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Highlights of Upcoming Events:

- Tail of "O" Seminar - January 25, 2005
- Summer Social - TBD
- DAWEG AGM - TBD September, 2005

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Update from the Executive Committee

By Maggie Wojtarowicz, E.I.T., DAWEG Chair

Forging ahead with initiatives and on-going strategic planning, DAWEG Executive Committee continues to provide support and opportunities for making connections by and raising awareness of the value of women in Engineering and Geoscience.

We have been busy building networks with the Minerva Foundation (a funding organization that supports and encourages women in all walks of life), the UBC's NSERC Chair's Jade Bridges Program (a network building funding program aimed at increasing the participation of women in Science and Engineering), and our sister organizations through CCWESTT (Canadian Coalition of Women in Engineering, Science, Trades and Technology).

We continue to develop a strategy for DAWEG that will allow an efficient and effective implementation of initiatives such as school outreach activities, career awareness and mentoring opportunities, networking

events, recognition of achievement and contributions through nominations for awards.

In February, the Chair held an annual meeting with the Advisory Council (a group of senior DAWEG Members who provide guidance and resources to the Executive Committee) to address among other issues the apparent decline in enrollment of women in engineering at universities.

In the coming months, the Executive Committee will hold another Strategic Planning retreat to build on the work done to date and start planning for next year, including recruitment of new members to the Executive Committee. Interested members are encouraged to contact current Executive members to find out about available positions and opportunities to get involve (contact information is at www.apeg.bc.ca/daweg).

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DAWEG Seminar Series: A Tale of "O" on May 12

Please join us for an interactive workshop to explore the consequences of being different in a group of people. The differences can come from a wide variety of factors such as age, sex, race or language. We will watch the Tale of "O" video and an interactive discussion will follow to develop practical solutions to make being different easier.

Time: May 12, 2005, 6-9pm
Location: Large boardroom at APEGBC Offices: 200 - 4010 Regent Street, Burnaby
Cost: \$10 if you register by May 4th, \$15 after that
Meal: Dinner will be served

Please register on line: <https://host.softworks.ca/AGate3/?f=APEGBC%2E0012>

Please contact Mitra Salimi, P.Eng. if you have any questions or if you need more information; email: msalimi@smartire.com cell: 604 789-5651

Please see the following article titled "Summary of Past Events", which describes the events we have held over the past few months. At the time of writing this article, we are gearing up for the Women in Construction day on April 15, DAWEG team's participation in the Sun Run on April 17 (with a team social on April 15). And in the not too far the future is a seminar series for DAWEG members and the Summer Social. Work is also under way to plan the AGM in September, and to put together the sessions for the DAWEG stream at the Annual APEGBC Conference. We look forward to seeing you at these events!

To keep abreast of these events and other opportunities to participate in our organization, sign onto the daweg-general and daweg-resource email lists at <http://batman.mech.ubc.ca/~daweg/lists.html> – don't let opportunities to get involved and be supported pass you by unawares!

Let us know what you'd like to see from DAWEG. Share your stories and ideas with other members by submitting an article or announcements to the Newsletter Editor. How can DAWEG help you? How can you help other DAWEG members? The Executive Committee would like to hear from You! (You can also reach us at daweg@mech.ubc.ca.)



DAWEG's booth at E-Fest

Summary of Past Events

by Megan Leslie, E.I.T.

Christmas Party

In December, DAWEG members, friends, family, and potential future DAWEG members attended a pot luck Christmas party. The party was held in a member's condo common room. Approximately 30 people attended and there was lots of yummy food to nibble on. We collected non-perishable food items for the food bank and approximately 10 shopping bags full of food was donated.

Salary Seminar

On January 25, 2005 APEGBC and DAWEG jointly hosted a Salary Seminar & Industry Reception at UBC. The event focused on providing engineering and geoscience students tools for salary negotiation, effective self-marketing techniques, and the opportunity to start building their industry contacts. Speakers included Shelley Bruins (APEG-MAPS), Dr. Elizabeth Croft, P.Eng. (How Much are you Worth?), Diana Cheng (Marketing Yourself), Jackie Copland (Landing Your First Job as an Engineer), and the event was MC'd by Donna Dykeman. The presentations are located on the DAWEG website here: <http://batman.mech.ubc.ca/~daweg/events/past.html>.

E-Fest For National Engineering Week,

DAWEG attended APEGBC Vancouver Branch's E-Fest at the Vancouver Public Library Central Branch. DAWEG had a display board with a quiz on women in engineer and science along with handouts.

2004-05 UBC Tri-Mentoring Program Closing Dinner

(Contributed by Maggie Wojtarowicz, E.I.T.)

On March 31, the UBC Tri-Mentoring Program lead by Donna Dykeman and Elizabeth Croft ended its 2004-05 year with a Closing Dinner at the Sage Restaurant on the UBC Campus. This event was extremely well attended by students and industry members alike, who came to network one last time and hear Sheri Plewes, P.Eng., Vice President, Capital Management & Engineering, TransLink, reminisce about her mentorship experiences, both as a mentee and mentor, and express her appreciation for and insights into what the UBC Tri-Mentoring Program offers to its participants. This year's participation in the Program was a remarkable success; it matched 42 mentors from industry/academia with 78 students (following the pilot that started last year). Congratulations and a big thanks to all for making it happen!

Profile of Barbara Dabrowski

By Michelle Murphy

Barbara Dabrowski rushes into the office, a little winded after hurrying across the British Columbia Institute of Technology (BCIT) campus from a meeting that went over time. She settles into her office chair, a chair she’s only been sitting in for a few months, but she already looks comfortable in her new surroundings.

In January, Barbara was appointed as the BCIT School of Construction and Environment’s new Associate Dean of the Natural Resources department. Although academia is new to Barbara, her areas of responsibility, namely the renewable resources technologies programs, (specifically the forest ecosystems program and the fish, wildlife and recreation program), and the environmental engineering bachelor of technology degree program, are familiar subjects. Barbara will also oversee research projects undertaken by BCIT’s new Centre for Energy Systems Applications (CESA).

Barbara describes her appointment as ‘meant to be.’ Though she admits she has no background in the workings of an academic institution, what Barbara brings to the position is many years of experience as an engineer in the field and the natural ability to problem solve and deal with new issues as they come.

“You know when you feel you are in the right place,” Barbara says with no nonsense confidence and her ever present smile and laugh.

Engineering entered Barbara’s life early on. When she was five years old, her father moved the family from her native Poland to Ghana, where her father worked as a civil engineer building retention dams for water supplies.

“The Russians had whole compounds of Russian army personnel and they would show Russian movies,”

remembers Barbara. “Unbelievable. Weird. You’re sitting in Africa and watching Russian movies with the Russian army! Bizarre.”

Barbara’s family lived in communist-sympathetic Ghana until she was 14 and then they came to Canada.

She followed her father’s footsteps and in 1973 entered the University of British Columbia’s engineering program as one of only six women.

“Oh, that was a lot of fun,” laughs Barbara. “It’s a lot tamer now, I’m sure, but it was interesting, I was the only girl in a class of 54 guys. There were six girls in civil and I was the only one that survived.”

However, Barbara’s tone turns serious when speaking about the gender gap in engineering.

“I didn’t acknowledge the gender issues at all. I participated in the student undergraduate society as the secretary, I participated in engineering week, and I have very good friends from that era, we still keep in touch.”

“I find it very disappointing that the increase of women going into engineering isn’t greater,” she says. “My fear is that many people are still dodging math in high school. I think it’s a cultural thing. It can’t be the subject. In Eastern Europe it was pretty normal for women to be engineers, it was a 50-50 deal when my dad went to school, so it’s bizarre coming here, it’s almost archaic.”

Gender was never an issue for Barbara during her Master’s degree in environmental engineering, nor in any of her work experience.



Barbra Dabrowski

Barbara Dabrowski

Last book Barbara read:

“Oh, a bad one, a Ken Follet, it’s just a novel, “White Lightning” or something. I read all the Ken Follets because it’s very light easy reading and no brain kind of stuff. I find I read articles and bits of information all day, I don’t feel like heavy duty books later on at night.”

Last movie Barbara saw:

“I don’t see movies. No, no time for TV. I do crosswords, I’m passionate about my daily crosswords, if I don’t do my daily crossword, I don’t feel right. I’ve got this theory that it keeps your mind going, so I do at least one crossword a day, if I had more time I’d be doing crosswords.”

Barbara’s hobbies:

“I like to cook. I’ve taken lots of cooking classes. I still say I might retire doing that. I love baking. I like making my own pasta, making stuff from scratch. I find it very relaxing.”

"I just didn't give anybody the opportunity to express anything like that towards me," says Barbara. "I must say that I'm not an overt supporter of the separation of the genders in a professional sense, I'm much more interested in working on the professional part."

Barbara says she prefers to volunteer her time in areas that assist the profession for everyone, such as the Environmental Engineering Applications Committee, which assesses new applicants for registration as environmental engineers.

She is slightly critical of professional organizations that separate into 'female and male components'.

"I think it puts women in a more vulnerable and focused position, it gives people the opportunity to point things at them," she says. "I much prefer to integrate myself."

"I feel sorry for women actually, because I think they are missing an opportunity to get a good education and a good job. Relative to others, I think it's still a very interesting and good career to pursue. You know, it's obviously not a money maker like becoming a doctor or lawyer, but it's good."

It's certainly been good to Barbara. Before graduating from her master's degree, she landed her first job with a small environmental consulting company doing environmental assessment for a variety of power plants and mines. She then moved on to Knight Piésold Ltd which was building a sewage treatment plant, allowing Barbara to use her knowledge of advanced biological treatment.

After a few years a downturn in the dismal 1980s market forced Barbara to look for other work and eventually she found a job with the Ministry of Environment where she stayed for 6 years permitting for waste discharges to air, land, and water, and dealing with a large variety of industrial waste issues. Finally, she became a senior engineer at the GVRD in Burnaby, where she dealt with air issues and some mixed media waste management.

And now she sits comfortably, if not somewhat excitedly, in her new chair in her new office.

"It's a very big switch," she admits. "I disciplined my first student, who was foolish enough to get into a fight at night and eventually shut down the BCIT pub, quite a commotion!"

BCIT seems a good fit for Barbara's down-to-earth personality. "It's very hands on, it's real, and that's what I like about it, for most people it's a place they can go and roll up their sleeves and actually participate."

Which is exactly what Barbara plans on doing. Barbara's interest in energy management, including looking at renewable energy sources and better integration and use

of energy, landed her stewardship of the Centre for Energy Systems Applications.

"I can't talk about it because it is top secret," she says, smiling. "But I can say that I've been given the opportunity to direct research towards alternative energy and renewable energy sources and tie that kind of research to what is going on in the building science end of it."

Barbara's progressive ideas mean that the 'top secret' CESA could be a research leader in an poorly understood area of engineering.

"I'm interested in the LEED system, but from a retrofit perspective, like the retrofit of buildings as opposed to the building of new buildings, so I'm trying to formulate research along the line of the built environment, how it gets transformed over the next 50 years, how do we salvage what we have and package it better. We shouldn't just keep knocking this stuff down, very often you can do quite a lot with the shell."

Unfortunately, present engineering programs do not teach students to reuse or retrofit; rather students are taught to design and build from scratch.

"I think there are a lot of efficiencies you can put into the design of retrofits, including water conservation and different materials used. Stay tuned, because I tell you, the whole notion of integrating components becomes more sophisticated in terms of redoing things as opposed to starting from scratch."

Other plans include an applied research centre that could bring some of these concepts into reality, but also create teaching modules that could be sold to a developing Asian market before they commit the same environmental errors as North America.

Barbara's high level of commitment to her new job leaves her with little time for any other activities and she laughs when asked about activities she pursues in her spare time. "I get home at 6pm and I just want to veg! My girlfriend has been trying to get me to go swimming, once a week, since Christmas. Not once. It's terrible, I just don't have enough energy."

Barbara does have time for her husband and her dog Chester and the occasional cooking class. She says if she were not an engineer, she would be a cook.

Luckily for BCIT, she's an engineer.

Michelle Murphy holds a Master's of Journalism and her interest in international development led her to pursue a degree in civil engineering. She is currently in 2nd year at UBC and is an active member of Engineers Without Borders.

Sowing the Sustainability Seed...

Article by: Diana Klein, P.Eng., LEED® AP
 Read Jones Christoffersen Ltd.
 Maggie Wojtarowicz, EIT, LEED® AP
 EcoSmart Foundation Inc., and Member of APEGBC Sustainability Committee

If you ask people why we need to preserve the environment and build sustainable buildings, many will say “because we want a future for our kids”. But perhaps we should also acknowledge that the future of our earth is in the hands of our children. Building a sustainable future is not learning a set of concepts but changing our mindset. And as with everything in life it’s easier to learn when you’re young....

At EFest 2005 during this year’s National Engineering Week, the engineering community and the public at large were lucky enough to experience the vision of what a sustainable school might look like to a group of elementary school children.

The project was spearheaded by Diana Klein, P.Eng., Structural Engineer, who volunteered her time and forward thinking to lead a series of sessions with the Delta School District that offers an Art Stretch program to grades 4-7. The project began with a field trip to the Vancouver Art Gallery in the fall 2004 for the exhibition: **Massive Change: It’s not about the world of design... it’s about the design of the world.**

The gallery exhibition was an inspiring representation of the world of design with emphasis on the future of the world and how we can survive as a species.

The teachers (Joanne Young, Helen Robertson, Katya Rempel, Gailene Powell), kids and Diana responded to the exhibition’s challenge by designing a fun sustainable school. The **Vision** was to inspire within these students a passion to improve the built environment.

They explored what sustainability could look like in a building and how to design using ‘The Natural Step’ (TNS) as a framework:

The Four System Conditions (www.naturalstep.org)

In small groups, the students let their ideas and imaginations create their designs for sustainable schools, including the setting, energy use, water harvesting, modes of transportation, among other features of the school – not just the building itself. Observing the process, it was quickly evident that they got it! They understood because they did not come to the table with all the baggage we, as professionals do. They were not bounded by ‘how much will that cost’ and ‘this is the way we’ve always done it’.

The visions of these 6 groups were presented in an artistic form of sets of drawings with short descriptions in an exhibit at the Vancouver Public Library as part of EFest.

‘Our school in the Woods’ Designed by: Fiona, Emily and Holly

“We build our school in a forested area without cutting down trees. We made our school tall and thin so using less land. There are composting toilets, and the waste is food for our fruit trees which feed us in school. Staff and students get to the school by using gravel paths, there are no cars, people walk, bike, and use other people-powered transport.”

‘Tree House School’ Designed by: Judy, Teresa, Elaine, Ruxin, A Yeong

“There is a pond at the site used for recreation (e.g. swimming, skating, and canoeing) but is also functional. Water from the pond is piped through a filtration system inside the trunk of the tree into the school to be used for drinking, cooking, etc. The water is cleaned and returned to the pond, some of it through the waterslide feature”.

In a sustainable society, nature is NOT subject to systematically increasing:			and in that society...
			
(1) concentrations of substances extracted from earth's crust	(2) concentrations of substances produced by society	(3) degradation by physical means	(4) human needs are met worldwide

Understanding Engineers

- To the optimist, the glass is half full.
- To the pessimist, the glass is half empty.
- To the engineer, the glass is twice as big as it needs to be.

'Lakeside School' Designed by: Marnie Lynne, Alexa, Melissa

"Our school is built into and onto a large tree. It is located beside a lake and is accessed by canoes and kayaks, which are provided. So less of the forested area is disturbed, the gym is underwater, it also keeps it cooler. The science room is also underwater, with large windows so that the students can see the underwater life".

'Our Ideal School' Designed by: Ben, Chris, Richard

"The science room is in the form of a geodesic dome. There is a transportation tube to move people up and down. We have solar panels to collect energy. We also have a windmill and a water wheel as extra energy sources. The water wheel also moves water into the purifier before it is piped into to the school for use in the building".

'The Bus School' Designed by: Pricilla, Nancy, Kristina

"Our school is also a bus that can drive to different places for field trips or special activities, or pick up the students from different places. The bus is powered by solar energy. The roof has a grassy area which is used as a garden and play area. The floors, desks and security fence on the roof are made of bamboo because it is very strong and flexible and easily renewable".

'Mountain School' Designed by: Michelle, Shannon, Azra

"Our school is on a mountain among many trees. There is a tunnel through the mountain to the building so the natural environment was not damaged to build a road. The glass walls let people look at the amazing view and also use natural light as much as possible. Parts of the building are made of recycled brick so that no trees had to be cut down"



The students which participated in the sustainable schools project

Working with elementary school students is fun. They see our world through different eyes. Our challenge is find ways to help them grow as caretakers of our earth towards a sustainable future.

More Information on the web

- The latest issue of InnovationCanada.ca looks at Canadian Women in Research and features well-known Canadian author, Margaret Atwood, as the Guest Writer
www.innovationcanada.ca
- DAWEG Executive Meeting Minutes
www.mech.ubc.ca/~daweg/meetings/minutes.html
- An article on the results of the "YWCA of Vancouver First Annual Survey of Women in B.C.". Interesting statistics of Women's attitudes to Work/Career. Article released in June 2004, but still relevant.
<http://www.ywcavan.org> Select: Get to Know your YMCA-->Media Room --> YWCA Survey Reveals Family More Satisfying Than Career.

You might be an engineer if ...

- You take a cruise so you can go on a personal tour of the engine room or travel just so you can see first hand how the local buildings are made.
- You look forward to Christmas so you can put the kids' toys together.
- The sales people at the local computer store can't answer any of your questions.
- You see a good design and still have to change it.
- Your computer and electronics equipment costs more than your car
- You've tried to repair promotional electronics