areas of knowledge within the University.
working in this field. And this summer, she published a book, *Violence Against Women in Canada: Research and Policy Perspectives*, with Holly John-son of the University of Ottawa.

“The Domestic Violence Death Review Committee — the only one of its kind in Cana-da — reviews cases of people who were killed in domestic-related homicides,” explains Daw-son. “We make recommendations that come out of the actual circumstances of these deaths, with the goal of preventing them in the future.” By studying these cases, the committee has identi-fied common risk factors. For example, many of these homicides happen at the time the couple is breaking up or separating.

“People often ask ‘Why doesn’t she just leave?’ when they look at domestic violence,” says Daw-son. “Well, this is one reason why. It can be dangerous. We need to help women leave safely.”

It’s clear that improvements are needed: “We are focused on the crisis model, so we respond to the crisis, which we need to do, but that doesn’t end things for the woman. She needs a long-term solution that includes housing, maybe more edu-cation and more financial stability. And we need to look at prevention by teaching children and young people how to have positive relationships.”

Dawson holds a Canada Research Chair in criminal justice, which enabled her to host a workshop with 50 people from across Canada. They spent two days last November developing a plan to document the resources available to women across the country. Knowing where resources are available and for whom is a necessary first step before we can examine their role in preventing violence, says Dawson. One of her goals is to be sure that the women who use the resources are also included in the research process.

Dawson and her colleagues will use GIS (Geographic Information System) technology to map the resources all across Canada; the result will visually demonstrate the disparities. “We want to examine what resources are enough, the min-imum threshold of adequate provision,” she says.

For those who deal with violence or the threat of violence in their homes or in their rela-tionships, Dawson’s research has the potential to bring them hope and to open a door that leads them to a safer future.

**Student writer looks at real life**

Kilby Smith-McGregor, a student in U of G’s MFA pro-gram in creative writing, won the 2010 RBC Bronwen Wallace Award for Emerging Writers.

Her short story *The Bird in the Hand* deals with a father/daughter relationship in what the judges described as “a beautifully crafted story that deftly sug-gests a world and a life beyond its few pages.”

Administered by the Writers’ Trust of Canada, the annual award honours poets and short story writers under 35. Smith-McGregor has published in the literary jour-nals *Brick*, the *Dublin Quar-terly* and *Cyclops Review*. Her story was selected for the Bronwen Wallace Award from among 132 submis-sions. The award was established in 1994 by friends of Wallace, a writer who died in 1989. The $5,000 prize is supported by the RBC Foundation through its Emerging Artists Project.

BY TERESA PITMAN
Food and exercise balanced one another off in an unusual way for David Mutch on his first day at a new school in Oakville, Ont. The teacher had asked the Grade 3 students to name their favourite foods. Hot dogs and hamburgers were standard fare for many. Then came the new kid.

“I said escargot,” recalls Mutch, whose francophone mom had stressed family meals and a broad palate. He laughs as he parodies the wide-eyed reaction in the classroom: “The new guy eats snails.” Pause.“Good thing I played soccer.”

His latest move brought him to Guelph in early 2009 as a faculty member in the Department of Human Health and Nutritional Sciences (HHNS). This time, he’s brought interests in nutrigenomics to the table.

Understanding interactions between genes and nutrition to ward off a growing health problem is his research interest. “Can we use diet to prevent or treat obesity?”

The answer is still unclear, but Mutch says the work shows promise. He’s been equipping a nutrigenomics lab in the Animal Science and Nutrition Building to look at how dietary fatty acids interact with genes and the resultant effects on production and secretion of proteins and small molecules from fat tissue.

His work involves studying genetic data, metabolomics, nutrition and bioinformatics. Other HHNS members — notably Profs. David Ma, Marica Bakovic and Lindsay Robinson — work on related aspects.

“By studying genes, proteins and metabolites, we can cover the entire pipeline of biological complexity,” says Mutch, adding that he also expects to benefit from clinical trials at Guelph’s recently expanded Human Nutraceutical Research Unit. He believes the results of those trials will eventually reach family doctors and other health practitioners, improving their advice and treatment of obese and overweight patients. Almost one-quarter of adult Canadians are obese, based on a body mass index (BMI) of 30 or higher, according to Statistics Canada. Another 36 per cent, or about 8.6 million people, are overweight.

The idea is to design diets with nutritional content tailored to suit an individual. “This is the dream,” says Mutch, who’s been working on developing ties with local health professionals for joint studies. He’s also reached across Gordon Street to establish a seemingly unlikely connection with members of the Department of Mathematics and Statistics.

Studies such as his generate mounds of data. Making sense of that information is a treat for statisticians like Prof. Paul McNicholas, who refines statistical models used to explain patterns in information. Their meeting place is bioinformatics, the crossover between life sciences and statistics that also underlies the University’s new bioinformatics graduate programs. Bioinformatics involves using computing, math and stats tools to make sense of biological data.

They’ve begun bioinformatics collaborations through grad students appointed to their respective departments. This fall will also bring the first master’s student to be jointly supervised by both professors. That student will help to generate and analyze data to distinguish the global effects of dietary fatty acids on fat metabolism. That work will require her to develop algorithms and apply statistical methods to identify those kinds of differences.

Mutch and McNicholas have also advertised to together for another cross-appointed grad student to develop a user-friendly website that analyzes gene expression data and enables researchers to predict protein function.
Mutch returned to Canada in 2009 to take up his new position at Guelph. For the previous decade, he’d worked mostly in Europe. For three years at the National Institute of Health and Medical Research in Paris, he used genomics and metabolite profiling technologies to see how dietary and surgical weight reduction affects the biology of fat cells.

He went to Paris after a short post-doc spent at the Scripps Research Institute in San Diego. That’s where he developed an interest in metabolomics, or studying all small molecules at the same time.

Earlier, he had completed a PhD at the University of Lausanne while working at the Nestlé Research Centre in Switzerland. He’d arrived there for an intended six-month stay after completing his undergraduate degree at Queen’s University. Six months became a six-year immersion, learning about diet-gene interactions and how nutrition can affect health.

While in Paris, he was also a key player in a European project called DiOGenes, or Diet, Obesity and Genes. This initiative involved groups across the continent studying the connections among diet, genes and obesity. A key question for Mutch and his post-doc mentor, Karine Clement, was whether researchers could use genetic information alone to predict which subjects would lose weight on certain diets.

Well-intended initiatives such as Barack Obama’s Feed the Future efforts will not end the world’s food crisis, according to Evan Fraser, a new U of G geography professor and agricultural expert.

His research looks at how and why human culture depends on food, what happens when a culture runs out of it and future prospects.

Fraser says the U.S. president’s plan and those of others focus on struggling countries’ reliance on crop specialization and export.

“He’s a dangerous strategy,” he says, adding that over-specialization damages land, producing poorer harvests. “Then the food is exported, taken out of the regions where it is needed most. Essentially, it means you feed the rich, and the people who are starving starve faster. History has shown us this over and over again.”

He also says current environmental damage reflects past practices. “The lessons of history cannot be avoided. We’ve created an extremely inefficient and highly fragile monoculture, and we have more people than we have food.”
Zoonotic diseases aren’t the only thing that’s spreading. Pathobiology professor Scott Weese in the Ontario Veterinary College (OVC) says the Worms and Germs blog that he and a colleague began two years ago has caught on with online readers around the world (www.wormsandgermsblog.com/). With more than 2,000 hits a day, they’re on track to reach one million visitors a year. Seems people can’t learn enough about infections that may travel between people and their animals.

“A lot of people are asking questions and looking for information, but at the same time, many people don’t understand the concerns involved or are incorrectly blaming animals for infectious situations,” says Weese, named in 2009 as the Canada Research Chair in Zoonotic Diseases. “This blog is set up to both provide correct information and clear up misconceptions.”

It’s also intended to keep readers clicking and to stimulate discussion, rather than rely on the static, one-way flow that is the hallmark of conventional disease information sheets on many websites.

Zoonotic diseases and companion animals such as dogs, cats, horses and household critters like gerbils and hamsters are the focus of the blogs. But the site also includes a section with information sheets on varied topics and room for readers to write in with their questions.

All of the blogs and information sheets on the web page are created with help from veterinarians, physicians and public health personnel and researchers. Weese writes most of the entries, posting something every day or two. He works on the site with Maureen Anderson, a DVM and D.V.Sc. graduate of OVC who is now studying infection control with Weese for a PhD.

“We felt there was a need for more accessible, comprehensive and accurate information about zoonotic diseases,” says Weese, adding that more than 70 per cent of new infectious diseases that threaten human health can be transmitted from animals to people.

Underlining that point, he recently met one physician eager to share the blog with colleagues at a major American teaching hospital. He knows veterinarians who direct their clients to the site or share printed copies of blog posts. Small-animal vets themselves often download infection control guidelines available on the site sponsored by the Canadian Committee on Antibiotic Resistance. “We’re getting good information out there.”

Service animals, vitamin D, dog tuberculosis, game meat: there’s been no shortage of topics to write about in hundreds of posts during the past two years. “MRSA is a big one,” he says, referring to the drug-resistant “superbug” methicillin-resistant Staphylococcus aureus (MRSA).

That’s a topic close to his research heart. In 2007, he was part of a team that found pigs can carry the bug and readily pass it to humans even...
with limited contact. Earlier, Weese and others had found MRSA in domesticated animals such as dogs, cats and horses, and determined it could pass between animals and humans.

In another project, he and a colleague learned that therapy dogs visiting hospitals and nursing homes may be able to transmit diseases to people even if the animals themselves are germ-free. They found that dogs can pick up *Clostridium difficile* and the MRSA bacteria while visiting hospitals and nursing homes, which could then pose a risk to the next person who pets or interacts with the animal.

“At the end of the day, if people wash their hands before and after petting the animal, the risks of disease transmission in a hospital are likely minimal,” says Weese, who belongs to U of G’s Centre for Public Health and Zoonoses at OVC. That unit links researchers and agencies involved in addressing new or re-emerging diseases such as bird flu, SARS, *E. coli* 0157:H7 and West Nile virus. The goal is to prevent and control emerging animal-related diseases that threaten public health.

Weese has also worked with University of Guelph chemist Mario Monteiro on studies intended to develop a vaccine for people and animals against *Clostridium difficile*. They hope to develop a sugar-based vaccine against the bacterium, which has sickened and killed people in hospitals and nursing homes across Canada and has threatened various animal species.

Back to Worms and Germs, Weese stresses that the site is for education and information, not a place for people to go seeking specific medical advice for their pets. “We are not a health-care site, although we do address issues of general importance and interest that relate to the safety and health of pets.”

Weese and Anderson are also getting about 20,000 hits each month for a companion site called EquIDblog (www.equidblog.com/) about infectious diseases in horses.

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**Exercise before fatty meal**

Prof. Lindsay Robinson and PhD student Mark Dekker of the Department of Human Health and Nutritional Sciences have discovered that exercising the day before you plan to eat a high-fat meal can help reduce negative effects of fatty foods.

“Lipids in the blood will typically rise and stay elevated for hours after ingesting a high-fat meal, which is a risk factor for cardiovascular disease,” says Robinson. “A lot of people take medication to lower their lipid levels, and these drugs are very effective. But we have shown that any type of exercise, even walking the dog, can also be very effective.”

The study, published in the *Journal of Nutritional Biochemistry*, involved overweight men between 40 and 70 with high blood lipid levels and relatively high risk of heart disease.

A day before drinking a “fat cocktail” developed by the Guelph researchers, participants either exercised on a treadmill for an hour or remained sedentary. Even low-level exercise reduced lipid levels by 30 per cent.
They don’t look like much, resting at the bottom of a water-filled plastic pail like discarded lengths of grey-brown garden hose. But there’s more to those hagfish than that, says U of G biologist Doug Fudge.

Provoke those garden hoses and they’ll produce a bucketful of gelatinous goop designed to ward off predators. In his science complex lab, Fudge and his collaborators are studying the mechanical properties of the slime for possible applications in everything from human health to structural mechanics.

He cautions that any possible applications are a long way off. But this is where innovation starts, he says — with those unassuming-looking creatures and the scientist’s curiosity.

For Fudge, that curiosity was sparked while he was studying biology at Cornell University in the early 1990s. That’s where he became acquainted with hagfish, a cousin of lampreys that oozes copious amounts of slime within seconds. Hagfish secrete the viscous stuff through glands running down both sides of their tubelike bodies. See it happen once and you won’t forget it, he says: “I’ve never seen anyone who’s not impressed.”

Slime is believed to gum up predators’ respiratory systems, effectively choking them. In one PhD experiment at the University of British Columbia, Fudge and other researchers used a fish head model to show how water flowing over slimed-up gills slowed to a trickle.

Since then, he’s been learning more about how the creatures produce slime and just what the material is made of. Earlier this year, that work was the subject of two papers published by Fudge and his Guelph collaborators in the Journal of Experimental Biology.

Mixing and mucous are key. Lab tests at Guelph found that slime largely consists of coiled bundles — or skeins — of protein fibres along with vesicles containing mucous. Mixing the vesicles in water makes the mucous strands stretch, in turn causing the skeins to rapidly unravel in what he calls a “magical transition” and trap large volumes of seawater.

But you need more than water. In the creatures’ marine home on the Atlantic or Pacific coast, it’s the agitation of the mixing that causes the thread skeins to uncoil and attract the mucous released from ruptured vesicles. In his lab, Fudge and undergrad student Tim Winegard made special glass chambers and used fluorescent dyes to capture the action under the microscope.

Fudge believes there may be a way to mimic the process in certain industrial applications involving transmission of hydrodynamic forces on a small scale.

In 2005, he and his UBC collaborators were awarded a patent for making silk-like fibres using intermediate filaments like the ones in hagfish slime. Their goal is to produce ultra-light fibres with the strength of steel.

Fudge published a second paper this year that describes the contents of the slime, particularly large amounts of methylamines as well as various ions. The researchers had thought that the methylamines helped to stabilize the mucous vesicles inside the slime glands. The same substance helps sharks prevent loss of body fluids to seawater.

“We expected to see methylamines were good at preventing vesicle rupture,” says Fudge, who worked with Julia Herr, a 2009 Guelph graduate now working on her master’s degree in his biomaterials lab. But more tests in special chambers found that these organic compounds failed to stop vesicles from bursting. “That was really surprising to us; we still don’t understand it.”

He thinks the chemical environment or
hydrostatic pressure inside the mucous glands might help stabilize the vesicles.

This is basic research, says Fudge, but it could have medical applications. Slime threads are an example of cell filaments not unlike those found in virtually all animal cells. In humans, filament proteins are involved in a skin-blistering disease as well as development of eye cataracts.

Hagfish would have been the last thing on Fudge’s mind when he was growing up and fishing for bluefin tuna with his father off the coast of Maine. During his late teens, he crewed for a summer on a whale-watching boat in Massachusetts, where he regularly spotted humpbacks, finbacks and minke.

He got excited about hagfish during his first stint as an undergraduate working at the Shoals Marine Laboratory, located among the Isles of Shoals off the coast of Maine.

“I fell in love with the place,” says Fudge, describing the island’s gull rookery and the menagerie of creatures living in its intertidal zone. He still visits there in the summer to teach a science methods course. “The biology of the site is incredible. It really is natural selection right in front of your eyes.”

He’s looked at related filaments in other sea creatures. In another paper published this year, he and 2009 master’s grad Lawrence Szewciw studied the keratin-based feeding filter in baleen whales. Their work with Guelph physicist Diane de Kerckhove, an expert in using proton micro-probes for examining small-scale structures, helped to solve a mystery about how whales immersed in seawater can stiffen keratin, a process that normally requires air-drying to harden into nail, hair, horn and other structures in land animals.

In June, U of G opened the first phase of a new centre to help ensure safe and sustainable groundwater supplies that is intended to become one of the most advanced bedrock aquifer research facilities in North America.

The Bedrock Aquifer Field Facility will be overseen by U of G engineering professor and groundwater expert Beth Parker.

Researchers will study everything from how contaminants travel through groundwater in fractured rock and how they affect well-water supplies to whether they can be easily removed or destroyed underground.

“What we learn here will help advance our understanding of entire urban water systems in Canada and around the world,” Parker said.

The Guelph water system will be a “living laboratory” with a network of wells that will allow researchers to investigate the bedrock aquifer and overlying soils year-round. It will provide students with excellent opportunities for hands-on learning and foster interdisciplinary research and collaborations.
Think of it as the Facebook of Renaissance Italy. Without the Internet, social networking was tougher in the 1500s, but Vincenzo Gonzaga, Duke of Mantua from 1587 to 1613, found a way. He called it his “gallery of beauty.”

It was a collection of more than 30 painted portraits of women from across Europe. He even hired his own artists and commissioned them to travel to other countries to paint the portraits of those he wanted to include. Other aristocrats followed suit and created their own galleries.

Art history professor Sally Hickson says these galleries show that social networking is not as new as we might imagine. It seems to have been popular among the wealthy in Renaissance Italy, although in a rather different form. As she explains: “Women wanted to be included in these galleries, and for both the women and the gallery owners, it was about who had the most friends and was the most popular. Yes, just like Facebook.”

Women in the gallery were not included only because of physical beauty, although Hickson points out that beauty, especially female beauty, was very important during this time period. Many were chosen because they were married or related to powerful men of the time, she speculates.

“Women also exchanged portraits with each other,” she adds. In a time when travel was slow and often difficult, these paintings and the letters they mailed helped them keep in touch and expand their social networks.

As an art historian, Hickson studies not only the works of art created during this time period, but also the ways in which art was used in people’s daily lives. Often, art adds beauty and style to people’s homes, but these collections of individual portraits suggest another way that art helped to create connections between people.

Gonzaga, she points out, was networking with important people across Europe by sending the artists out to paint portraits. “It would be very flattering to be asked to sit for a portrait to be included in his gallery of beauty.” (Certainly it’s several notches above being asked to be someone’s Facebook friend, but the idea is the same.) There might also be a chilling effect on the status of someone who was not invited to be included in the collection.

Gonzaga, of course, had additional motivation: he could elevate his own social status by inviting people in to see the gallery and be impressed by all the elegant and well-connected women he knew.

While studying these portrait collections, Hickson learned about a manuscript owned by Francis I of France, who ruled several decades before Vincenzo Gonzaga’s time. The manuscript consisted of small painted portraits of women from the Italian city of Milan which had been recently taken over by France. Each portrait was hidden by a little flap of paper with a poem about the woman that was written on the outside. The portrait subjects were classified in the manuscript as widows, wives and maidens.

Hickson believes this may have been used in some kind of parlour game, where people might read the poem and guess who the woman was before lifting up the flap. “They were all women...”
from important families in Milan,” she adds. “I think there may have been an element of control and possession there as well.” Women had an important role in the functioning of the court and the community, and would have been involved in the games and discussion.

Portable portrait galleries existed as well, even though this was long before the day of the iPhone. Hickson found that the Italian soldiers going to war in France brought with them picture books with portraits of the most beautiful and desirable French prostitutes.

Hickson says she discovered these Renaissance approaches to social networking because she’s nosy: “I like to poke around through old letters and correspondence.”

In fact, one of her undergraduate professors at Carleton University pointed out that knowing Italian gave her access to documents that other art history majors wouldn’t be able to read. Prof. Clifford Brown taught her how to understand the Italian archives, and “the rest, as they say, is history.”

Hickson points out: “Old Italian isn’t the same as modern Italian, and there are many different dialects, so reading these old documents isn’t easy.”

She went on to earn a master’s degree in art history at Queen’s University, then worked in Montreal at the Canadian Centre for Architecture, before returning to Queen’s to complete her PhD. She joined the U of G faculty in 2006.

Hickson’s research has centred on the small Italian town of Mantua, but she also visits regularly the cities of Venice, Florence and Milan — to embrace the culture, food and, of course, the work produced by some of the world’s most influential artists over centuries of time.

BY TERESA PITMAN

Athletics is vital to a university

Winnipegger Eric Vanderwey just began his fourth year at Guelph, studying physical sciences and playing men’s volleyball. In 2007, the six-foot-five outside hitter was one of the most heavily recruited volleyball players in the country. The offer of an athletic scholarship convinced him to enrol at U of G.

Vanderwey’s scholarship was funded by a donation from Larry Pearson, a retired automotive executive and 1972 U of G mathematics graduate. Pearson gave $1.1 million to the University to enhance athletic facilities and fund scholarships. A former Gryphon player and now an assistant coach, he says the gift recognizes the importance of sports in his life.

Athletics director Tom Kendall hopes other donors to the BetterPlanet campaign will follow Pearson’s lead by supporting scholarships for varsity athletes and helping to update campus facilities used by all Guelph students.

“‘It’s vital for universities to pursue excellence in athletics, just as in academics and research,” says Kendall.

“Today we understand more than ever the lifelong benefits that sport delivers, not just for varsity athletes but for all our students.”
Henry Ford once said, in the days of the Model T, that potential buyers could have a car in any colour they wanted, as long as it was black. Those days are long gone. Not only do today’s consumers want their cars in a rainbow of colour choices, but they’re looking for customization of other details as well.

“This is also true in many other industries,” says Prof. Fantahun Defersha, Engineering. “In many cases, it’s no longer possible to manufacture in large quantities because customers want things done to their own specifications.”

That means manufacturers have to be able to customize various parts of their products, something not easily accomplished on the standard assembly lines of the past.

To meet the demands, companies need a system that’s both efficient and flexible, says Defersha, and that’s at the heart of his research. “I study system design; using computer models to help manufacturers make systems that can be easily reconfigured when needed and avoid bottlenecks and other problems that reduce efficiency.”

He’s sharing that knowledge with U of G students in a new mechanical engineering degree program started last fall. A multi-phase expansion of the school’s facilities will help to accommodate the new program.

“It’s not like the classical mechanical engineering programs,” he says. “There’s much more emphasis on the things currently important to industry. It incorporates manufacturing systems design and analysis and quality management. Another emphasis is energy management. We are running out of energy and fossil fuels, so the program teaches about the generation and distribution of renewable energy and how to be more economical and sustainable in energy use.” The program includes aspects of mechatronics, a new approach to engineering that includes mechanics, electronics and computing as elements that are combined to create better systems.

Environmental awareness is also part of Defersha’s work in systems design. “I teach students to design systems to allow for reuse of components at the end of their usefulness, making the products easy to disassemble so that parts can be used elsewhere,” he explains. State-of-the-art computer modelling programs are available for students to use in the design process of products and manufacturing systems.

Defersha says Guelph is an ideal location for this new engineering program and for his research because the city is central to many manufacturing companies. In the first year, he’s made connections with local industries and hopes to expand those partnerships to provide both research and learning opportunities for his students. He says he feels good about helping to prepare the high-quality engineers these companies need.

“When I teach engineering drawing in first year, the students don’t even know how to use the simplest instruments. Yet after just a few
semesters they are doing complicated assembly drawings of machines. It makes me happy to see that progress and to know I’ve contributed to it.

“As the students gain knowledge and ability, I feel that I’m helping society by supplying people who can energize the field of engineering, design and science with what they’ve learned.”

Defersha grew up in Ethiopia and obtained an undergraduate degree in mechanical engineering at Addis Ababa University. He then lectured at the university for three years before heading to India to do a master’s degree at Roorkee University. After returning to Ethiopia, he lectured at Addis Ababa for another two years.

By 2002, he had decided to do a doctorate and was influenced by a friend who was studying at Concordia University. Defersha and his family ended up moving to Montreal.

“The weather was a big change for us,” he admits. “In Addis Ababa, the weather is mild all the time. It never gets really hot or really cold. Canada has been quite different.”

After completing his PhD, Defersha worked as a research associate at Concordia for three years before coming to U of G in 2009. He’s continuing his research into systems processes, using simulations, mathematical modelling and related techniques. “It’s about how machines are configured, how operators are assigned — that kind of thing — to yield the most efficient results.”

He’s also moving into a new area of research, designing machines to be more easily reconfigured as needed. The principles of design and systems organization are the same in any manufacturing process, he adds.

Away from the classroom and the lab, Defersha devotes most of his time to his family — he’s married, with two young children — and his spiritual life. “Playing with my children is what makes me happy,” he says. “We all have a child inside us who needs to play.”
The patient slowly lifts her massive head — eyes drooping, jowls drooling — and drowsily greets the doctor who is checking in with the technicians while they prep for surgery. She’s in good spirits, if a bit worn out from an early-morning workout in a nearby laboratory.

There, she lumbered back and forth across a force plate embedded in the floor and wired to analyze her gait. Soon, doctors will implant a 20-centimetre-long stainless steel plate in her leg to prevent fractures in a bone ravaged by cancer and weakened by radiation treatments.

The surgery comes two weeks after she received an innovative chemotherapy procedure in which specialists use real-time X-rays to guide a catheter through an artery to deliver the chemotherapy agent directly to the tumour. The blood vessels feeding the tumour were blocked with tiny embolic beads to starve the cancer of nutrients.

The patient is Carney, an 82-kilogram St. Bernard from New York. The doctor is Sarah Boston, a veterinary cancer surgeon in the Department of Clinical Studies.

“Carney is doing much better than we expected,” Boston says two weeks later. “In less than a month, the tumour has shrunk from a massive lump to an almost normal-looking leg.”

The results are promising, but it’s early days yet. “Our biggest fear in this case is pathological fracture because the bone has been weakened by the tumour. That is why we are following up the chemoembolization with surgery.”

Carney is the first of Boston’s patients to undergo transcatheter arterial chemoembolization (TACE), a minimally invasive procedure used extensively in human medicine for palliative treatment of liver cancer. It’s also the first time the procedure has been reported anywhere in a case of canine osteosarcoma like Carney’s.

“Surgical oncology is an exciting, dynamic field where we are constantly pushing the boundaries,” says Boston. “You have to be creative because every case is different; every tumour is different and requires a different approach. Plus, our clients are extraordinarily dedicated to their pets. Many of them aren’t willing to accept that there are no options left for their sick animals, and they encourage us to try new approaches.”

Boston was able to provide Carney’s owners with the TACE option thanks to the Ontario Veterinary College (OVC) Arthur Willis Visiting Professorship, which made it possible for her to study the technique and receive hands-on training at the non-profit Animal Medical Center in New York. Boston’s goal is to perfect the procedure and apply it to treating other common types of inoperable cancer in cats and dogs.

It was the opportunity to be on the leading edge of veterinary medicine that lured Boston back to Guelph in 2007 for the third time in her young career. After an internship (1997) and a D.V.Sc. residency (2004) at OVC, she spent a year at Colorado State University, the world’s largest treatment centre for animals with cancer. There she became one of only a few dozen veterinarians in the world to complete a post-doctoral fellowship in surgical oncology. She was a visiting professor at Massey University in New Zealand, followed by private practice in Calgary where she helped to develop a veterinary cancer centre. Now back at U of G, she is playing a key role in developing the OVC Animal Cancer Centre.

“I absolutely love what I’m doing. Private practice would be much more lucrative than an academic career, but being able to combine clinical practice with teaching and research gives me the best of both worlds,” says Boston.

She is living a dream that began as a child
growing up in Canmore, Alta., and continued at the University of Saskatchewan’s Western College of Veterinary Medicine. Her specialization in surgical oncology makes her a unique asset for OVC and puts her in demand as a speaker and instructor at veterinary schools and conferences across North America, the Caribbean and Europe.

Boston is helping to develop Canada’s first comprehensive animal cancer centre, the clinical arm of OVC’s Institute for Comparative Cancer Investigation (ICCI). Established in 2007, ICCI broadens the scope of cancer studies by combining U of G expertise in basic cancer biology and veterinary medicine with research in a variety of disciplines, from basic science to mathematics to psychology.

Companion animals, especially dogs, develop cancers that are biologically and clinically similar to those in humans. The bone cancer that commonly afflicts large-breed dogs like Carney is virtually identical to the disease that struck down Canadian icon Terry Fox. The limb-sparing surgery that has become an increasingly common alternative to amputation in human bone cancer cases was first developed in dogs.

“A lot of what we do translates directly to the human side, and vice versa,” says Boston.

That’s why the $20-million campaign to support the Animal Cancer Centre is so important to the overall redevelopment of the OVC Health Sciences Centre. Besides providing clients with leading-edge diagnostics and therapies for sick pets, she says, it will be a training ground for future cancer specialists and advance understanding of cancer through applied research and clinical trials.

“Treating cancer is a team effort,” says Boston. “Every discipline has a role to play and we need all the tools available to provide the highest standard of care for our patients and contribute to the fight against this disease.”

BY BARRY GUNN

OVC opens new health-care centre

A $5-million commitment from Hill’s Pet Nutrition Canada has helped to launch a new teaching and learning centre at the Ontario Veterinary College (OVC). The Hill’s Pet Nutrition Primary Health-care Centre opened June 8 as a full-service veterinary hospital managed by students under the supervision of college veterinarians and technicians.

“This is the future of veterinary medicine,” says OVC dean Elizabeth Stone. “The relationship between people and their pets is significant, and primary health care must recognize and enhance this bond. Our students will learn to evaluate their patients as part of a family and to enhance the lines of communication between health-care provider and pet owner.”

The Ontario Ministry of Training, Colleges and Universities provided $9.5 million for OVC’s overall redevelopment.

The Hill’s centre integrates preventive and general medicine with nutrition, behaviour, public health, citizenship, rehabilitation, communication and animal welfare. Students will see about 200 patients during their four-year doctor of veterinary medicine program.
If we eat one bite at a time, improving prospects for feeding the developing world also works one step at a time. That’s the idea behind a charitable organization run by a Guelph plant scientist who aims to turn up simple but workable ideas and tools to help poor people around the world.

Plant agriculture professor Manish Raizada began the initiative in 2008 to enlist his Guelph students in the fight against poverty and hunger. In one of his courses that year, he challenged students to find a candidate for the inaugural Raizada Prize — $1,000 or more to help support a small, inexpensive idea that might help to feed the world.

“Young people have good ideas, and we don’t harvest them enough,” says the faculty member. “I’m so excited about this.”

The 2009 prize went to an American firm whose products — from 10-kilogram grain sacks to 5,000-tonne plastic bunkers — allow individual farmers or co-ops in developing nations to store grains, food and feed. Lacking equipment to store grain properly, people in developing countries can lose half or more of their yearly harvest to pests and disease spoiling. (In this year’s twist, the Guelph professor asked guests to his wedding this summer to offer “gifts” to three charities, including the Raizada Prize.)

Finding solutions to food problems is vital to lifting developing nations out of poverty, malnutrition and disease, says Raizada. Some 800 million people around the world are chronically malnourished, and more than two billion are poor.

At Guelph, Raizada studies ways to develop plants that use fertilizer and other resources more efficiently. “To get developing economies moving, we have to increase production in agriculture.”

That conviction has spurred him in several directions. This year he’s setting up a field lab in the Caribbean to improve the lives of Haitians in the aftermath of this year’s disastrous earthquake. He’s investigating how indigenous and innovative farming techniques can better the livelihoods of Haitian farmers.

“The purpose of this research is to work towards long-term reconstruction of Haiti that will not only help establish sustainable agriculture in this extremely impoverished country but will protect people from the threat of mudslides.”

Raizada will use 10 acres of land near Kingston, Jamaica, whose climate resembles that of Haiti and which already has the requisite infrastructure. Long-term, he hopes to set up a field lab in Haiti. He’s already begun working with farmers in collaboration with a Canadian NGO to survey the needs and practices of Haitian farmers.

Besides testing indigenous farming techniques, he will use the lab to investigate new ways of farming that help soil retain nutrients and reduce runoff and erosion. He’ll also experiment with fast-growing trees and more sustainable tree-harvesting practices. Deforestation is a major contributor to soil erosion and mudslides in Haiti.

He also plans to develop sustainable agricul-

CPES advances new research areas
The College of Physical and Engineering Science is undergoing tremendous growth in engineering, nanoscience, information technology and other areas that blend its traditional areas of expertise with emerging fields in the biological sciences and agriculture. The success of the BetterPlanet campaign, whether it provides infrastructure and research institutes or supports talent acquisition and retention, will transform the college as it strengthens the University’s foundation of science and technology.
ture kits that will include seeds for staple crops, green manures and pesticide-deterrent crops as well as storage bags and a picture book of best farming practices to aid illiterate farmers.

Raizada traces his passion to a moment in his ancestral India when he spotted a young girl beaming over a half-rotted head of cauliflower scavenged from a market. “I knew I wanted to do something to help the developing world,” he told The Portico in a 2003 article.

Recognizing that he can’t do it alone, the professor has worked to involve his students in the effort. Besides running the Raizada Prize, he has encouraged students to link their research projects with humanitarian ends.

Poor soils and poor people in many parts of Africa and Haiti present a challenge. How to provide low-cost fertilizer?

In one project, students are investigating use of soil bacteria to stimulate root growth in corn plants and more efficiently pull elements — mostly nitrogen, phosphorus and iron — from soil and rock. Another student is developing a cheap soil test intended to help farmers determine when and how to add fertilizer to crops. “It now costs about $10 or $20 for a single nitrogen soil test,” says Raizada. “The long-term goal is a 10-cent test.” In his lab, the work is now at $1 a test, and going down.

What about nurturing a plant that makes its own nitrogen fertilizer more efficiently? That’s the goal of a former Ghanian grad student who came to Guelph in 2009 to study bambara groundnuts, a legume that fixes nitrogen and is a food staple in Africa and Indonesia. Here in Guelph, the PhD student used special growth chambers to study drought tolerance and day-length sensitivity in native groundnuts. Back in Africa, that information might help in breeding efforts to introduce suitable groundnut varieties across the continent.

Why would an African student cross an ocean to learn how to improve foodstocks back home? Says Raizada: “Guelph is a perfect intersection of agriculture, food science, international development and microbiology. And we want to develop low-cost technologies for developing countries.”

PIC partnership strengthens industry

The Poultry Industry Council of Canada (PIC) supports a faculty position held by epidemiologist Michele Guerin, Population Medicine. Representing producers of broiler and breeder chickens, egg layers and turkeys, the organization aims to strengthen U of G’s poultry research and teaching programs. The industry is worth about $9.5 billion a year in Canada, 40 per cent based in Ontario.

A Guelph graduate and former practising veterinarian, Guerin has studied Salmonella and Campylobacter infections in poultry. Tim Nelson, PIC executive director, says the industry needs experts like Guerin to help understand and control disease outbreaks.

PIC’s poultry program team – including Guerin; Prof. Shayan Sharif, Pathobiology; Prof. Grégory Bédé carrats, Animal and Poultry Science; and specialists from the Ontario Ministry of Agriculture, Food and Rural Affairs — supports studies and teaching in poultry health and welfare, production and management, economic and environmental issues, and food quality and safety.
These days, everyone is concerned about protecting the environment. Our individual contributions are important, but U of G professors Elizabeth Kurucz and Rumina Dhalla, both from the Department of Business, are asking a bigger question: “What does sustainability mean in an organizational or business context?”

The answer is complex. Kurucz says that while the idea of sustainability is appealing, and many business leaders want to incorporate it into their work strategies, it’s often far from simple to translate that into practical, everyday behaviour.

Digging down through abstract ideas to understand human behaviour fits perfectly with Kurucz’s background. She initially studied anthropology, refocused on social justice in organizations, and then completed her doctorate in business and environment. Dhalla completed an MBA while continuing to work full-time in banking, where she has 20 years of experience, and then went on to complete a doctorate.

Kurucz describes the excitement they both feel about being part of U of G business programs: “We aspire to be trailblazers. Our department is really trying to understand the organizational aspects of sustainability. We’re looking for ways to shake up people’s mindsets and develop leaders who can think about multiple stakeholders and create value in multiple ways.”

Together, they teach an intensive course called Sustainable Value Creation that is required for all MBA students. “The idea is to introduce sustainability as the context within which business operates,” says Kurucz. “The students then take this perspective with them throughout the program.”

She also teaches a master’s course in leadership for sustainability. As she explains: “Leaders need to think on multiple fronts to integrate economic, environmental and social issues and to create synergies rather than being stuck in a trade-off mindset. We need to move beyond thinking ‘OK, we do bad things here and good things to make up for it over there,’ or thinking that we can do good things only in good economic times.”

Dhalla teaches a new undergraduate course in corporate social responsibility. “If a company’s identity is about being responsible, it will respond to a crisis in a way that supports that identity,” she says. “However, if a company’s identity is not actually built on a sense of responsibility, any good deeds will be seen as ‘image management’ and not authentic. It’s about integrity. Responsibility and sustainability have to be the core. They have to be part of every decision that’s made.”

Dhalla believes this is the ideal time for the College of Management and Economics to advance its programs in environmental economics and sustainable business. “There is an inexorable shift towards environmental and social responsibility and we are excited about this change and the opportunities it creates for our students.”

Her research and business experience feeds into her approach to teaching. “I want to give my students a different perspective, so that when they read newspaper articles or are looking at research, they do it through the lens of responsibility and sustainability. I would like our students to challenge current assumptions and seek out innovative solutions that create not only economic value but environmental and social benefits as well.”

They are also advancing these values outside the classroom. Dhalla obtained funding from the Social Sciences and Humanities Research Council for the Impact! Youth Sustainability Conference held in September 2009. She played a key role in organizing the event, which brought together students who are passionate about the environment and sustainability issues.
She is also a member of the University’s Presidential Task Force on Sustainability, launched the www.sustainablecommerce.uoguelph.ca website to highlight CME’s work in this field, and has been invited to present her research at conferences across Ontario and as far away as Spain and the Netherlands.

Kurucz co-organized an inter-university workshop to help faculty at Canadian business schools learn ways to embed sustainability in their courses. She’s also helped to launch chapters of Students Offering Support and Net Impact, a non-profit organization hoping to use the power of business to create a more socially and environmentally sustainable world.

“Research could restore some of Ontario’s prairie

Integrative biology professor Andrew MacDougall says it surprises many people to learn that at least 100,000 hectares of Ontario were covered by grasslands as recently as 200 years ago. Only a few sites remain, so the plants and animals normally found in these sites are now rare in the province.

MacDougall has planted an 18-hectare prairie on a former soybean field near Cambridge and hopes his research will help restore tallgrass and savannah habitats. He’s looking at factors affecting prairie restoration as well as monitoring how his plants take in carbon from the air and store it in their roots and ultimately in soil. Scientists believe native grassland species are more efficient at sequestering carbon than introduced crop plants and pasture grasses.

“One of the biggest effluxes of atmospheric carbon dioxide over the last 200 years has been the breaking of the native prairie.”

MacDougall is not proposing that Ontario revert entirely to grasslands, of course, but suggests we might find a different balance between farming and conservation. Perhaps landowners can gain carbon credits for planting prairies, he says.
Rene Kirkegaard loves a good guessing game. The economics professor is interested in competitive situations where people don’t have all the information and have to make decisions by guessing how they think other people will act.

In a simple analogy, Kirkegaard describes the game of rock, paper, scissors “where you have to decide what your move will be based on what you think the other person’s move will be.” Real-world applications of his research are much more complex: consumer promotions, online auction sites, industrial bids for government contracts, applications for science and cultural grants, and even lobbying and political campaigns.

“I’m interested in how people with different preferences, abilities and options will act in these types of situations,” he says.

Using game theory, he is developing mathematical models that can be used to determine the outcome of people’s actions in various scenarios where they have to make decisions without complete information.

“People make decisions everyday without complete information and often base their decisions on how they think others will act,” he says. “Competing in a research and development race, applying for a job or bidding in an auction are all situations where people base their efforts and decisions on what they think others are doing.”

Kirkegaard says it’s important to understand how people will act in these situations in order to determine whether the rules and regulations in place help achieve the desired outcome. “Regulations are often intended to promote equity and fairness in these types of contests. However, if the interactions in these settings are not well understood, predicting the effect of complicated regulations may be a difficult and error-prone undertaking.”

Kirkegaard was recently named a Tier 2 Canada Research Chair (CRC) in risk management and regulation, reflecting the far-reaching applications of his work. Tier 2 chairs receive $100,000 a year for five years and are considered scholars with the potential to become world leaders in their fields.

Originally from Denmark, Kirkegaard arrived in Canada in 2004 when he accepted a teaching position at Brock University. He joined U of G’s economics department this year and, with CRC funding in place, has jumped right into his passion for research. He currently has two projects on the go.

The first involves comparing the formats of English and first-price auctions and determining which is more profitable based on how people make bidding decisions. In an English auction, an auctioneer calls out people’s bids as they are bidding against each other for a certain item, and the person who bids the highest wins. With a first-price auction, everyone writes their bid down and submits it. The person with the highest bid wins and must pay the amount they submitted.

Academics have developed basic theories surrounding auctions and how people will bid if they are all the same, but Kirkegaard is interested in developing a model that takes into account people with different levels of expertise, prefer-
ences and options — what is known in the world of game theory as asymmetric bidders.

“In some cases, bidders will know their differences (who their competitors are, for example), but in a majority of cases they won’t. Contestants are left to guess about the characteristics of others in the competition. The co-existence of all these factors complicates any formal analysis, and as a result, human behaviour in such situations is poorly understood.”

In the simplest terms, Kirkegaard is aiming to create a mathematical model that will take all of these variables into account, essentially capturing what’s going on inside the heads of bidders. He is also using math to better understand opportunities to those who may have historically been excluded, Kirkegaard says that may not always be the end result.

“People will respond differently depending on who else they think is applying and how much effort they think their competitors will put into succeeding,” he says.

Some targeted applicants will try extra hard to succeed because they know the preferential treatment increases their chance of winning. But others will consider that their competitors are going to try extra hard because of their increased chances, which, in turn, means they will have to try even harder to beat them.

“Ultimately, these types of policies can deter how people act in contest situations where regulations are in place to ensure a certain outcome. One example is affirmative action policies where race, colour, religion, sex or national origin are taken into consideration in order to increase the representation of women and minorities in areas of employment, education and business. Although these policies are designed to give the people they are aimed at from even applying because the perceived increased effort required might not be worth the chance of winning,” he says. “I hope my research will add to our understanding of human behaviour in these types of competitions and make the competition rules more effective.”

BY DEIRDRE HEALEY

Families and work are Guelph priorities

The Montreal-based Jarislowsky Foundation supported the Jarislowsky Chair in Families and Work at U of G with a $500,000 gift in 2002. It is Canada’s first academic chair studying economic and social policy aspects of integrating work and family responsibilities. The foundation, led by Stephen Jarislowsky, recently donated an additional $500,000 to support studies by chairholder Donna Lero, a professor in the Department of Family Relations and Applied Nutrition and co-founder of the University’s Centre for Families, Work and Well-being.

Lero led the 1988 Canadian National Child Care Study and is internationally recognized for research on child care and work and family issues. Her team studies community concerns, the work-family interface and workplace productivity.

She will use the Jarislowsky Foundation gift to continue research and policy analysis and to develop best practices for families, workers, employers and communities.

BY DEIRDRE HEALEY
The walk to Elephant Haven takes two or three hours,” says Erika Sullivan. “It would be faster except that you are walking with the elephants and have to go at their pace. At first I felt impatient, but then I realized that this slowing down was an important part of the experience.”

Sullivan’s walk with the elephants took her through the Thailand jungle and up the side of a mountain to a tree house where the participants and the elephant guides, called mahouts, would stay overnight. The mahouts told stories about the jungle and the elephants, while the animals wandered off to explore and play together. In the morning, the group walked back down the mountain, again at the elephants’ pace.

The Elephant Haven walk is a project of the Elephant Nature Foundation where Sullivan went to volunteer last November. It’s an alternative to the elephant-trekking that is popular with tourists.

“Why would you ride on an elephant when you can walk with them instead? You get to discover their personalities in a way that you never would if you were riding on their backs while people prodded them with hooks to make them go,” says Sullivan. “It shows that you can have eco-tourism without harming animals.”

In her daily life in Ontario, Sullivan works in a small-animal veterinary practice in Durham. “It’s mostly dogs and cats, but I do have a special interest in the exotic pets like ferrets, rabbits and birds,” she says. When she has the opportunity, though, she likes to volunteer with animals at the opposite end of the scale. In 2008, she worked with gorillas in Africa.

In preparing for the trip to Thailand, Sullivan did some reading on elephants and the role they play in Thai culture. Elephants in Thailand are considered domesticated animals and may live 70 or 80 years, so they are often passed down in families from one generation to the next. In the past, the elephants brought in money for the family by working in the logging industry, but since this was banned by the government, mahouts have sought other ways to find jobs for their elephants.

“What many of the mahouts do is take their elephants into the city and sell little bags of cut-up sugar cane so the tourists can feed the elephants,” Sullivan explains. Others teach the elephants circus tricks or give tourists rides on the elephants.

“All these things deny the elephants their basic needs,” she says. “Elephants are very social creatures and need to be with other elephants. Standing on concrete damages their feet, and a diet of only cut-up sugar cane affects their health. Elephants also have very sensitive skin and need to bathe every day, but that’s not usually possible in these situations, so the elephants get infections and are always under stress.”

To combat this mistreatment, a young Thai woman named Leck Chailert founded the Elephant Nature Foundation in 1995. “She started with a hill-top site and two elephants,” says Sullivan.

The foundation now has several projects, and Sullivan was able to contribute to some of them. About 30 rescued elephants live in a sanctuary near the city of Chiang Mai, where Sullivan’s veterinary skills were of particular value. She helped the sanctuary’s vet staff treat injuries and carry out routine procedures such as de-worming. Another project provides emergency medical care to elephants in more remote areas.

Sullivan spent some time in Surin, where Chailert was asked to establish a second sanctuary in 2009. “The government has set aside 2,000 acres to support 300 elephants eventually.”

BY TERESA PITMAN
Almost 1,000 alumni attended Alumni Weekend 2010 in June. The weekend included 27 special reunions for graduating classes spanning several decades from 1948 to 1985. Combined, these classes have provided a remarkable $8.6 million to the University in lifetime giving. Congratulations to all of the anniversary celebrants.

What will The BetterPlanet Project mean to you?

Over the last few years, the University of Guelph has been building a new vision — one that builds on the incredible legacy of founding colleges and 150 years of caring for our neighbours near and far. This vision has led to the launch of the University’s bold and ambitious fundraising campaign — The BetterPlanet Project.

This campaign will build capacity to solve pressing challenges such as pandemics and disease, environmental sustainability, safe food and water supplies, social development and cultural understanding.

We have talked with many alumni about the University’s vision, and it has inspired them. We hope it will inspire all of you. The BetterPlanet Project campaign will deliver on this vision. Our goal is to raise in excess of $200 million by 2014. Our aim is high and our plan deliberate. We need the backing of our alumni to make a strong impact.

We are pleased to have Tye Burt, BA ’80, to lead and support the BetterPlanet Project. A business leader who cares deeply about corporate and social responsibility, he is standing with us as we develop the essentials for a better quality of life for everyone. Please join us. Alumni support of The BetterPlanet Project means real, sustainable changes that will ensure the future welfare of our communities, here in Guelph and around the globe.

Joanne Shoveller
Vice-President
Alumni Affairs and Development
The Portico introduces group mortgage insurance as a new alumni benefit, choose the project to which UGAA will pledge multi-year support as its contribution to the University campaign, present our alumni awards at a new annual event this fall.

But your board doesn’t act in a vacuum. If you have suggestions for UGAA on what would benefit alumni and/or the University, write to us at alumni@uoguelph.ca. All ideas are considered.

As you’ve read in this issue of The Portico, the University has launched The BetterPlanet Project with the goal of raising $200 million by 2014, which will be the University’s 50th anniversary. The BetterPlanet Project expresses the ultimate purpose of everything the University strives for through education, discovery, innovation, outreach and service in the natural sciences and the liberal arts.

No matter what our program of studies, every one of us can identify with U of G’s mission of helping to create a better world. I believe we can all get behind this campaign, and I encourage you to support the University’s mission.

C. Bradley Rooney, ADA ’93 and B.Sc.(Agr.) ’97 UGAA President

Fall is the start of a new school year for students, faculty and staff at the University. It is also the start of a new business year for the University of Guelph Alumni Association (UGAA). The new UGAA board of directors has a promising balance of experienced returning members and newcomers brimming with fresh ideas. You can read profiles of the members of the new board at www.alumni.uoguelph.ca.

This fall, the board will revisit and update the strategic plan we have been developing in recent years. Three top priorities for the year ahead are to:

- introduce group mortgage insurance as a new alumni benefit,
- choose the project to which UGAA will pledge multi-year support as its contribution to the University campaign,
- present our alumni awards at a new annual event this fall.

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C. Bradley Rooney, ADA ’93 and B.Sc.(Agr.) ’97 UGAA President

UGAA moves forward


As the University launches The BetterPlanet Project, annual giving by alumni and friends will support the campaign’s vision by making a real difference in the lives of students every day, says Jason Moreton, executive director of alumni advancement and annual fund.

“Annual gifts provide essential support for students while maximizing unrestricted support for the University’s most urgent and pressing needs,” he says. “In the last fiscal year, donors to the Annual Fund contributed $3.15 million, which is comparable to the payout of a $90-million endowment.

Every dollar donated to the Annual Fund has an impact on teaching, learning and the student experience, says Moreton. While the economy recovers, the flexible and accessible support of annual gifts is critical to building excellence at U of G.

Moreton adds that this is an important year for the Annual Fund; the University hopes to raise $4 million in support. “This is only possible if we receive strong participation from our alumni. Every gift, no matter the size, has a great impact. An increase of just one per cent in giving from our alumni will result in tremendous support for our students and The BetterPlanet Project.

Please join fellow alumni in supporting your alma mater.”

To donate online, go to www.uoguelph.ca/giving.
Guelph alumni gather far and wide

MEET THE CHANCELLOR
On May 26, Guelph alumni and friends reconnected at a reception hosted by U of G president Alastair Summerlee at the Chateau Laurier. The evening’s guest speaker was the Hon. Pamela Wallin, U of G chancellor and Canadian senator. Attending the event, left to right: Sima Vyas, MBA ’02; Lisa Rivet, BA ’98; Rachel DeCoste, B.Comp. ’01; and Katharine Gahan, B.Sc. ’04.

TRIVIA NIGHT
U of G and University of Guelph-Humber alumni faced off against McMaster July 8 in the trivia challenge held at the Madison Avenue Pub in Toronto. Taking home a UGAA t-shirt are, from left: Jeff Rotman, B.Sc. ’09; Stephen Sweet, B.Comm. ’08; Michelle Ponert, B.Sc. ’09; Hava Goldberg, B.Sc. ’07; and Myles Stocker, BA ’08.

THE OCEAN VIEW
More than 40 Vancouver-area alumni enjoyed great views and great food as they mingled with fellow grads at Aloft Suite in downtown Vancouver. The April 27 reception was hosted by U of G president Alastair Summerlee.

WINE TASTING IN THE ROCKIES
Alumni in the Calgary area gathered for a reception hosted by U of G April 29, Dean Anthony Vanelli of the College of Physical and Engineering Sciences, welcomed almost 40 grads at 100 Wines for a wine tasting, hors d’oeuvres and an update on their alma mater.

BETTERPLANET PROJECT
The BetterPlanet Project was introduced to the University of Guelph campus community June 17. Several local alumni were on hand to hear president Alastair Summerlee and Joanne Shoveller, vice-president (alumni affairs and development) announce the University’s fundraising campaign and introduce Tye Burt, BA ’80, as campaign chair.

GOLF 101
U of G and University of Guelph-Humber grads took part in a young alumni learn-to-golf event at BraeBen Golf Course in Mississauga July 15. More than 35 grads enjoyed two hours of instruction with golf pros, working on their swing and learning the rules and etiquette of the game. The event included a BBQ dinner and time to meet fellow alumni.

COMING EVENTS
Oct. 19 • HAFA HTM Alumni Association networking event and annual meeting, 6 p.m. in the Delta Hotel, downtown Toronto. For more information, call 519-824-4120, Ext. 54703.
Oct. 23 • Economics graduate alumni banquet to mark the 45th anniversary of graduate programs in economics. For details, please email abolger@uoguelph.ca.
Oct. 30 • Engineering alumni awards banquet to honour alumni and partners in the school’s success, 6 p.m., Science Complex atrium. For more information, call 519-824-4120, Ext. 54703.
Nov. 13 • Hockey Day in Gryphonville. All former varsity hockey players, their families and friends are invited to the third annual hockey day. Teams of the 1960s will be honoured this year, but all former players are welcome. For more information, contact Sam Kosakowski at 519-824-4120, Ext. 58463.
Nov. 18 to 21 • 36th annual Fair November juried craft sale in the University Centre.
Dec. 6 • OVC alumni are invited to a breakfast at the American Association of Equine Practitioners annual convention in Baltimore, MD. For information, contact Sonia Mancini at 519-824-4120, Ext. 54454.
Jan. 25 • Winter excursion for Florida alumni, 9:30 am, Ringling College of Art + Design, Sarasota, FL. Register at www.alumni.uoguelph.ca.
March 2 • Annual Florida Picnic, 10 a.m., Maple Leaf Estates, Port Charlotte, FL. Register at www.alumni.uoguelph.ca.

2011 REUNIONS
Alumni Affairs and Development will hold an information meeting for reunion organizers this fall. To attend, contact Helen McCairly at 519-824-4120, Ext. 56691.
Seven years ago, Robert Gibson, BA ’02, was interviewing Gryphon athletes and coaches as sports editor for Guelph’s student newspaper, the Ontario. Today, he’s connecting with professional sports figures, executives and national sports writers as producer of Sun TV’s The CasinoRama Grill Room.

The show is hosted by Gareth Wheeler and airs weeknights at 6:30 p.m. with a different group of guests each show voicing their views on the hottest sports topics.

“It’s set in a bar, and the vibe is three or four of your buddies sitting around the bar talking sports,” says Gibson.

Guests on The Grill Room have included the likes of Doug Gilmour and Wendel Clark from the Toronto Maple Leafs; the NBA’s Jalen Rose and Jamario Moon; race-car champions Alex Tagliani and Paul Tracy; as well as Paul Godfrey, former president and CEO of the Blue Jays.

“There are guys from the industry coming through our doors every day,” says Gibson. “For me, it’s a huge opportunity to get to know these guys. That’s one of the best parts of this job.”

Gibson also produces Fantasy Sports: the 411, a show geared to fans of fantasy football that airs only during the NFL football season.

For this self-proclaimed “sports geek and TV junkie,” it’s a great fit.

After graduating from U of G in 2002 with a degree in political science, Gibson enrolled at Sheridan College to study journalism. Convinced that print was where he wanted to make his mark, he found himself interested in broadcasting after being introduced to the opportunities that exist in radio and television and on the Internet.

“I gravitated toward the broadcast side because it seemed more relevant to my generation,” he says.

Gibson was approached by TSN before he graduated. Landing a job at TSN was a dream-come-true, he says. “It was the mother-load when it came to sports broadcasting.”

As an editorial assistant, he spent his days cutting highlight reels of games and digging up video footage for feature stories, operating graphics and conducting research. In 2005, he moved to Sun TV.

“I get up everyday and look forward to coming to work because I’m doing something I love,” says Gibson. "I dig it because I love the medium and I love the content we’re dealing with. I’m really looking forward to seeing where my career leads.”

He’s also looking forward to seeing where his newest venture — an independent music label called Optical Sounds — will lead.

After moving to Toronto, Gibson was introduced to the city’s underground music scene. “I was amazed by the amount of really good music that no one knows about,” he says. Wanting to make others aware of the talent he was witnessing, he took a leap and decided he’d start managing bands and helping them to sell their music. The Hoa Hoa’s and the Disraelis were the first two bands to sign with his label.

“It’s a do-it-yourself age,” he says. “The dream of signing with a record label isn’t really how it goes anymore because of the growth of digital music, the Internet and file-sharing. I wanted to create a platform for these amazing artists to get their music out there.”

For more information, go to www.opticalsounds.com.

BY REBECCA KENDALL
1950

- **Harry Nash**, president of the OAC class of ’55A, and 22 of his classmates attended their 55th-year reunion at the Nottawasaga Inn in Alliston, Ont. The class has 42 active graduates, seven of whom live outside Ontario. Nash says attendance at class reunions “has always been remarkable,” as has the class support of OAC, particularly the Robert Forshaw Fund.

1960

- **Alan Cameron**, B.Sc. (Agr.) ’60, completed the Boston Marathon this spring as a member of the Dana-Farber Marathon Challenge (DFMC) team. It was his fourth marathon, all completed since his retirement five years ago. The DFMC team raises funds for research at the Dana-Farber Cancer Institute in Boston. “Thanks to the support of so many people, including a number of my OAC ’60 classmates, I was able to exceed my personal goal of raising $10,000,” says Cameron, who lives in Kanata, Ont. His race blog is posted at www.alanshead edforboston.blogspot.com.

- **Andrea Atkins Hunt**, B.Sc. (Agr.) ’69, is a nurse consultant in Florida. She does training in the Caribbean, teaching clinicians to provide diabetes education and support to people suffering from the disease.

1970

- **Rev. Amy Cousineau**, B.A.Sc. ’72 and M.Sc. ’75, has left parish ministry in the Anglican Church and is now doing ministry in the community. Her business, Sacred Elements, specializes in weddings, funerals and memorial services for those who don’t have a church connection. She also leads retreats and workshops and offers one-on-one spiritual direction. Cousineau lives in Orton, Ont., and can be reached at revamycc@gmail.com.

- **Gary Koestler**, OAC ’77, recently retired after a 34-year career with Agriculture and Agri-Food Canada in Ottawa. He has moved back to his hometown of Kingsville, Ont.

- **Karla Kuklis**, B.Sc. ’73, is a semi-retired teacher-librarian in Halifax. She taught ESL in Slovakia for two years.

- **Doug Stirling**, B.Sc. (Agr.) ’76, has retired after almost 35 years with Agriculture and Agri-Food Canada and the Canadian Food Inspection Agency. He now farms with his brother near Rondeau Provincial Park in Chatham-Kent, Ont. He also spent three weeks in Honduras with friends who are doing missionary work there.

- **Claudia Wunder**, B.Sc. ’78, works for Atos Origin, the company charged with technology integration for the Vancouver 2010
Olympic and Paralympic Winter Games. In her job as interfaces manager, she was responsible for the application that fed results to the media. She says: “It’s certainly the most fun I’ve ever had working in IT!”

David Yaeger, B.Sc.(Eng.) ’75 and M.Sc. ’79, has been promoted to senior principal at Delcan Corporation, an engineering, planning, management and technology consulting firm. A senior project manager for Delcan’s water division, he joined the company in 1984 and is based in Ottawa.

1980

Dean J. Baker, BA ’81, is a poet, composer and author who recently published his first two books. The Herald features poetry and prose poems and includes a blurb by Canadian poet Irving Layton. Baker’s Bad Boys is the first in a planned series of books of “satire, childhood and never growing up.” For more information, visit http://deanjbaker.com.

Kevin Brown, M.Sc. ’89, marketing and regulatory affairs manager for Engine Control Systems Limited in Thornhill, Ont., has received a 2010 Forest R. McFarland Award from SAE International, an organization for mobility engineering professionals. He was honoured for his achievements in promoting SAE’s environmental vision.

Nicky Didicher, BA ’83, is a senior lecturer in English literature at Simon Fraser University in Burnaby, B.C. A U of G Winegard Medallist, she received the 2010 Lesley B. Cormack Award for innovation and excellence in teaching in the Faculty of Arts and Social Sciences at SFU.

James Donison, B.Sc.(Eng.) ’81, has been living in New Hampshire since 1983 and is a city engineer. He and his wife, Susan, have three teenagers. The family also has a “menagerie of animals,” ranging from Jack Russell terriers to horses.

David Galbraith, B.Sc. ’82 and M.Sc. ’86, head of science at Royal Botanical Gardens in Burlington, Ont., was presented with the 2009 Dr. Victor Ceci- loni Environmentalist of the Year Award in June. He was cited for his efforts to improve the environment and quality of life in Hamilton, including organizing local agencies around better conservation and management of natural areas, developing symposia and other programs on sustainability, and leading the designation of RBG’s nature sanctuaries as an important amphibian and reptile area.

Geza Gaspardy, B.Sc. ’81, operates Watershed Management
Ecology, a consulting company in Caledon, Ont. Almost 30 years since graduation, he looks back on a 10-year career of agency work with the Credit Valley Conservation Authority and the Ministry of Natural Resources, followed by 20 years in consulting. He says his work is “focused on impact assessment and mitigation associated with urban development in southern Ontario, dealing with aquatic, wetland and terrestrial systems.” And he admits that he takes “particular pleasure in mentoring my children in their academic choices and career development.”

■ **Kim James**, BA ’88, is an accredited family mediator and parenting co-ordinator at Riverdale Mediation in Toronto.

■ **Kevin Ker**, B.Sc.(Agr.) ’80 and M.Sc. ’84, is a consultant with KCMS Applied Research and Consulting. He writes: “Thirty years after completing my degree at OAC, I have finally finished my PhD at Brock University. I guess it proves aggies are a determined bunch — not always fast, but determined.”

■ **Susan Krause**, BA ’86, has chaired the sculpture department at the Savannah College of Art and Design in Atlanta since 2007. She studied at the Ontario College of Art and Design in Toronto before U of G and continued her education at the School of Art at Columbia University in New York City and at Yale University in Connecticut where she received a master’s degree in sculpture. She has shown work in Canada, Europe, South America and the United States and lives part-time in a small Mexican community where she is involved in community art education and the Casa De Cultura and serves on the board of a bi-cultural ecological community. Her current projects deal with identity and reunification as well as social, cultural and authenticity issues surrounding vicariousness.

■ **Sylvie Rathier**, BA ’86, is director of sales and marketing for Domco Foodservices Ltd in Toronto.

■ **Yvonne Tremblay**, B.A.Sc. ’80, a food, marketing and nutrition consultant, has released her fourth cookbook, 250 Home Preserving Favourites. She notes that her second book, Thyme in the Kitchen — Cooking With Fresh Herbs, is now back in stores.

1990

■ **Yingying Chen**, MBA ’99, lives in Richmond Hill, Ont., and works as national food safety manager for Loblaw. She welcomes contact with U of G classmates and friends via email to michelle.y.chen@live.com.


■ **Randy Heaps**, BLA ’95, has been appointed chief operating officer and a director of ISL Engineering and Land Services in Edmonton. He is past president of the Alberta Association of Landscape Architects and co-chaired the organizing committee for the 2010 Canadian Society of Landscape Architects Congress.

■ **Dave Iverson**, B.Sc.(Agr.) ’94 and M.Sc. ’98, is a senior manager at Grant Thornton LLP in Vancouver, where he leads the company’s computer forensics and electronic discovery practice for Western Canada. If you’ve ever watched CSI or Law and Order and seen...
someone searching through the digital wreckage of a hard drive for incriminating email or evidence, then you have some idea of what Iverson has been doing for more than 10 years. When he’s not searching through computer wreckage, he can be found swimming, biking, kayaking, running or doing anything in the outdoors that gets him away from all forms of technology.

Gwen Milley, B.Sc. ’91, is co-owner of the Pacific Alpine Institute in Whistler, B.C., where she provides courses for those pursuing careers in the guiding and ski patrol industries. She has been a Canadian Avalanche Association avalanche skills training instructor since 2000 and a rescue dog handler since 1994. She is also a member of the Blackcomb Ski Patrol and, with her dog, Chili, won the Purina Incredible Dog Challenge held in Whistler in January.

Sarah Totton, B.Sc. ’93, DVM ’03 and PhD ’09, has released her debut short-story collection, Animythical Tales. The collection consists of 10 animal-themed stories with a surreal, dark or absurdist twist. Seven of the stories were previously published in anthologies and magazines in the United States and throughout the Commonwealth. Three of the stories have won international awards.

2000

Victoria Brown, BA ’05, relocated to Edinburgh, Scotland, after graduating. She worked at a specialist library and then completed a graduate program at the National Archives of Scotland, where she says her undergraduate focus on Scottish history proved to be invaluable. She then enrolled in a master’s program in archives and records management at the University of Dundee, and is now completing post-graduate studies to qualify as a professional archivist. She has also worked with local archivists to produce an online education resource and was recently appointed as a research officer at the Scottish Council on Archives. “Although an archivist should not be confused with an historian, my degree and the research skills I developed during my time at Guelph have been extremely useful in the wider world,” she says. “I received an excellent standard of education at Guelph.”

Marlon Canales, B.Comm. ’04, was front and centre at the 2010 Olympic Games as assistant general manager of the food and beverage operations at the Olympic Village. He works for Sodexo Canada Ltd., which was awarded the contracts for food services and housekeeping at the Olympic villages in Vancouver and Whistler. Canales, who is now Sodexo’s general manager, food and beverage, corporate services, will lead food and beverage operations at the Sony Centre (formerly the Hummingbird Centre/O’Keefe Centre) when it opens in Toronto in October.

Leslie Carson, MBA ’02, is a dietitian and manager of food and nutrition services at St. Joseph’s Health Centre in Guelph. Her mandate over the last four years has been to improve the food and dining experience for the patients at St. Joseph’s. In one project to improve the taste of minced and pureed food, she worked with Guelph master’s student Caitlin McLaren, B.A.Sc. ’07, and

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together they published their results in a paper “Savouring the Flavour.”

Lisa Cheaney, B.A.Sc. ’08, a graduate of the University of Guelph-Humber’s early childhood program, lives in Brampton, Ont., and is a teacher with the Dufferin-Peel Catholic District School Board. She has started a cancer support group in the board for students who have lost a parent to cancer or have a parent diagnosed with the disease. She created the group because of a need in her own class. “I just had to do something for my student,” she says.

Lianne Foti, B.Comm. ’04, Stephanie Hajer, B.Comm. ’05, and Tricia Sabessar, BA ’05, are eco-pioneers who spend a lot of their spare time teaching elementary schoolchildren how to make life choices that promote environmental sustainability. As co-founders of the Guelph chapter of My World, My Choice, they’ve recruited and trained 30 current U of G students to present workshops in local schools and act as mentors as the grade 6 to 8 students carry out projects within their school. For more information, visit www.myworldmychoice.com.

Katelyn Geertsema, BA ’07, and Jason Ricketts, B.Comm. ’09, were married Nov. 21, 2009, at Parkview Church (where they first met) in Guelph. The wedding followed a backpacking trip to New Zealand. The couple now lives in Toronto, where he works in marketing at the Canadian Tire Corporation home office and she is program manager for the PACT LifePlan Coaching Program, which mentors and reintegrates young offenders.

Stephanie Hajer, B.Comm. ’05, has been working as project manager for the Ecological Sustainability Leadership Program at the Ontario Ministry of Natural Resources. She has returned to Guelph this semester to continue work on an M.Sc. in capacity development and extension.

Ricky Lam, B.Sc. ’09, was among the recipients of the inaugural Governor General’s Award in Celebration of the Nation’s Table. Now a master’s student at the University of Saskatchewan, he was recognized in the award’s youth category. His research focuses on the food applications of edible oils and fats.

Eric and Sarah (Donaldson) Loeffler, both BA ’03, were married in May 2008 and welcomed a son, Cole Andrew, in August 2009. Eric is a police officer and Sarah teaches elementary school, both in York Region, Ont.

Meghan Mann, BA ’06, and her husband, Mike Shannon, B.Sc.(Eng.) ’05, welcomed their first baby in August. She will be on leave from her job as project consultant for Intelex Technologies Inc. in Toronto.

Mark Manning, B.Sc. ’00, graduated from the Case School of Dental Medicine in 2004. He is married to Christina Janiga, B.Sc. ’05, and they live in Fergus, Ont., with their three children.

Reannon Marcelissen, B.Sc. and M.Sc. ’05 and DVM ’10, writes to thank her family and friends who have supported her over the last 10 years of education in Guelph. She is now practicing veterinary medicine in Kingston, Ont., at Barriefield Animal Hospital.

Lisa (Van Mol) McKay, B.Sc. ’03, spent six years working as an embryologist at a vitro fertilization clinic in British Columbia and Ontario. She and her husband, Derek, live in Hamilton, Ont., with their three children: Julian, who turns three in November, and one-year-old twins Damian and Darius. They can be reached at derek_and_lisa@sympatico.ca.

Mitch McKechnie, B.Com. ’06, has started his own landscaping business, Superior Stone Designs and Installations, in Burlington, Ont. Check out his website at www.superiorstone.ca.

Debanjan Mookerjea, B.Sc.(Eng.) ’02, and Valery Woloshyn, B.Sc.(Eng.) ’03, were panelists at the 2010 Consulting Engineers of Ontario Conference, discussing the role that young professionals can play in the organization. Mookerjea is from Scarborough, Ont., and works as a project manager at R.J. Burnside & Associates Limited. Woloshyn is an intermediate project manager at CH2M Hill Canada Limited in Toronto.

William Murray, MBA ’00, has joined the faculty at Mount Saint Vincent University in Halifax, N.S., as an assistant professor in the Department of Business and Tourism. He recently completed a PhD at neighbouring Saint Mary’s University; his dissertation is on organizational change and narrative construction.

Liam O’Brien, BA ’07, travelled and worked abroad after graduating from U of G. “I met more people than I can count who attended the University of Guelph,” he says. “It made me proud to be part of a university that was preparing so many students for careers at home and abroad.”
funding campaign and the charities she’s supporting — or to make a donation — visit www.channelinghope.com.

- **Joe Saso**, B.Sc. ’07 and M.Sc. ’09, is doing a PhD in geology at the University of New Brunswick.

- **Erin Spink**, MA (Leadership Studies) ’08, is among 17 Canadians to be named a 2010/2011 Action Canada Fellow. The fellowship is an 11-month leadership development and public policy program that revolves around six intensive working conferences held across Canada. Participants interact with leaders from government, business, academia, the media and non-governmental organizations. Spink, who is senior coordinator, volunteer engagement, for the Canadian Cancer Society’s Ontario division, is also an instructor in the volunteer program management certificate program at Conestoga College. Her master’s research on volunteer engagement has been published in Canadian and international journals.

- **Jason Telner**, B.Sc. ’01, completed a PhD at York University in 2008. He lives in Toronto and works as a human factors scientist at the Toronto General Hospital Centre for Global E-Health Innovation. Telner, who is senior co-ordinator, volunteer engagement and communications, for the Canadian Cancer Society’s Ontario division, is also an instructor in the volunteer program management certificate program at Conestoga College. His master’s research on volunteer engagement has been published in Canadian and international journals.

- **Brian Bernardi**, ADTM ’10, is using his diploma in turfgrass management at the Cataraqui Golf and Country Club in Kingston, Ont., where he is a greenkeeper.

- **Alison Maynard**, BA ’10, graduated this spring with a degree in political science, bringing her parents to a U of G convolution for the third time. Elizabeth and Michael Maynard saw their older daughter, Lindsay, graduate in 2004 and oldest son, Nathan, in 2005. Lindsay and Nathan live in the Toronto area, but the rest of the family has moved from Ontario to Fredericton, N.B. The youngest Maynard sibling, Sebastian, is entering Grade 11. Alison worked this summer as a project manager at the University of New Brunswick’s Muriel McQueen Fergusson Foundation. She’s heading to Brazil this fall to volunteer with a program designed to empower disadvantaged women; she’ll also teach English at a private school in Palmas, Tocantins.
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