

# TeachingMatters

2004

Highlights of Teaching and Learning at the University of Guelph

## Chemistry classroom is living lab



Prof. Lori Jones holds the first-ever tenure-track position in chemical education at U of G.

A chemistry professor without a lab? Unthinkable. But not for Guelph professor Lori Jones.

“My research lab is the classroom,” says Jones, a longtime lecturer and student liaison co-ordinator who was appointed in 2003 to the Department of Chemistry’s first-ever tenure-track position in chemical education, one of the few positions of its kind at a Canadian university.

For a tour of her lab, look not for beakers and Bunsen burners but for bodies, such as the hundreds of students filing into Rozanski Hall for an introductory chemistry class.

For Jones, who spends the lecture alternately writing chemical equations projected on to the enormous screen above her head and walking around the theatre to engage students in

questions about entropy, it’s more than a classroom. It’s a living laboratory. And the results of her investigations into how those students learn are meant to improve teaching and learning in notoriously difficult chemistry courses.

Over the last year, Jones has compared the performance of students in the department’s introductory course who added online labs to their regular lab activities with that of students attending only conventional lab sessions. Most of the former saw greater improvement in their grades than did their lab-only counterparts.

She plans to explore other aspects of inquiry-based learning and learning styles, including use of various technologies from online activities on the web to use of PowerPoint in the classroom. She hopes to publish her research in the *Journal of Chemical Education* published by the American Chemical Society.

Chemistry chair Robert Balahura says a dedicated faculty position in chemical education would have been a non-starter when he joined the department more than 30 years ago. Even today, scholarship in chemical education — as opposed to conventional chemistry research — gets short shrift in Canada, he says. Only a few Canadian universities have dedicated faculty positions in the field.

### TEACHING AT U OF G

The University of Guelph is committed to the highest standards of innovative pedagogy, to meeting the needs of all learners and to the integration of new knowledge and skills in a curriculum that fosters active learning.

Balahura believes the new tenure-track position will help attract students to Guelph through orientation sessions for high school students and teachers. “We take chemical education seriously,” he says. The new position also fits neatly with Jones’s interests in teaching and counselling.

After completing a PhD in the department in 1996, she became a sessional lecturer and taught various offerings, ranging from those intro courses to a third-year analytical course.

In 1998, she became head of the liaison committee for the College of Physical and Engineering Science, then liaison co-ordinator for all B.Sc. majors, a job that saw her routinely selling Guelph’s science strengths to high school students.

Jones is also program counsellor for the bachelor of science in technology program, offered jointly with Seneca College of Applied Arts and Technology. The program offers two majors in applied pharmaceutical chemistry and physics and technology. In addition, she is the faculty adviser for the environmental monitoring and analysis major in the Faculty of Environmental Sciences.

## Guelph Honours 3M Faculty



We want students to know that we work hard to promote good teaching," said Prof. Maureen Mancuso, provost and vice-president (academic), just before unveiling a dozen plaques lining a wall inside the Rozanski Hall classroom facility. Each one bears the photo of a Guelph faculty member who has received a national 3M Teaching Fellowship and includes a quote from one of their students. "What better place than our new classroom facility to celebrate learning?" asks Mancuso. "And learning is what innovative teaching is all about." Nine of the distinguished dozen were on hand for the fall 2003 unveiling. From left are Profs. Ernie McFarland, Constance Rooke, Terry Gillespie, retired professors Sandy Middleton and Trevor Dickinson, Profs. Gordon Lange, Joe Cunsolo and Fred Evers, and president Alastair Summerlee. The honour wall also recognizes former landscape architecture professor Ron Stoltz and the late John Bell, Languages and Literatures, and Norman Gibbins, Microbiology. A portrait of Guelph's newest 3M recipient, languages professor Dana Paramskas, will be added to the honour wall this fall.

## Teaching Kudos

- The Central Student Association presented its 2003 Teaching Excellence Award to Massimo Marcone, a research technician and adjunct professor in the Department of Food Science.
- Prof. Jim Atkinson, Animal and Poultry Science, received U of G's first-ever award for excellence in academic advising.
- The newest recipients of the University of Guelph Faculty Association's Distinguished Professor Awards are: Profs. Wayne Caldwell, Environmental Design and Rural Development; Stephen Kruth, Clinical Studies; Herb Kunze, Mathematics and Statistics; Michael Wirth, Computing and Information Science; Coral Murrant, Human Biology and Nutritional Sciences; and Elizabeth Ewan, History.
- Prof. Dorothy Odartey-Wellington, Languages and Literatures, was chosen by her colleagues to receive the College of Arts Teaching Award.
- Prof. Ian Duncan, Animal and Poultry Science, received a Distinguished Teaching Award from the Ontario Agricultural College Alumni Association in October 2003.
- Prof. Ralph Brown, Engineering, is the 2003 recipient of CSAE/SCGR award for research and teaching in the area of energy and processing systems.
- Five U of G educators were recognized this spring with the inaugural College of Social and Applied Human Sciences Teaching Awards: Prof. Carol Dauda, Political Science; Prof. Linda Hunter, Sociology and Anthropology; Prof. Clare MacMartin, Family Relations and Applied Nutrition; and graduate students Burc Kayahan and Umut Oguzoglu of the Department of Economics.
- U of G captured a first-place Teaching With Technology Award from the Council of Ontario Universities Office for Partnerships for Advanced Skills. Guelph won for an open learning course "Principles of Relationship Selling" written and taught by Prof. Tom Funk, Agricultural Economics and Business.

## Pre-Flight program gears up for students with disabilities

The transition from high school to university can be scary for any young person, but it's particularly difficult for a student with a learning disability. U of G is helping to give students with learning disabilities the information and confidence they need to succeed at university through a week-long summer preparation program called Pre-Flight.

Pre-Flight is not just for U of G applicants. It's open to any Ontario high school student with a learning disability who plans to attend university somewhere in the province. Funding is provided by the Ministry of Training, Colleges and Universities' Learning Opportunities Task Force.

Pre-Flight gives students a real taste of the stresses and excitement of university life long before Labour Day, says Lynda Slater, education specialist in the Centre for Students With Disabilities. "We try to mimic a week at university by creating a similar academic and social atmosphere."

Participants complete written and oral assignments and tests while having the distractions of living in residence, meeting new people and trying to squeeze in social activities.

"There's a great deal of focus placed on helping students understand that 'learning disability' doesn't mean 'inability,'" says Slater. "Learning disabilities are information-processing deficits in students with average to above average intelligence. These disabilities often make learning in conventional ways a challenge."

The program helps students understand the nature of their learning disability, examine the strategies they currently use to cope and begin to predict what new learning strategies they may need to use at the university level.

### WIRELESS LIBRARY

The U of G library has gone wireless. Library users who have laptops equipped with wireless LAN cards can now have Internet access anywhere in the building.

## Vet, medical students team up

In fall 2003, students from the Ontario Veterinary College were teamed up with medical students from the University of Western Ontario to work on a case study of raccoon rabies and human health. The week-long module was held at the Ontario Ministry of Natural Resources rabies research unit in the Niagara Peninsula. "Cases such as raccoon rabies or diseases like West Nile virus become wonderful models for teaching concepts of ecosystem health because they highlight the need for collaboration from a wide variety of professions and demonstrate the complexity of these sorts of issues," says pathobiology professor Bruce Hunter, who supervised the program.

## Physics on TV



Physics professor Ernie McFarland is well known on campus for his eye-catching classroom tricks, but last winter he made his television debut in a science duet with Tom Kehn, supervisor of Guelph's undergraduate physics laboratories. They developed a series of 19 weekly science demonstrations for CTV's *Good Morning Canada*. Almost 20 years ago, they developed what has become a popular science road show for schoolchildren, and borrowed from that experience to explain the mysteries of science to a nationwide television audience. "We wanted to show that physics is fun and understandable," says Kehn. "Everyday Science" appeared on Saturday mornings and was viewed by an audience of almost 200,000.

## Technology boosts language teaching



Prof. Dana Paramskas

It was in trying to find a solution to a common teaching problem that Prof. Dana Paramskas, Languages and Literatures, came up with a concept for a computer program in the late 1970s that is still widely used today in helping people learn French.

"How can I get students to practise writing and give adequate feedback without killing myself with all the marking?" was the problem. Her answer is a computer program that gives students explicit feedback to grammatical exercises. She and Glen Holmes of the University of Western Ontario put so much detail into the original version of *Clef*, that it has needed only two upgrades since it came out in 1981.

Two hundred institutions in Canada and many abroad use *Clef* as part of their French-language programs, including the federal government, Université du Québec à Trois Rivières, U of G and several public schools.

Paramskas has taught French as a second language for more than 30 years and is considered a leading expert in technology-enhanced second-language learning. She recently received a prestigious 3M Teaching Fellowship as recognition of her talent as a teacher and her creativity in program development. In 2003, she won an American Distance Learning Association Award for the Office of Open Learning distance course "Basic French: Listening Comprehension."

It's because she develops teaching resources out of specific teaching and learning problems that her efforts are so valued by French teachers and learners. When she became frustrated that there were really no interactive computer-based resources that taught French-Canadian culture, she and Donna Mydlarski of the University of Calgary began searching for an interesting way to present Canadian francophone culture. After seeing Frédéric Back's short 1981 animated film, *Crac*, they knew it was the vehicle they wanted to use to educate Canadians about Québécois and French-Canadian culture.

*Crac* is the story of a rocking chair built in Quebec in the late 1800s that observes the art and culture around it for more than 100 years.

"There are umpteen references to Canadian history and culture, and Back used famous Canadian paintings as backgrounds," says Paramskas.

Once she and Mydlarski received rights from the CBC for the Oscar-winning film and from the holders of the original paintings in the film, they released a CD-ROM called *La chaise berçante* (The Rocking Chair) in 2001. The program, sponsored by Heritage Canada and Alberta Learning, has allowed teachers who previously struggled to find material on French-Canadian and Québécois culture to expose their students to their francophone neighbours' culture and history.

All schools in Alberta and most schools in Prince Edward Island use the program, as do other secondary schools, post-secondary institutions and individuals across the country.

Paramskas also developed an online translation course that is currently being offered through Guelph's Office of Open Learning. It's an introduction to the techniques of translation from French to English.

## Guelph covers Ontario

The University of Guelph geographical base stretches across Ontario and includes the main campus in Guelph, the University of Guelph-Humber in Toronto, agricultural colleges at Ridgetown, Kemptville and Alfred, and more than 20 research stations.

## Valerie Davidson named to NSERC/HP chair

Engineering professor Valerie Davidson has been awarded a prestigious chair from the Natural Sciences and Engineering Research Council (NSERC) designed to increase participation of women and girls in science and engineering and to provide role models for women considering careers in these fields.

Davidson will hold the NSERC/HP (Canada) Chair for Women in Science and Engineering for five years. Supported by NSERC, HP and U of G, Davidson's chair has a mandate across Ontario. She will work to develop a provincial network to help women at a number of stages from early education to post-secondary programs to early careers, including academic careers.

## CBS launches web e-zine

Students in two of the largest first-year offerings on campus are now learning the basics of biology from biomes to species interaction through a new series of interactive, learner-centred tutorials designed for introductory biology.

These tutorials, available on the course website through WebCT, present lecture content to students online as an electronic magazine or "e-zine."

"We've moved some of the lecture material into a more interactive and visually appealing format," says Dawn Larson, academic assistant to the dean of the College of Biological Science and co-ordinator of this pair of courses.

The tutorials contain specially created magazine-style articles and columns as well as quizzes and self-assessment activities. Students can also take part in online conferences and post or answer questions with classmates or a teaching assistant.

"Given the increased emphasis on Internet communication during the past decade, the format of the tutorials takes advantage of students' daily use of the Internet," says Larson.

The first three issues of the Biology News Network cover aspects of climate, biomes and species interactions. Students surfing through the first issue can read a feature article on factors affecting climate, including summary statements, photographs and diagrams, and can complete self-assessments online.



Dawn Larson

Other sections in each issue include a stylized advice column (written tongue-in-cheek by Dr. "Chlora Phyll"), a Q-and-A section, short profiles of CBS faculty members and a point-counterpoint discussion on a related topic.

Each section lists main objectives and star ratings that guide students from "need to know" to "nice to know." Students can use online conferencing to discuss current topics or to ask questions. By responding to informal online polls, they can also take stands on current issues such as the impact of rock climbers on cliff ecosystems.

A former co-winner of the CBS Teaching Award for course design, Larson says she expects the e-zine format will appeal to web-savvy students and enhance their classroom experience, helping them to better retain information.

## Guelph hosts noted professor



Prof. Don Woods

Don Woods, a chemical engineering professor at McMaster University, was Guelph's Distinguished Visiting Teaching Professor for 2003.

He led workshops for faculty and students on a variety of topics and delivered a public lecture titled "The Double Cohort as a Facilitator of Change: Hidden Opportunities for Students and Faculty."

An expert in problem-based learning and process design, Woods has won numerous awards for his teaching and leadership. They include a 3M Fellowship, an honorary doctorate from Queen's University, the President's Award for Educational Leadership, the President's Award for Course Development and the Lifetime Achievement Award from Chemical Engineering Education.

### U of G Links

#### Centre for International Programs

[www.uoguelph.ca/CIP](http://www.uoguelph.ca/CIP)

#### Faculty Recruitment

[www.uoguelph.ca/facultyjobs](http://www.uoguelph.ca/facultyjobs)

#### Office of Open Learning

[www.open.uoguelph.ca](http://www.open.uoguelph.ca)

#### Teaching Support Services

[www.tss.uoguelph.ca](http://www.tss.uoguelph.ca)

#### University of Guelph-Humber

[www.guelphhumber.ca](http://www.guelphhumber.ca)

#### U of G home page

[www.uoguelph.ca](http://www.uoguelph.ca)