



## Note from the Registrar: Using Research to Get Ahead

Environmental research enriches the sector on many levels. Research improves students' educational experiences

and creates ties to industry; provides practical solutions to environmental and business issues; highlights the interdisciplinary nature of the sector; and showcases the talented professionals who work in the environmental sector.

In this issue of the EP News we pleased to profile [Dr. Barbara Murck, EP](#), highlight the [value of research in the National Accreditation Program](#) and provide examples of [innovative environmental research around the world](#).

Sincerely,  
**Elizabeth Bowman**  
Associate Registrar  
ECO Canada - Certifications

## EP Profile of the Month

[Dr. Barbara Murck, PhD, EP](#)

In this edition of the EP News, we are pleased to profile globetrotting and award-winning professor [Dr. Barbara Murck](#).

After graduating with a geology degree from Princeton University, Barbara joined the Peace Corps and spent two and a half years in Africa. She returned to



school to complete a PhD in Geology and began teaching at the [University of Toronto](#). In 1993 Barbara played a pivotal role reorganizing the undergraduate environment programs at the University of Toronto at Mississauga (UTM), an appointment which led to her current position serving as the [Director of Environment Programs](#) and [Senior Lecturer](#).

Barbara loves teaching and was recently awarded the prestigious President's Teaching Award by the University of Toronto, an award that comes with an appointment to the President's Teaching Academy. Barbara spends more of her time teaching than researching; however, has combined her interests in geology and international development with research on soil management and alternative energy sources.

We learn more about Barbara and her environmental career in the below interview.

**What is your current role at the University of Toronto at Mississauga and what excites about**

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### Welcome to Newly Certified Members

We are pleased to extend our warmest welcome to the individuals who were awarded environmental designations in the months of September and October.

### this position?

At UTM I serve as the Director of **Environment Programs**, and my position is Senior Lecturer. In the Environment Programs we have two undergraduate program streams: **Environmental Science** and **Environmental Management**. I was involved in setting up the structure of these programs more than 15 years ago, so it is gratifying now, as the Director, to see the programs thriving and helping hundreds of students obtain the academic background they need to succeed in their careers in the Environment sector.

[View new EPs](#)



## EP Profile of the Month (Continued)

### What are some of the most interesting research projects in the environmental field right now?

Some of our UTM graduate students are working on very interesting research projects involving carbon sequestration in soils, including technologies such as biochar amendments to soil. I think there is an enormous potential for this work to be extremely valuable in resolving difficult issues related to climatic change.



We also have a number of undergraduates who are involved in collecting a wide variety of environmental data from the UTM campus. We intend to establish a data portal with some of our long-term environmental datasets and then share educational materials and activities constructed from the datasets.

### What has been one of the most rewarding research projects you have worked on in your career?

For many years I was involved with projects on integrated **waste management** in Southeast Asia. With our partners from Vietnam, Cambodia and Laos, we ran a wide variety of pilot projects - everything from landfill design to helping child waste-pickers improve their health and environmental circumstances. We also helped to develop a university-level curriculum on waste management that was adopted nationally by the university system in Vietnam. This project was extremely fulfilling.

### How have environmental programs changed and evolved over the last five to ten years?

Interestingly, UTM has had a program in Environmental Management since 1974, and has offered individual courses with specific environmental themes right from the beginning of the college in 1967. Much has changed since then, of course, but the themes (as expressed in the very first Course Calendar of what was then Erindale College) of human interactions with the environment, dependence on environmental resources and impacts on the environment are still with us.

In the past ten years I would say that there is even greater emphasis and focus on the **interdisciplinary nature of the field**. We really look at how a wide variety of disciplines and perspectives contribute to our understanding of the environment. At UTM we also place great emphasis on problem-solving and practical thinking, and I'm sure that is common to many environmental programs at Canadian universities.

### Why did you get certified as an EP and what value does the designation add to your career?



My main professional designation is my PhD, but I greatly value my **EP designation**. I think it shows, for one thing, that I have a valid, working connection with my sector.

I undertook the certification process partly because I had been involved with the discussions about **certification** right from the beginning, with what was (then) CCHREI. I attended several consultations, representing the University perspective on certification and I wanted to see what the results were like! I also wanted to go through

the process so that I would be better able to advise my students. I point my students towards **ECO Canada** and suggest that they begin the certification process as early as possible.

### You were part of the committee that created the accreditation process for environmental post-secondary programs - why do you feel this is important to have in Canada?

I think this is long overdue. Environmental post-secondary programs have been proliferating, really since the 1970s, with little coordination or checks. In my experience, most of these programs are excellent, and they receive the same quality attention and rigorous vetting that other post-secondary programs receive; however, this [accreditation adds a stamp of approval from the sector](#), and I think that is a valuable addition.

#### What are your favourite things about your past jobs and/or present job?

I have loved traveling overseas for my various international development projects, but I am not completely unhappy that that part of my life is settling down now and I am traveling a bit less.

I love interacting with my students. I have many of them (over 1000 every year), but I try to always remember that each one is an individual. I love hearing from them after they graduate - sometimes they report back to me about something I said or taught that influenced them in their careers or lives in a positive way. This is very gratifying. It is nice to influence people's lives positively, and it's nice to be involved in training the next generation of environmental professionals.

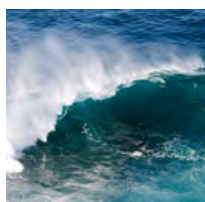


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### Research and Results: Environmental Innovations

As the environmental sector continues to flourish, research is an essential component in ensuring the industry maintains a strong level of growth and innovation. ECO Canada has compiled a list of projects from Canada and abroad that are valuable contributions to the sector.

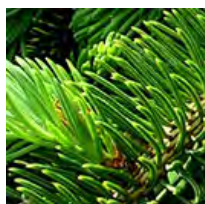


#### New Material to Clean Oil from Water

A new element with the potential to clean oil from water was developed by Penn State University Professor, T.C. (Mike) Chung. The patent-pending product, Petro-SAP, rapidly absorbs floating oil and can later be retrieved either from in the water or on shore. The material is capable of absorbing 40 times its weight in oil in 12 hours.

#### Nuclear Contaminated Sites Technology

A radiation detection and measurement spectrometer has been developed by members of the engineering faculty at Oregon State University to increase the efficiency of nuclear contaminated sites cleanup. The spectrometer can calculate the level of contamination in soil samples in less than 15 minutes, while other past methods would take up to a half a day and involve several steps.

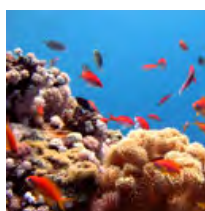


#### The Pine Beetle's Deadly Fungus Partner

A genetic analysis, initiated by molecular biologist Joerg Bohlmann at the University of British Columbia, has revealed that the blue fungus, which accompanies the mountain pine beetle, is actually the more deadly of the two. The fungus, called *Grosmannia clavigera*, is found in the mouth of the pine beetle, and acts as a barrier to the tree's natural defense toxins. Through experimentation, researchers found that without the fungus, the tree usually kills the beetle. This is the first study of its kind that focuses primarily on the fungus, rather than the beetle itself.

#### A Less Wasteful Wastewater Treatment

Xogen Technologies Inc. and the University of Toronto have created a new way to make wastewater treatment cleaner with an electrolytic process that eliminates biosolids. The process, which is significantly more environmentally-friendly than current treatment methods has the added benefit of processing a gas mixture of hydrogen and oxygen that can be used to generate energy through combustion or a fuel cell.



#### Census of Marine Life

A decade ago, as climate change, fish stock depletion, and pollution began to make headlines as environmental issues, scientists from around the world decided to create the Census of Marine Life to determine the abundance and diversity of the ocean's inhabitants. The now completed census includes websites, books, videos, maps, graphs, and databases.

#### Worldwatch Institute Report on Agriculture and Global Hunger

In an attempt to reduce global hunger and poverty, while



decreasing the negative impacts of agriculture on the environment, the Worldwatch Institute created a research report entitled, State of the World 2011: Innovations that Nourish the Planet. The report, which highlights the opinions of the world's most prominent agricultural experts, measures agricultural innovation by its productivity, sustainability, diversity, and ecosystem health.



### Energy Made from CO2 Emissions

A Toronto-based company, Pond Fuels Inc., has created a cost-efficient system to capture carbon by converting emissions into a high-energy biomass. In compliance with Canadian carbon reduction legislation, the system uses bioreactors that utilize microalgae to convert the CO2 emitted from industrial facilities.

## EPs Involved in National Accreditation Program: The Value of Academic Research

Academic research improves the quality of environmental programs, enhances the student learning experience and provides ties to industry. The [National Accreditation Program](#) recognizes post secondary environmental programs that meet industry and environmental professional standards and that demonstrate a commitment to faculty and student research.

Scott MacKnight, an [EP\(CEA\)](#) since 1998 volunteers with the National Accreditation Program. He encourages industry members to get involved in the accreditation process because "... if industry participates in some way ... Canadian academic research in the environmental field can expand to incorporate the broad range of applied environmental issues that reflect Canadian environmental industry activities and interests."



The accreditation process is "a stamp of approval from the sector, and I think that is valuable" said Dr. Barbara Murck, EP and Director of Environmental Programs at the University of Toronto at Mississauga. EPs are involved in assessment and accreditation process, as both senior administrative and faculty members of environmental programs and [Site Visit Evaluation Team \(SVET\) Volunteers](#). Scott MacKnight has participated in two site visits and plans to do a third as he "really enjoyed participating in the evaluation process."

Achievements have been noted by the [Site Visit Evaluation Team \(SVET\) Volunteers](#) at [Fleming College where students of the accredited Environmental Technician Diploma Program](#) have the opportunity to assist researchers at the Centre for Alternative Wastewater Treatment (CAWT) on projects that focus on the development of wastewater treatment technologies for northern climates. [Carleton University's accredited Environmental Science, Bachelor of Science Honours Program](#) has also been commended for the honours theses and fourth-year undergraduate research component that provides students the opportunity to do [original research](#) in environmental science.

To date, six environmental programs fulfill the seven National Accreditation Requirements and additional institutions are waiting to be assessed later in 2011. For more information please contact [accreditation@eco.ca](mailto:accreditation@eco.ca).

Post-secondary environmental programs wishing to meet the [National Standard](#) and become accredited can find more information on [www.eco.ca/accreditation](http://www.eco.ca/accreditation).

## Regional Chapter News - March 2011

The Calgary Annual General Meeting was held on February 23, 2011. More than 15 EPs participated in the meeting and voted on the founding Chapter Charter. The Alberta executive team is dedicated to elevating the environmental profession, creating professional development opportunities and growing the community of certified members in Alberta. The meeting minutes are available at: [EP - AB Chapter](#).

Join us in [Montreal on March 21, 2011](#) for the next EP Event before **AMERICANA**. The event is bilingual and includes a project management workshop, networking luncheon and AGM for Quebec Chapter of EPs. Register and learn more on the [event website](#).

Click on your province below for contact information and to learn about the most recent chapter activities.

[British Columbia](#) | [Alberta](#) | [Saskatchewan](#) | [Manitoba](#) | [Ontario](#)  
| [Quebec](#) | [Atlantic](#)

Thank you to our Calgary 2011 Event Sponsors:

To review the discussion that took place at this event please visit [www.eco.ca/calgary](http://www.eco.ca/calgary).

## Regulatory Updates

[Environmental Appeals Board hearing schedule](#)

[Improving Ontario's Mining Industry](#)

[Harper Government Moves Forward With Regulations for Renewable Fuel Content in Diesel Fuel and Heating Oil](#)

## Industry News

[Ontario Rules Out Offshore Wind Projects](#)

[McGuinty Government Takes Next Step In Building Clean Energy Economy](#)

[Government of Canada Invests in Great Lakes Clean-up](#)

[Alberta promotes responsible resource development practices at U.S. energy conference](#)

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## Featured Events & Conferences

[Wetlandkeepers Workshop](#)  
April 1-3, 2011 - Squamish, BC

[2011 Oil Conference](#)  
April 4-5, 2011 - Calgary, AB

[2011 Environmental Symposium: A Call to Action](#)  
April 7, 2011 - Toronto, ON

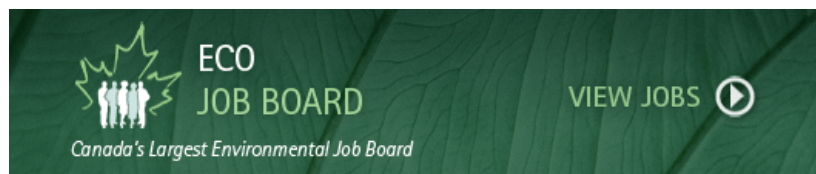
[BCWWA Annual Conference & Tradeshow](#)  
April 16-20, 2011 - Kelowna, BC

[Pollution Probe Workshop](#)  
April 19, 2011 - Halifax, NS

[Winnipeg EP Event: Workshop, Networking Luncheon & AGM](#)  
April 20, 2011 - Winnipeg, MB

[Canadian Environmental Conference and Tradeshow \(CANECT\)](#)  
May 16-18, 2011 - Mississauga, ON

[Contaminated and Hazardous Waste Site Management Course](#)  
June 6-10, 2011 - Toronto, ON



Canada's largest environmental job board is your best resource to find current employment opportunities. Job seekers can use this service to search for jobs, while employers can post vacancies on the job board. Here is a selection of some current postings from across the country:



[Environmental Project Managers \(Intermediate and Senior\)](#)  
Multiple Locations, BC - Deadline: Thursday, March 31, 2011



[Environmental Technical Specialist](#)

**Senior Environmental Engineer/Scientist**

Greater Toronto Area, ON - Deadline: Sunday, April 3, 2011

For full details on the above positions and to find many more, please log in to the ECO Canada website as a practitioner at [www.eco.ca](http://www.eco.ca) and go to "View Jobs."

**March 21-23, 2011****\$1,500**

Space is limited.

[Register today.](#)

## Environmental Compliance in Alberta

SAIT Polytechnic is pleased to launch a three day seminar on **Environmental Compliance in Alberta**. The seminar provides participants with a comprehensive understanding of environmental compliance regulation as it relates to the remediation and reclamation of contaminated sites, with a focus on the energy sector in Alberta. The Environmental Professional in Training (EPT) application is available with this course for \$125.

Ask us about group training opportunities.

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