ENVIRO*news*

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(All photos by Mona El-Haddad unless otherwise noted.)

Inside...

EPAC's open forums, such as this one held in October 2003, offer an opportunity for the U of T community to give input into environmental issues on campus. EPAC also held open forums for input into its proposed greenhouse gas and energy reduction plan.

EPAC proposes Greenhouse Gas & Energy Reduction Plan for U of T

By Raegan Bunker and Brent Gilmour

The University of Toronto, with approximately 55,000 students and some 200 buildings on three campuses is the largest post secondary educational institution in the country, the largest non-government landowner in Toronto, and has an energy consumption of approximately 175,000 MWh per year. In recent years, the University has made significant inroads in addressing energy management and conservation, however, it continues to face several significant and interrelated issues concerning energy use: greenhouse gas emissions, escalating energy costs, and local-to-regional air pollution.

The University is proposing to undertake a comprehensive plan to reduce its energy use and contributions to greenhouse gas emissions (GHGs). The GHG Reduction Plan will provide the University with a primary tool to implement energy and resource-efficiency practices, but also enhance and achieve the environmental and sustainability goals and objectives laid out in its Environmental Protection Policy, which addresses a variety of topics such as energy and water use, waste generation, pollution, biodiversity and the overall environmental health of the campus.

Due to efforts of the University's Environmental Protection Advisory Committee (EPAC), which is co-chaired by **Phil Byer** (Chair, Environmental Engineering Program) and **Ingrid Stefanovic** (Director, Division of the Environment), the University has received a small grant from the Toronto Atmospheric Fund to begin the process of developing a GHG Reduction Plan. The Toronto Atmospheric Fund, established in 1991 by Toronto City Council, finances local initiatives to combat global warming and improve air quality in Toronto. The objective of the current project is to develop a business plan that will facilitate the acquisition of significant funding for the full development and implementation of the GHG Reduction Plan.

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Centre for Urban Health Initiatives to be established

By Larry Bourne and Miriam Diamond, Geography.

A trans-Canada interdisciplinary team including faculty from the University of Toronto have been awarded $2 million over six years from the Canadian Institutes of Health Research to establish a new interdisciplinary **Centre for Urban Health Initiatives**. Its mandate is to facilitate research into the social and environmental determinants of health in urban areas, including community-based research initiatives, and foster educational opportunities at the graduate and undergraduate levels. U of T members of the research team include Principal Investigator **John Myles** of Sociology, **Sarah Wakefield** and **Miriam Diamond** of Geography, **Donald Cole** and **Rick Glazier** of Public Health Sciences, and **Frances Silverman** from the Gage Occupational and Environmental Health Unit. Other partners include Environment Canada, Wellesley Central Hospital and Toronto Public Health.

Division of the Environment mounts undergraduate environmental ethics minor

By Ingrid Stefanovic

We are pleased to announce that, in collaboration with the Department of Philosophy, the Division of the Environment has received approval to mount a new minor undergraduate program in Environmental Ethics. In addition to the requisite philosophy courses, the four-course program will include completion of a foundational course in environmental studies (JIE 222Y1 *The Study of Environment*). The Division is delighted to be collaborating with Philosophy on our first formal joint venture in the interdisciplinary field of environmental philosophy. Registration will begin in the spring of 2004.

The mandate of the Division is to offer programs and to advise students about a diversity of environmental offerings at the University. At the present time, students may focus on environmental issues to obtain a B.A. or B.Sc. degree in conjunction with departments such as geography, chemistry, geology and many others. The Division advises students about available options for undergraduate study and provides its own programs in *Environment and Society* and *Environment and Science* streams.

The University has more than 300 faculty members who are currently involved in environmental teaching and research in the sciences, social sciences, humanities, engineering, forestry, architecture/ landscape/design and medicine. Nevertheless, these strengths are not always visible to students and to the wider community, because of the lack of a clear "front door" to environmental studies. The Provost's current planning process provides an opportunity to improve the legibility and coordination among these diverse offerings. The Division's own plan will specifically address the need to coordinate and streamline environmental programs, and to highlight the wealth of expertise that exists in environmental teaching and research at the University of Toronto.

For further information, please see http://www.utoronto.ca/divenv/ or contact Bhavnita Mistry, Program Advisor, bhavnita.mistry@utoronto.ca.

Ingrid Stefanovic is the Director of the Division of the Environment.

Forestry lab uses hemp to make auto parts

By Mohini Sain

Increased search for sustainable technology to reduce fossil fuel consumption and ecological awareness has resulted in a renewed interest in natural materials. Environmental legislation as well as consumer pressure is forcing product manufacturers to consider the environmental impact of products at all stages of their life cycle.

A University of Toronto industrial biomaterials processing group led by **Mohini Sain** is researching to find alternative biomaterials that would reduce the use of plastics and other high energy-based materials manufacturing. The laboratory has developed biofibres from plants such as hemp, flax, wheat, soy, corn and even rutabaga that are thinner than hair but are lighter and stiffer than many synthetic fibres. This patent pending process to make biofibre in nano-size diameter range has demonstrated good potential to be used in many high performance materials such as automotive and aircraft parts, biomedical devices such as blood bags and valves and even in the making snowboards or skateboards.

Research in Dr. Sain's lab has successfully demonstrated the advantages of combining these biofibres with plastics obtained from renewable resources, such as soy beans or pulp and paper sludge. Through this combination, new biomaterials are developed that are completely biodegradable and are better in performance than many petrochemical derived materials. Finally, using a combination of heat and pressure, the material is compressed into a variety of shapes, such as a car handle seen in the accompanying photo.

Technology has also been developed to use wood resin, which is

A car handle is an example of what has been made by Dr. Mohini Sain's lab when combining ultra-fine hemp fibre and bioplastics.

product from waste wood to manufacture biocomposites that could reduce or eliminate formaldehyde emission issues in many building products. Less number of trees would have to cut down than are needed to sustain our current consumption of wood in building and construction applications. This second generation of biocomposite material helps to reduce greenhouse gas emission and enhances carbon storage capacity of materials.

Mohini Sain is an Associate Professor at the Faculty of Forestry. For more information on his lab's research, please see www.forestry.utoronto.ca/sainlab/index.htm or contact him at m.sain@utoronto.ca

EPAC proposes Greenhouse Gas and Energy Reduction Plan for U of T

... continued from page 1

EPAC has created an energy plan steering committee to oversee the project. The committee members are: **Tarek Ayash**, Student, Graduate Environmental Students' Association; **Bruce Dodds**, Director, Utilities; **Brent Gilmour**, Alumnus; **David Nam**, Student; **Catherine Riggall**, Assistant V-P, Facilities and Services; **Beth Savan**, Senior Lecturer, Innis College, Environmental Studies Program; **Raegan Bunker**, IndEco Strategic Consulting Inc. and EPAC's GHG Project Coordinator; **Anjhela Salonga**, Student Assistant Coordinator; and **Rebecca Violini**, Student Assistant Coordinator.

In October and November of 2003, the project committee hosted three successful open forums to solicit ideas and comments from the U of T community - students, faculty, staff and administration. The committee received many ideas that it will use to form the scope of the GHG Plan and to develop a Business Plan for securing additional funding for the initiative. Additionally, the Student Assistant Coordinators have been actively involved in researching energy, GHG and sustainability initiatives that have been undertaken at other Universities across Canada and the United States. It is anticipated that the Business Plan will be completed by February 2004.

In addition to the open forums above, EPAC has asked the class of the Division of the Environment's ENV421H *Environmental Research* to make the U of T GHG Reduction Plan the focus of its class this term (see box on right for further information).

For more information on the GHG Reduction Plan, please visit www.facilities.utoronto.ca/epac/GHGRP/ or email epac.ghg@sympatico.ca.

Other EPAC Open Forums

In addition to the recent open forums related to the GHG Reduction Plan, EPAC holds three open forums per year to which all members of the university community - staff, faculty, students and alumni - are invited. These Open Forums are used to gather input on environmental issues and to find out how well the University is meeting the objectives set out in the Environmental Protection Policy. The information gathered at the Open Forums is used by the EPAC Executive to address and implement the Policy at various levels. Forums were held on October 17 and January 23.

The next forum will be held March 26, 2004, 1:00 - 3:00 p.m.

For more information on EPAC, its Open Forums and the U of T Environmental Policy, please visit www.facilities.utoronto.ca/epac/epacpage.htm

EPAC Annual Award

EPAC has established an award to recognize an individual, group or supplier affiliated with the University that has made an outstanding contribution to the principles and objectives of the Environmental Protection Policy. Awards will be based on the nominee's direct contribution to minimization of negative impacts on the environment, to conservation of natural resources or promotion of biodiversity at the University as outlined in the Environmental Protection Policy. Alternatively, their contribution may have increased awareness of the need for environmentally sustainable behaviour; encouraged and assisted members of the university community to adopt more environmentally sustainable behaviour; or helped establish a campus culture allowing this to happen. In its inaugural year, the awards were given to to Brent Gilmour (individual) and UTERN (group).

For more information and a nomination form, please visit the EPAC Web site above or download it at www.facilities.utoronto.ca/EPAC/award2.pdf

Raegan Bunker, of IndEco Strategic Consulting Inc., is Project Coordinator for EPAC's GHG Reduction Plan. Brent Gilmour is a U of T Alumnus and member of the GHG Reduction Plan committee.

ENV421H class to assess EPAC's GHG reduction plan for U of T

By Bhavnita Mistry

Each year the class of ENV421H *Environmental Research*, takes on the task of researching and presenting a university based, environmentally related project. This year's topic is *Canada and the Kyoto Protocol: Is the University up to the challenge?* Many universities around the world are undertaking initiatives to reduce their own greenhouse gas (GHG) emissions. The University's Environmental Protection Advisory Committee (EPAC) has requested that ENV421 focus its research project this year on the reduction of the university's own GHG emissions. As such, the ENV421 students will examine specific areas of GHG emissions and develop recommendations for a more aggressive GHG reduction strategy for the university. The students have narrowed their focus into the three key areas:

1. Comparing U of T's GHG reduction initiatives with other universities;
2. Reducing GHG emissions associated with commuting to U of T; and
3. Reducing GHG emissions associated with U of T's vehicle fleets.

Students are expected to interact with members of EPAC, where appropriate.

Students will then present their findings at the annual ENV421H open house to be held on April 6th, 2004. Topics covered in previous years included an assessment of U of T's waste management program and an impact assessment of proposed developments on Bloor St. Copies of previous years' reports are available on the Division of the Environment's web site, www.utoronto.ca/divenv. This year's report will be posted as well.

For more information on this year's topic and open house, please contact the course instructor, Mark Winfield (mark.winfield@utoronto.ca).

For more information on EPAC's GHG reduction plan, please see the article on this page or http://www.facilities.utoronto.ca/epac/GHGRP

Bhavnita Mistry is the Program Advisor at the Division of the Environment. She can be reached at bhavnita.mistry@utoronto.ca or 416-978-3475.

Waste-Econ Program expands into Laos and Cambodia with two new pilot projects

By Carrie Mitchell and Virginia Maclaren

The CIDA-funded Waste-Econ Program (*Making Waste for the Economy in Vietnam, Cambodia and Laos*), led by **Virginia Maclaren** of Geography, is a 5-year project at the Institute for Environmental Studies (IES) and the Department of Geography. In its first three years, the pilot projects were conducted in Vietnam. Most of these projects have completed their first phase and are now concentrating on publishing and outreach. Recently, the Program has expanded into Laos and Cambodia with two new pilot projects.

The pilot project in Laos (or Lao PDR) is focusing on ***Waste Separation and Composting of Market Waste in Vientiane.*** **Carrie Mitchell** (a recent graduate of the Program in Planning, Deptartment of Geography) is presently working as a research associate in Laos to assist with setting up this pilot project. The Laotian partner institution has developed this pilot project to examine the potential for composting the high volume of organic wastes generated at market sites throughout Vientiane. The study will include an examination of composting techniques, accelerants and uses for the end product. A site for the initial work has been selected and a partnership developed with the National University of Laos and the Urban Management Department of Vientiane. **Phil Byer**, of Civil Engineering and IES, is supervising two graduate students from environmental engineering, **Gen Wong** and **Sangeeta Chopra**, who worked with the pilot project group in the summer of 2003 to carry out waste composition studies and composting feasibility studies at one market. **Chuck Hostovsky**, of Geography, and **Paul Taylor**, President of Compost Management, gave workshops in Vientiane on *Source Separation and Waste Auditing* and *Composting Techniques*, respectively.

The pilot project in Cambodia is addressing ***Community-based Waste Management in Siem Reap***. Siem Reap is the gateway town for Ankhor Wat, a World Heritage site and one of Southeast Asia's most popular tourist attractions. Many neighbourhoods in Siem Reap have no waste collection service at all, so this pilot project will investigate the feasibility of having community members manage and finance a waste collection and source separation program in one of these neighbourhoods. **Virginia Maclaren** will be the Canadian advisor on this project, which starts in January 2004 with a survey of waste production in the community and of householders' attitudes towards participation in a source separation program. Faculty and undergraduate students from the Royal University of Phnom Penh will conduct the survey and work with the community to produce a local waste management strategy.

Two new pilot projects in Laos and Cambodia have recently been started by the Waste-Econ Program. TOP: Rough dirt roads prevent access by waste collection trucks to this neighbourhood in Siem Reap, Laos. (Photo: J. Whitney.) BOTTOM: Compostable waste in Vientiane morning market in Vientiane, Cambodia. (Photo: V. Maclaren.).

Carrie Mitchell and Virginia Maclaren are Research Associate and Program Director of Waste-Econ, respectively. For more information, please visit http://ots.utoronto.ca/users/WasteEcon or contact Virginia Maclaren, maclaren@geog.utoronto.ca

Appointments (effective July 2003)

Ingrid Stefanovic

Ingrid Stefanovic, Associate Professor of Philosophy, has been appointed as the new Director of the Division of the Environment. Office: Room 1020, Earth Sciences Centre, 33 Willcocks St., 416-978-3475, ingrid.stefanovic@utoronto.ca

Ann Zimmerman

Ann Zimmerman, Professor of Zoology and former Director of the Division of the Environment, started a five year term as Director of the Koffler Scientific Reserve at Jokers Hill. She will manage the scientific research and teaching programs at the Reserve. Office: Room 402, Zoology, 25 Harbord St., 416-946-3918, ann.zimmerman@utoronto.ca
OR Jokers Hill: 905-727-8730 (summer)

Ferko Csillag

Ferko Csillag, Professor of Geography, has been appointed as Chair of the Department of Geography, U of T at Mississauga. Office: Geography, U of T at Mississauga, 905-828-5465, fcs@utm.utoronto.ca.

Scott Mabury

Scott Mabury, Associate Professor of Chemistry, has been appointed to Chair of the Department of Chemistry. He is also Director of the Analytical Laboratory for Environmental Science Research and Training. Office: Lash Miller Building, 416-978-1780, smabury@chem.utoronto.ca

IES' first web-based certificate program a success. Plans underway for expansion

By Kymberley Snarr and Donna Workman

Students have recently completed the first of two required courses towards a web-based Certificate in Environmental Management, launched by the Institute for Environmental Studies (IES) in September 2003. This certificate program is currently being offered in a completely online e-classroom environment, without the requirement to physically meet face-to-face.

Through the use of WebCT, the main University of Toronto courseware, the Certificate's first course **CEM 400** ***Fundamentals of Environmental Management*** was found to be very dynamic. With students from as far away as Lebanon, the course community began to solidify right from day one. Each of the ten weekly modules addressed a new topic with each week building upon the other. Students interacted with each other weekly in the asynchronous discussion forum, addressing timely case studies which related to the current module. As well, live chats were scheduled for synchronous interactions, where informal and formal discussions took place. The students were challenged to develop critical evaluation and writing skills, the ability to collaborate in a group, and to gain perspective on the necessity for sustainability in development. Students utilized email, the asynchronous discussion forum, and the synchronous live chat to interact with each other while completing pair or group assignments. This group now possesses an appreciation of the local, national and global perspective in which all environmental problems and solutions have to be measured.

There were two guest chat speakers in the course. The first guest speaker was **Art Shannon** of ArborNorth in Module 7, *Resource and Environmental Management in Canada*. Through a digitized video and a web link to information on horse logging, students were able to gather together information on the specific case study of how horse logging contributes to sustainable management in temperate forests. During the discussion forum and a scheduled live chat with Art Shannon, students were able to interact directly with the guest speaker prior to completing their assignment. This lively two hour chat was exciting for both the students and the guest speaker. (For moe information on ArborNorth, please see http://www3.sympatico.ca/art.shannon)

Art Shannon with horses skidding hardwoods in the Haliburton Highlands. He was one of the guest speakers in a chat in one of IES' new web-based courses towards a Certificate in Environmental Management. He discussed how horse logging contributes to sustainable management in temperate forests. (Photo from http://www3.sympatico.ca/art.shannon)

The second guest speaker was **Bob Willard** in Module 9, *Business and the Environment*. Bob, a doctoral candidate at OISE/UT and IES with 34 years of experience in the corporate world, addressed the need for corporate social responsibility. A digitized lecture from Royal Roads University was provided along with a PowerPoint presentation prior to an hour long live chat. Bob's extensive background and deep understanding of the corporate world was evident in his ability to quickly address the questions posed by the students during the live chat. The interactive session was beneficial in demonstrating how corporations can pursue corporate sustainable responsibility while allowing appropriate "bottom-lines". (Please visit http://www.sustainabilityadvantage.com/ for more information on Bob Willard and his book *Sustainability Advantage: Seven Business Case Benefits of a Triple Bottom Line*.)

Students from this inaugural group are now in their second course, **CEM 401** ***Environmental Case Management***, which started in January, 2004. They will use the specific case study of the Kyoto Protocol to examine and deepen skills gained in the first course.

This program has proved to be such a success that IES decided to run the first and second courses again in January and April 2004 respectively, rather than wait for September 2004. A second group of students is now enrolled in the first course towards the Certificate in Environmental Management.

All graduates are eligible to apply for the Canadian Certified Environmental Practitioner designation under the Canadian Environmental Certification Approvals Board's national certification program for Canadian environmental practitioners. As well, the individual courses meet the professional development criteria required to maintain environmental certification.

This pilot distance education program clearly shows signs of success. Through this particular format of interaction, students (mostly working professionals in the environmental industries) need not attend classroom lectures, allowing for maximum flexibility in their educational endeavours.

Plans are now underway to launch a Diploma in Environmental Finance and a Certificate in Business Continuity Management in September 2004.

For more information about distance learning opportunities at IES, please see http://www.utoronto.ca/env/ies or contact the Donna Workman, Distance Learning Co-ordinator, d.workman@utoronto.ca or 416-978-7077.

Kymberley Snarr, a doctoral candidate in the Department of Anthropology and IES, is the developer and instructor of the CEM 400 and 401 courses.

Was 2003 yet another year of disasters? Perhaps, but it also offered possible solutions

By P. Kevin Schenk

As we start a new year, have we left behind yet another year of disasters? In British Columbia, the worst forest fire season in a half-century saw at least 2400 fires burning in excess of 250,000 hectares since April 1[1], with tens of thousands evacuated from their homes. In Europe, the hottest temperatures in decades assailed the continent, with deadly consequences. Nowhere was this more evident than in France, where heat wave fatalities stood at a stunning 11,000, with failures of public health infrastructures widely suspected in the large death toll. In August, the largest power failure in North American history penetrated virtually every sector of society, crippling infrastructures and reminding us of our dependence upon technological systems for our daily routines. And September brought further assault from Hurricanes Isabel and Juan.

But aren't disasters just an unavoidable part of life? In a word, no. Hazards exist, but disasters are not simply the inevitable, unfortunate outcome. In recent years a significant paradigm shift in natural hazard research suggests that we face greater risk today than ever before. In a major effort headed by **Dennis Mileti** of the University of Colorado, disaster researchers have radically reversed the long-held notion that society (and/or hazards) can be modified to suit our human purposes. Entitled ***Disasters by Design***[2], the thrust of this research effort stresses that we need to fundamentally reassess the resilience of our social institutions and practices. "Human beings, not nature, are the cause of disaster losses," Mileti asserts. "The choices that are made about where and how human development will proceed actually determine the losses that will be suffered in future disasters." For example, hurricane warning systems make people feel safer, so paradoxically they build structures closer to the water as a result, trading gains in public protection for a better view of the ocean.

There is much common ground in the approaches used to mitigate diverse hazards. For example, institutional structures can increase or reduce social vulnerability to disaster. In France, the vulnerabilities in public health infrastructures could have been exposed as easily by a flood, severe winter weather event, or geophysical hazard as they were by the August heat wave. And while British Columbia's 2003 emergency response emphasis was decidedly focused upon wildfire, landslide and earthquake risks create many of the same emergency preparedness problems that may demand disaster management solutions.

But 2003 was not just a year of disaster, but also a year of solutions. From June 22-25, Toronto hosted the 13th **World Conference on Disaster Management** (WCDM). This major conference, presented annually by the Canadian Centre for Emergency Preparedness, saw an attendance exceeding 900, making it the largest event of its type in the world. The major theme was the changing face of disaster management and appropriate response strategies. Topics included: human elements in disaster, emerging trends/principles of disaster management, emergency health care, and case studies of lessons from current events. From information security to SARS, from effective crisis leadership to failed crisis communications, and from earthquake risk in Iran to the October 2002 Bali bombing, the WCDM effectively wove together a diversity of disciplines. For more information, please visit **http://wcdm.org**

The worst fires in 50 years ravaged British Columbia in 2003, one of many natural disasters occurring in 2003. (Photo courtesy of BC Ministry of Forests.)

2003 also saw the publication of a major collection of Canadian natural hazards research. The Special Issue on ***An Assessment of Natural Hazards and Disasters in Canada*** edited by **David Etkin** (Environment Canada/IES), **Gregory R. Brooks** (Geological Survey of Canada), and **C. Emdad Haque** (University of Manitoba) appeared in the March 2003 journal ***Natural Hazards*** (v.28, no.2-3). Topics include: seismic hazard mitigation, disaster vulnerability, flood risk and damage, risk assessment and disaster probabilities, public participation and community planning, philosophy and hazards, transportation hazards and telecommunications, volcanic and geomagnetic hazards, and the hazards of storm surge, tsunami, and heat wave.

Finally, the **Second Natural Hazards Meeting of the North Atlantic Treaty Organisation's (NATO) Committee on the Challenges of Modern Society** (CCMS) was held at the University of Toronto under the auspices of the Institute for Environmental Studies on October 9-10, 2003. This meeting addressed vulnerability modelling, risk homeostasis and risk management, climate change and the ecology of disaster, and the vulnerability of cities. For more information, please visit **http://www.utoronto.ca/env/nato/toronto2003.html**
(CCMS also held its fall plenary session at U of T on October 13-14, 2003; see article on page 7.)

At the start of another year, we once again see that natural hazards remain critical, and hold disaster lessons for many areas of our society.

References cited:

[1]British Columbia Ministry of Forests, 09 September 2003.

[2]*Disasters by Design: A Reassessment of Natural Hazards in the United States*. Washington: Joseph Henry Press, 1999.

Kevin Schenk graduated from the Department of Geology in 2000, and Environmental Studies/Geography in 2003. He currently works in the Adaptation and Impacts Research Group at the Institute for Environmental Studies, University of Toronto. For more information, please contact him at kevin.schenk@utoronto.ca

The Natural City symposium attempts to integrate urban and natural environments

By Ingrid Stefanovic

The Natural City: Global Trends.
June 23-25, 2004, University of Toronto.
Presented by U of T's Division of the Environment and Institute for Environmental Studies and
The World Society for Ekistics.
Keynote Speaker: Robert F. Kennedy, Jr.

Many people perceive nature and cities to be separate entities. Despite some significant shifts in thinking in recent decades, the overriding perception still seems to be that "environmental" issues are principally concerned with plants, animals and pristine wilderness areas. On the other hand, human settlements are generally seen to be the exclusive domain of architects, planners and urbanists. Too often, nature is mythologized as benevolent and the city as evil, despite growing urbanization trends worldwide.

The symposium ***The Natural City: Global Trends*** presents an opportunity to challenge this view. Urban and natural environments are not necessarily conflicting notions but must be integrated at many different scales, for sustainable, healthy settlements to occur. As renowned anthropologist, Margaret Mead, argued years ago, just as hives are to bees and dens to foxes, cities can be equally "natural" moments in the development of human society, as long as ecological integrity is preserved.

A major focus for this meeting will be how to rethink foundational concepts and apply them to the sustainable development of natural, healthy cities on a global scale, from developing to developed worlds. We invite submissions for paper presentations, roundtable discussions and poster presentations. Topics of papers may revolve around the following themes:

- Ecology and the City;
- Philosophical, Psychological and Religious Dimensions;
- Socio-Economic, Cultural and Political Trends;
- The Architecture of the Natural City;
- Transportation Engineering and Information Technology; and
- Planning The Natural City

A session will also be dedicated to pre-arranged student presentations from around the world.

For further information, please visit www.utoronto.ca/divenv/NaturalCity/ or email natural.city@utoronto.ca
Ingrid Stefanovic is Director of the Division of the Environment.

First visit of NATO committee to Canada in 30 years

By Andrew D. Miall

On October 13-14, 2003, some forty people from practically every one of the 26 countries of the North Atlantic Treaty Organization (NATO) plus representatives from Russia, met at the Munk Centre for International Studies at the University of Toronto for the Fall Plenary of NATO's **Committee on the Challenges of Modern Society (CCMS)**. Delegates were welcomed to the university by the then University Provost and Vice-President, **Shirley Neuman**, who addressed the conference at the beginning of the Monday-morning session.

The CCMS meets twice a year to discuss, implement and review practical military and civilian environmental projects within the NATO region. A spring meeting is held every year at NATO headquarters in Brussels. A meeting in October is held in one of the other NATO countries or in one of its partner countries in eastern Europe (recent meetings have been held in Berlin and Vienna). The committee had not visited Canada in thirty years.

The appointment of Canada's National Representative to this committee is delegated by the Department of Foreign Affairs and International Trade to the Royal Society of Canada. Currently the post is held by **Andrew Miall**, Professor of Geology at U of T. One of the projects discussed at the meeting is one dealing with the prediction and mitigation of natural hazards, a project initiated by Andrew Miall and **David Etkin**, of Environment Canada's Adaptation and Impacts Research Group at U of T's Institute for Environmental Studies. Several other speakers from Canada's Department of Defence reported on environmental clean-up and training programs being undertaken by the armed forces, and the program included a visit to the National Water Research Institute at Burlington, a showcase of Canada's environmental research activity.

A novel feature of this meeting was a presentation by Russian representatives, of the progress of a joint Norway-Russia program to manage oil spills. Russia is now a formal member of NATO's science and environment program, through a recently-formed body called the NATO-Russia Council. The Toronto meeting was the first time this body has met outside NATO headquarters.

At the meeting of NATO's Committee on the Challenges of Modern Society, U of T VP and the then Provost Shirley Neuman (second from left) is joined by Assistant Secretary-General of NATO responsible for the Department of Public Diplomacy, M. Jean Fournet (left); Andrew Miall of the Geology Department and Canada's representative to NATO's CCMS; and Deniz Beten, Program Director for CCMS (far right).

The delegates were able to enjoy the wonderful weather over the holiday weekend, and to enjoy a dinner hosted by Canada at the Messis Restaurant on Harbord Street. They left with excellent impressions of Toronto and of the university.

CCMS also held a natural hazards meeting at U of T on October 9-10, 2003; see article on page 6.)

Andrew D. Miall is a Professor in the Department of Geology and serves as Canada's National Representative to CCMS.
For more information, see http://www.nato.int/ccms/ or contact Dr. Miall at miall@quartz.geology.utoronto.ca

New GESA exec aims to be more active on campus

By Tanya Labencki

The online election of the new executive of the Graduate Environmental Students Association (GESA) marked the start of a new academic year filled with new initiatives and activities. In September 2003, the new executive was selected with both returning and new students filling the roster:

- *President*: **Tanya Labencki**, M.Sc. student, Geography/ Environmental Studies (IES);
- *Vice-President & UTERN Rep*: **Satyendra Bhavsar**, Ph.D. student, Chemical Engineering/Environmental Engineering
- *Communications Director and EPAC Rep*: **Anthony Liu**, Ph.D. student, Physics/Environmental Studies (IES);
- *Social Director & Environment & Health Rep*: **Shelby Yamamoto**, M.Sc. student, Public Health Sciences/Environment and Health (IES);
- *Treasurer*: **Nadia Hernandez Martinez**, M.A.Sc. student, Chemical Engineering/Environmental Engineering;
- *Environmental Engineering Rep*: **Harshan Radhakrishnan**, M.A.Sc. student, Chemical Engineering/Environmental Engineering; and
- *Members-at-large*: **Robert Aurich**, **Tarek Ayash**, **Kim Beazley**, **Nilima Gandhi**, **Sarah Gewurtz**.

GESA currently acts as a liaison body improving communication between environmental students, staff and faculty here at the University of Toronto. This year, in addition, GESA is aiming to build on previous year's events by becoming more active in addressing environmental issues both on and off campus. For example, GESA now has representatives on the Environmental Protection Advisory Committee, EPAC (rep: **Anthony Liu**), and the U of T Environmental Resource Network, UTERN (rep: **Satyendra Bhavsar**), which will help make our ideas into solutions for environmental issues on campus, and undertake environmental projects on campus, respectively.

To start off the year, GESA began by taking an active part at the orientation session of the Institute for Environmental Studies (IES) on September 5, 2003. **Tanya Labencki** and former President **Heather Jones-Otazo** gave a presentation on GESA to incoming students, followed by great food which was enjoyed by all. Many thanks to **Robert Aurich** for barbequing some great burgers. As well, **Satyendra Bhavsar** and **Nilima Gandhi** presented information on GESA to incoming students at the environmental engineering orientation session.

On October 31, 2003, GESA hosted a Halloween Party complete with a scary movie and pumpkin carving. The event was organized by **Shelby Yamamoto** and **Satyendra Bhavsar** to introduce GESA members to their executive.

Most recently on November 22-23, GESA held an overnight retreat at Hart House Farm for its members. Organized by **Tanya Labencki**, ten GESA members spent two days at the farm hiking on the Bruce Trail, exploring caves along the Niagara Escarpment, eating delicious food at a pot-luck dinner, and playing detective in a few rounds of a murder-mystery game. Like always, everyone enjoyed their time away at the farm and getting to know their fellow environmental graduate students.

Library information sessions were also organized by GESA: at Gerstein for IES students, organized by **Tanya Labencki** and for environmental engineering students, organized by **Satyendra Bhavsar** and **Harshan Radhakrishnan**.

Upcoming Events

GESA has some great events planned for 2004. All IES and environmental engineering students are encouraged to attend the activities as they are a great way to meet new people and share your thoughts on environmental issues. After a Winter Holiday Party on January 8, 2004, upcoming events include the following, as well as various social/environmental activities throughout the year:

March 3, 2004:	Environmental Career Day ***(see article on page 11)***
Spring 2004:	Hart House Farm overnight retreat
April 2004:	Environmental Charity Fundraiser
	End-of-year Party
Summer 2004:	Camping Trip

For information on GESA and its activities, please visit http://www.utoronto.ca/env/ies/gesa, email gesa.ies@utoronto.ca or read future IES student email listserve postings.

Tanya Labencki is the new President of GESA. She can be reached at tanya.labencki@utoronto.ca

Social gatherings are only some of the activities planned by new GESA executive for this academic year, as they aim to be a more active with regards to environmental issues on campus.

LEFT: Members of GESA celebrate Halloween in October 2003 party. Left to right: Harshan Radhakrishnan, Vishnu Radhakrishnan, Nilima Gandhi, Shelby Yamamoto, Nadia Hernandez Martinez, Tanya Labencki, scary Halloween guy (Satyendra Bhavsar), and Heather Jones-Otazo.

RIGHT: GESA at November 2003 potluck dinner at Hart House Farm. Left to right: Rosa Wu, Ellen Wu, Sarah Gewurtz, Vishnu Radhakrishnan, Harshan Radhakrishnan, Nilima Gandhi, Satyendra Bhavsar, Stuart Storey, Chris Clark. (Photos: Tanya Labencki.)

5th anniversary of Labatt Fellowships celebrated

By Rodney White, Director, Institute for Environmental Studies

On November 20 2003, the Institute for Environmental Studies (IES) celebrated the fifth anniversary of the **Arthur and Sonia Labatt Graduate Fellowships in Environmental Studies** with a reception hosted by the Dean of the School of Graduate Studies (SGS), **Michael Marrus**. The highlights of the event were short presentations by five past recipients of this award who reported on their completed -- or soon to be completed -- doctoral research. These fellowships are awarded annually to support IES students who demonstrate academic excellence and financial need.

The speakers and past recipients of the award, introduced by OISE/IES Ph.D. candidate **Bob Willard**, were:

- **Chris Gore** (Ph.D. candidate, Political Science/IES): *Energy and development in Uganda*;
- **Sarah Hartley** (Ph.D. candidate, Political Science/IES): *The case of genetically modified crops in Canada and the UK*;
- **Jennifer McKelvie** (Ph.D. candidate, Geology/IES): *Assessing the feasibility of methyltert-butyl ether bioremediation*;
- **Kym Snarr** (Ph.D. candidate, Anthropology/IES): *The howling monkeys: life in fragmentation on the north coast of Honduras*; and
- **Marcy Erskine** (Ph.D. graduate, Anthropology/IES Environment & Health): *Adoption of preventative health technology.*

Fellow students, colleagues, the donors and their friends then had the opportunity to mingle and ask further questions of the speakers and to catch up on the news from the research frontier. Unlike many academic presentations this took place in the informal atmosphere of the Upper Dining Room at the Faculty Club with a pleasant fire and seasonal decorations. All agreed that it made a most enjoyable event and we are grateful to **Ann Smiley** and **Stephanie Spiers** of SGS for putting everything together.

TOP: Sonia and Arthur Labatt (centre) are joined by Michael Marrus, Dean of SGS and Rodney White, Director of IES (left) and Jon Dellandrea, Vice President and Chief Advancement Officer (far right) in the celebration of the fifth anniversary of their graduate fellowships. BOTTOM: Fellowship recipients and event speakers from left to right: Chris Gore, Sarah Hartley, Kym Snarr, Marcy Erskine, and Jennifer McKelvie. (Photos by Imran Hasan.)

IES' recent graduates

The Institute for Environmental Studies (IES) wishes to congratulate November 2003 graduates of one of it two collaborative graduate programs: Environmental Studies and Environment and Health.

Environmental Studies

Eric Dunbar, M.Sc., Botany/IES; supervisor: James Eckenwalder, Botany
The differential population success of two non-indigenous elms (Ulmus pumila and U. glabra) introduced into river valleys in Toronto, Canada.

Angela Loder, M.A., Political Science/IES; supervisor: Richard Stren, Political Science.
Green roofs and restorative environmental design: bringing nature back into the city.

Amy Mader, M.A., Economics/IES; supervisor: Don Dewees, Economics
Economic issues with renewable portfolio standards in electricity markets.
(See article on her current job on page 12.)

Amanda Mongeon, M.Ed., OISE/UT (Adult Education, Community Development and Counselling Psychology)/IES; supervisor: Roxana Ng, Adult Education.
Course work only program. Final paper, "Awakenings", incorporated poetry, prose, and images to explore the past, present, and future of her place in the world and of her identity as an environmentalist and educator. ***(See article on her current job on page 12.)***

Kathryn Palmer, M.A., Geography/IES; supervisor: Scott Prudham, Geography/IES. *The role of ENGOs in the land use planning process in Ontario: Case study of the Oak Ridges Moraine.*

David Sandomierski, M.A., Political Science/IES; supervisor: Richard Stren, Political Science.
Human security and sustainability.

Environment & Health:

Saeed Sheshehgar, M.S.W., Social Work/IES.
Course work only program.

José Etcheverry studies climate change at David Suzuki Foundation while completing Ph.D.

By José Etcheverry

My current position as Research and Policy Analyst of the climate change program at the David Suzuki Foundation in Vancouver provides unique opportunities to apply my U of T graduate training. As part of that training I took numerous environmental courses at the Institute for Environmental Studies which have proven quite useful to conduct interdisciplinary research. My master's thesis (1998) and doctoral dissertation (ongoing) deal with renewable energy issues and provide a solid foundation to undertake collaborative work on climate change issues.

Graduate fieldwork in Mexico and a previous post with the climate change team of the Global Environment Facility in Washington D.C. provided me with valuable experience to understand the challenges of implementing and funding renewable energy projects.

My job at the Foundation consists of applying theoretical knowledge to develop practical solutions while networking with people and organisations from Canada, and other nations, to implement solutions to reduce greenhouse gas emissions.

Since August 2003 our team has released reports dealing with issues such as sustainable electricity supply options for Ontario, practical strategies to stop urban sprawl, and analysis of carbon sinks as part of the Clean Development Mechanism of the Kyoto Protocol. All of the Foundation's reports are available for free at www.davidsuzuki.org.

Our team's approach is to collaborate with leading experts in the development of our research projects. This approach - combined with the fact that the Foundation does not accept government funding of any kind- results in high-quality analytical work and the development of viable solutions.

In addition to climate change, the Foundation has programs on biodiversity and marine issues, and also an exciting initiative called the "web of life". This innovative program provides opportunities for adults and children to make simple changes that have great potential for reducing our collective environmental burden. I encourage readers to visit our Foundation's Web site and become part of the "nature challenge".

Photo: José Etcheverry

José is a PhD candidate in Geography and IES' Environmental Studies Program, under the supervision of Danny Harvey of Geography. José can be reached at jetcheverry@davidsuzuki.org

Environmental Career Day 2004 provides opportunities for both organizations & students

By Bhavnita Mistry

We are pleased to announce that the third annual **Environmental Career Day will be held on Wednesday March 3, 2004 at Hart House**. This special event will be held just prior to the University of Toronto's Environment Week.

Last year's event was attended by well over 300 students from the University of Toronto and other universities in southern Ontario, such as Guelph, McMaster, Waterloo, and Western.

Highlights of the event open to everyone will include:

9:00 Speakers Series, Debates Room: environmental professionals from consulting, ENGOs, government, industry, and academia

1:30 Environmental Exposition, Great Hall: 25+ exhibitors with career, internship, summer job and volunteer opportunities.

4:00 Reception: meet and greet environmental students, faculty, speakers and exhibitors

The Environmental Careers Expo will be an excellent opportunity for organizations to showcase themselves at no cost, as well as advertise career, internship, co-op and/or volunteer opportunities to a wide audience. **Deadline for exhibitor registration is February 13, 2004.**

For students, this day will allow those interested in pursuing environmental careers to have an opportunity to start early and develop marketable skills, experience and contacts. This event is only open to all currently registered undergraduate and graduate university students. Registration on the day of the event will require you to show your valid 2003-2004 University ID card.

Career Day is a collaborate effort by individuals from the Graduate Environmental Students' Association, Institute for Environmental Studies, Division of the Environment, Environmental Students Union , Toronto Undergraduate Geography Society, Forestry Graduate Students Association, and the Division of Environmental Engineering. Funding has been provided from the Institute for Environmental Studies, Division of the Environment, School of Graduate Studies, Faculty of Arts and Science, Division of Environmental Engineering, and the Office of the Vice-President and Provost.

The environmental exposition of Environmental Career Day 2004 will provide an opportunity for students to network with potential employers. (Photo of last year's expo by Donna Workman.)

For more information, see www.utoronto.ca/env/careerday2004/ or contact: Bhavnita Mistry, Program Advisor, Division of the Environmenta at bhavnita.mistry@utoronto.ca or 416-978-3475.

New Publications

Sue Horton, Shashi Kant and Lino Grima

Horton, S., S. Kant, A.P. Grima and A. Fenech (eds.) 2003. ***Natural Capital, Poverty and Development,*** **special issue of** ***Environment, Development and Sustainability*****. The Netherlands: Kluwer (In press.)** This book includes papers from the Conference on *Natural Capital, Poverty and Development* held September 5-8, 2001. The concept of Natural Capital seems to hold a lot of promise to reconcile the often conflicting views of environmentalists and economists. It opens a middle ground for constructive discussion of policies which could enable progress towards goals of both sustainable development (sustainable in environmental terms) and poverty alleviation. Can development occur without running down natural resources in an unsustainable way? Four aspects are examined: 1. the role of institutions in facilitating sustainable development; 2. examples of (eco)tourism that illustrate the potential and limits of the concept's applicability; 3. measurement issues for natural capital; and 4. the concept applied to agricultural strategy in fragile lands. (For information on the conference, see http://ies.utoronto.ca/ncpd/focus.htm)

Sue Horton *is Interim Vice-Principal (Academic) and Dean, U of T Scarborough;* ***Shashi Kant*** *is Associate Professor, Forestry;* ***A.P. Lino Grima*** *is Associate Member, Environmental Studies (IES);* ***Adam Fenech*** *is Meteorological Service of Canada Ph.D. candidate, Geography/IES.*

Ken Howard

Howard, K.W.F. and R. Israfilov. (eds.). 2002. ***Current Problems of Hydrogeology in Urban Areas, Urban Agglomerates and Industrial Centres.*** **NATO Science Series: IV Earth and Environmental Sciences 8, 504 pages. The Netherlands: Kluwer. (www.wkap.nl/)**

In May 2001, a NATO Advanced Research Workshop on *Current Problems of Hydrogeology in Urban Areas, Urban Agglomerates and Industrial Centres* was held in Baku, Azerbaijan on the understanding that many urban groundwater problems are not unique to any one region and there is much to be gained by scientific co-operation on an international scale. The products of that workshop are presented in this volume. Some of the case studies have never before been described in the English language. Overall, the papers represent the work and experiences of researchers and groundwater professionals who have worked on urban groundwater issues in developed and lesser-developed nations around the world. They reveal the magnitude and scope of the problem; but they also identify future challenges, potential courses of action, and emerging technologies that give hope for the future.

Ken Howard *is Professor, Physical Sciences, U of T at Scarborough.*

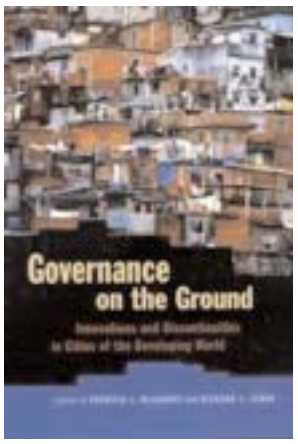
Richard Stren

Montgomery, M. , R.E. Stren, B. Cohen, H. Reed (eds.). 2003. ***Cities Transformed: Demographic Change and Its Implications in the Developing World.*** **Washington, D.C.: National Academies Press. 552 pages. (www.nap.edu)**

Virtually all of the growth in the world's population for the foreseeable future will take place in the cities and towns of the developing world. The benefits from urbanization cannot be overlooked, but the speed and sheer scale of this transformation present many challenges. A new cast of policy makers is emerging to take up the many responsibilities of urban governance - as many national governments decentralize and devolve their functions, programs in poverty, health, education, and public services are increasingly being deposited in the laps of untested municipal regional governments. Drawing from a wide variety of data sources, including DHS surveys, censuses and other local studies, ***Cities Transformed*** explores the implications of various urban contexts for marriage, fertility, health, schooling, and children's lives. It should be of interest to all involved in city-level research, policy, planning and investment decisions.

Mark Montgomery *is Professor, Department of Economics, State University of New York, Stony Brook;* ***Richard Stren*** *is Professor, Department of Political Science, University of Toronto;* ***Barney Cohen*** *and* ***Holly Reed*** *are Director and Program Officer, respectively, of the National Academies' Committee on Population.*

McCarney, P.L. and R.E. Stren (eds.). 2003. ***Governance on the Ground: Innovations and Discontinuities in Cities of the Developing World.*** **Baltimore: Johns Hopkins University Press. 288 pages. (www.press.jhu.edu/)**



This book describes people at a local level working through municipal institutions to take more responsibility for their own lives and environment. This study reports what social scientists in eight local networks found when they chose their own subjects for a worldwide comparative study of institutional reform at the local level. ***Governance on the Ground*** is the culminating product of the Global Urban Research Initiative, a major 10-year research effort that created a worldwide network of some 400 social scientists. The topics covered include fiscal innovation, infrastructure projects, social development, housing, harbour development, and political party participation. Material comes from Chile, Colombia, Mexico, Brazil, Sudan, Zimbabwe, South Africa, Lebanon, Israel, Egypt, Bangladesh, India, Vietnam, Indonesia, Thailand, and the Philippines.

All chapters present governance at a local level in a period characterized by decentralization and democratization, when many governments were improving local accountability and transparency and people were actively participating in public forums, especially through institutions of civil society. While generally cautiously optimistic for the future, most authors show concern for potential traps and obstacles that lie in the way of demonstrably better living conditions for the majority of poor people living in many of the cities reported in this volume.

Patricia McCarney *is Asscociate Professor, Department of Political Science, U of T.*

Alumni Updates

Amy Mader

Nov 2003 graduate, M.A., Economics/IES Environmental Studies; supervisor: Don Dewees. Research paper: *Economic issues with renewable portfolio standards in electricity markets.*

After completing an extended internship with the Electricity Restructuring Secretariat at the Ontario Ministry of Finance, I returned to my home province of Saskatchewan and began a new job as a policy analyst with the Treasury Board Branch at the Saskatchewan Department of Finance. My portfolio does not currently include any environmental departments but, after a year or so of learning the ropes, I hope to become the Treasury Board Analyst for the Saskatchewan Department of Environment or Industry and Resources.

Photo: Amy Mader

I certainly wouldn't have gotten my current position without the experience I gained through my internship.
amy.mader@utoronto.ca

Amanda Mongeon

Nov 2003 graduate, M.Ed., OISE/UT (Adult Education, Community Development and Counselling Psychology)/IES Environmental Studies; supervisor: Roxana Ng. Course work and paper: *Awakenings.*

After having completed my M.Ed in August, I moved to New Liskeard, Ontario, where I am now managing the Temiskaming Wildlife Centre, a rehabilitation and education centre for wildlife in Northeastern Ontario. It was previously a privately owned zoo and has recently been converted to a not-for-profit organization. My role as the manager is to help get the centre on its feet: strategic planning, organizational development, governance, fundraising, development of education programs, etc.
amongeon@oise.utoronto.ca

David Wasserstein

November 2002 graduate, M.Sc. Institute of Medical Science/IES Environment and Health Program; supervisor: Frances Silverman. Thesis: *The effect of controlled ambient air pollutant exposure on inflammatory mediator release in humans.*

My research interests include the health effects of inhaling particulate and gaseous air pollutants. As a Research Technician at the Gage Occupational and Environmental Health Unit, I have been involved with studies looking at the effects of short-term ambient particle and ozone exposure on vascular function. We have demonstrated that short term inhalation resulted in brachial artery constriction. I have also been involved in looking at some of the lung and cardiovascular inflammatory responses to inhaling pollutants in both mild asthmatic and non-asthmatic adults, as well as the effects of particle pollutants on the allergen responses in allergic asthmatics, and bone marrow stimulation.
david.wasserstein@utoronto.ca

David Alexander: from IES grad to Welland councillor

By David Alexander

It is my belief that change -- local or global, great or small -- requires us to work with the existing policy machinery and the associated assets of that community. From there, I think that positive change stems from the efforts of people collaborating together to implement a clear, innovative and substantive plan that moves towards those goals of sustainability, progress and quality of life improvements. With this understanding in hand I felt compelled to jump into local politics this past September and on November 10th I was elected as a city councillor in Welland.

Now the real work starts. Implementing Smart Growth, infrastructure sustainability, community capacity building, local economic development, ecosystem integrity and other unforgiving issues are all on the table. Given the new political sea change in Canada and Ontario the next three years are likely to be both challenging and rewarding.

With six of twelve new councillors and a new mayor, Welland seems to reflect the call for change across Ontario. I view this to mean that the voter wants solutions, answers and engagement. I ran on a platform that began with needing a better plan for the city, a tax plan that is fair and regular community meetings. I also noted my work with the community, my experience with the issues and my willingness to listen to my neighbours. To get to the stage of moving from public servant and consultant to elected official my message emerged from a deeper undercurrent of being passionate about the issues, my research interests and being comfortable about communicating my beliefs. In particular, I would cite **Jane Jacobs**, **John McKnight**, **Doug MacKenzie-Mohr** and more recently **Richard Florida** in being most influential to my approach. Then it was about finding my voice and having fun, too.

David graduated with an M.A. in 1999 in Geography and IES' Environmental Studies Program, under the supevision of Amrita Daniere. His research paper was on "The qualitative relationship between entrepreneurship and the natural environment: experiences of self-employed Torontonians." After graduating, he was Senior Project Manager - Environmental with the Regional Municipality of Niagara. He continues to do consulting work. See davidalexander.ca or email him at davidalexander@cogeco.ca