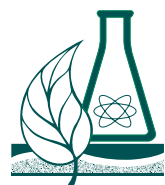
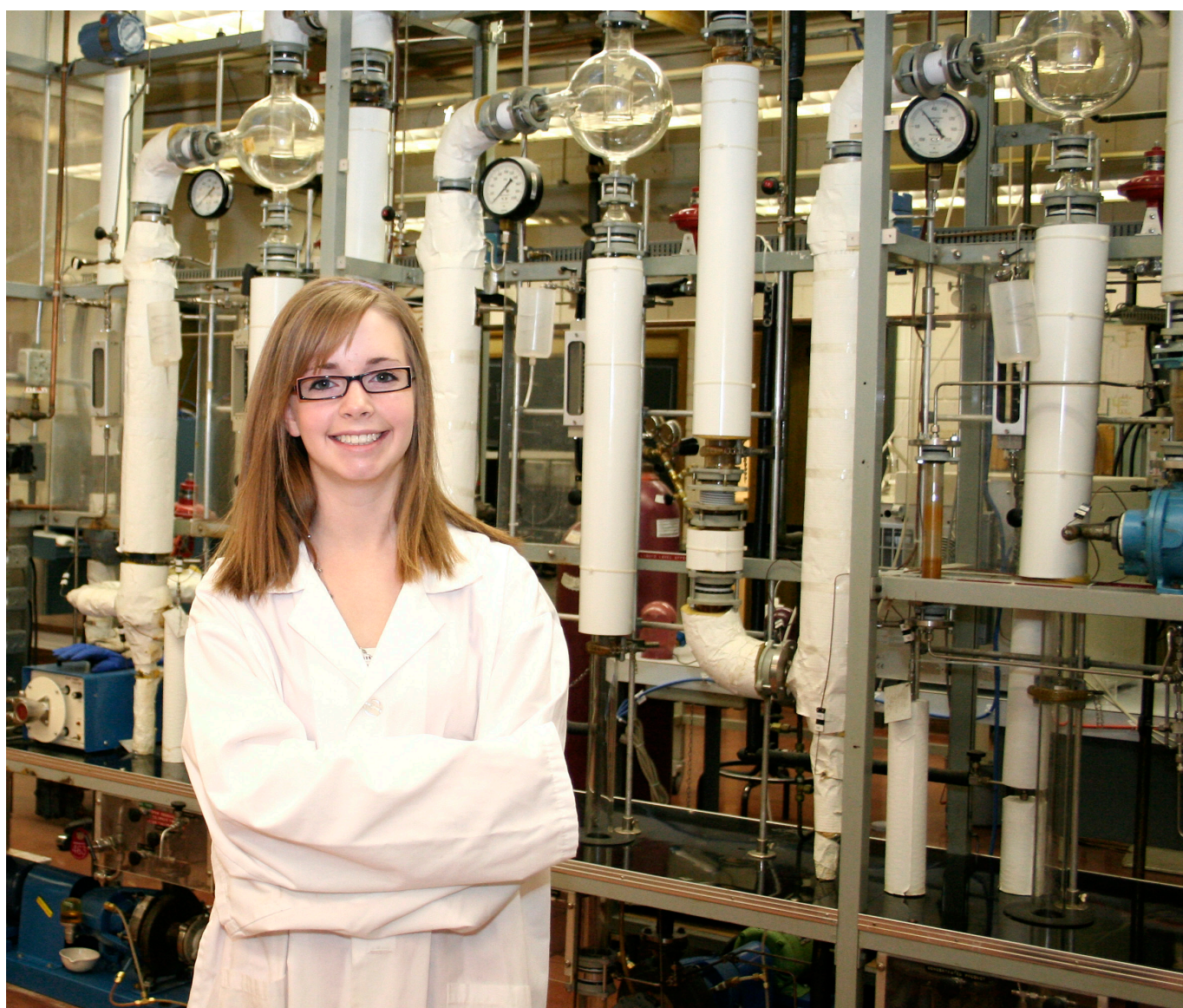


The Alberta Science Teacher



Volume 31, Number 1

March 2010



Holliston Logan

From the Editor



The grass is beginning to show, a new semester is here and ah ... take a deep breath because spring break is just around the corner. With spring comes renewal, so I have included some new resources in this issue of *The Alberta Science Teacher*. You will find web-based resources, activities to try in

your classroom and information on some amazing women in the science field.

Speaking of new, I hope you learned a few new things at the Science Council conference held in Red Deer, November 19–21, 2009. I had an amazing time codirecting the event with Kevin Klemmer. I must admit that I was a little nervous directing a conference about space because I was never enthusiastic about that area of science. My specialty has always focused on life sciences. But I found a new passion for space by running this event, and I hope you did as well by attending. Our keynote speakers were spectacular. Thanks to the conference committee, executive members, speakers, displayers and sponsors for making the 2009 conference a success. Without your help, this event wouldn't have been possible.

Happy spring! I hope you enjoy this issue of *The Alberta Science Teacher*. If you have any comments or questions, please e-mail me at andilynn.bender@gmail.com.

Andi-Lynn Bender

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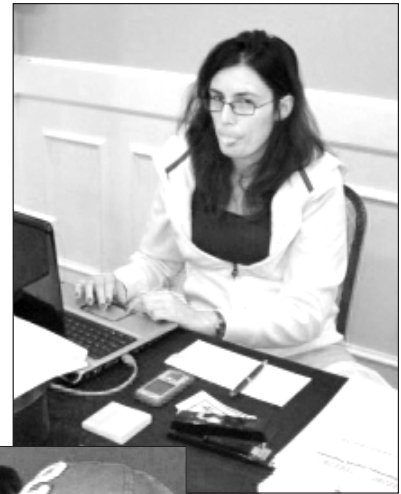
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Conference 2009



Science Council president Erick Noriega and conference codirector Andi-Lynn Bender eager to get the conference started.

Conference registrar Rose Lapointe taking a moment to be goofy during her busy time at the conference. Thanks again for your hard work!



Excited conference first-timers Cory McLean, Denis Gagnon and Jonathan Pittman.



Conference codirectors Andi-Lynn Bender and Kevin Klemmer speaking at the annual Science Council conference banquet.



The gang from Telus World of Science, in Edmonton, shows off a spacesuit next to their Mobile Planetarium.

From the Council

Statcan.gc.ca

Ever wonder where your money goes when you pay federal taxes? One place is Statistics Canada. Ever wonder how you are going to get your money's worth out of such an expense? Find free lesson plans!

I was perusing the Statistics Canada website and found an interesting lesson on climate change in Canada using real statistics. Just go to statcan.gc.ca and follow the links under Information for . . . Students and teachers, Learning resources, Resources by school subject, Environment, Lessons and Climate Change in Canada.

This lesson focuses on the junior or senior high science levels and targets key issues such as global warming, greenhouse effect and renewable energy. The lesson will take one to three 70-minute periods, so you can use it in a flexible way. Check it out!

Andi-Lynn Bender

V-Frog

V-Frog is the world's first virtual reality-based dissection software. This innovative software, available from Tactus Technologies and developed through a grant from the US Department of Education, is designed for students at the middle and high school levels. The cost ranges from \$99 for a single copy on one computer (does not include an annual maintenance fee) up to \$495 for lifetime use.

Features of V-Frog include 3-D navigation, organ and tissue query, comparative anatomy, activation (watch beating heart, digestion and many more), dissection, probing and endoscopy.

Currently, V-Frog runs only on Microsoft Windows. Go to www.tactustech.com to download a free 90-day trial demo version (18.7 Mb).

Contact read@tactustech.com or phone 716-462-1450 for assistance.

Science Teacher News

Chemistry on Campus at NAIT

The Chemical Technology program at NAIT has opened registration for the Imperial Oil Foundation funded program, Chemistry on Campus. Students in Grades 9–12 do a three-hour lab on campus and gain some valuable chemical experience that might not be available in school labs. We offer a choice of the following five labs:

1. Synthesis and Analysis of ASA—Students synthesize acetylsalicylic acid (ASA) from acetic anhydride and salicylic acid, then analyze it using HPLC (High Performance Liquid Chromatography), melting point and FTIR (Fourier Transform Infrared Spectroscopy) to determine its identity and purity. (Maximum 25–30 students.)
2. Chemical Reactions of Copper—Students convert copper to copper (II) nitrate, copper (II) hydroxide, copper (II) oxide, copper (II) sulphate and back to copper again. This colourful lab involves filtering, transferring liquids, using electronic balances and oven drying. (Maximum 25–30 students.)
3. Plastics—Students decompose a plastic and synthesize a second plastic. Students work with specialized organic distillation equipment. (Maximum 20 students.)
4. Ferrofluid—Students synthesize a ferrofluid and examine its unique properties. (Maximum 18 students.)
5. Freshwater Analysis—Students analyze water samples from Albertan sources for pH, conductivity, alkalinity and dissolved oxygen. (Maximum 25–30 students.)

These three-hour sessions are free of charge. The school is responsible only for the cost of transportation to and from NAIT. It is also expected that a teacher or other school official be on hand to chaperone the students. Students are provided with lab coats and safety glasses, and are required to wear long pants and closed-toed shoes.

Lab slots are available from 8 AM to 4 PM, Monday to Friday. The program runs from January 4 until the end of June 2010. To reserve a lab session or for any questions, please contact Vickie Russell by e-mail at victorir@nait.ca or by phone at 780-471-7762. Please share this information with your colleagues.

Vickie Russell
NAIT Chemical Technology Instructor

SET Challenge

Scheduled for May 8, 2010, the University of Calgary Science, Engineering and Technology (SET) Challenge—now running for a third consecutive year—promises to encompass a full day of science-centric competition, provocative guest speakers and healthy camaraderie and teamwork as high school science students throughout the Calgary area converge on campus.

An integral component of the U of C's Let's Talk Science steering committee, which is a nationwide science outreach initiative geared toward youth, the SET Challenge is mandated to provide high school science students with high levels of curriculum-based science literacy and engagement in an informal, proactive atmosphere.

In addition to allowing students to solidify curriculum-based concepts and principles from the classroom, the Challenge utilizes a unique "Amazing Race"-styled model that pits teams of students against one another as they race against time to solve puzzles, secure clues and win funding for their high school science programs.

In addition to retaining key elements that contributed to the event's success last year (the "Amazing Race" component and an ongoing emphasis on pertinent, curriculum-focused material), this year's organizing committee has added a new competitive element to the event—environmental science and technological literacy.

Meant to raise awareness of pertinent global issues of environmentalism, climate change and the development of new and ongoing energy sources through sustainability research and to ensure that participants in the event come away empowered with regard to the role of high technology in their lives, this component of the Challenge will allow students to learn more about their relationship with the environment in the long term. It will also aid students in developing personal "sustainability" strategies as they progress through subsequent postsecondary studies and into adulthood.

Contact us at setchallenge@ucalgary.ca.

What's New from Perimeter Institute

Canada's non-profit Perimeter Institute is pleased to provide you with many online activities following the successful conclusion of our 10th anniversary celebrations. We hope you will find the short vignettes and full-length presentations of interest, and we encourage you to freely share these links with fellow educators, students and others who may benefit from the programming that includes:

Alice & Bob in Wonderland

www.perimeterinstitute.ca/en/Outreach/Alice_and_Bob_in_Wonderland/Alice_and_Bob_in_Wonderland/

These 60-second chalk cartoons pose some really big science questions that help spark discussion, imagination and inquiry.

Editor's note: I checked these out. They are thought-provoking and should spark some interest in your classes.

Quantum to Cosmos Festival Video on Demand

www.q2cfestival.com/schedule

These full-length talks and panel discussions bring all of the Q2C events to your desktop.

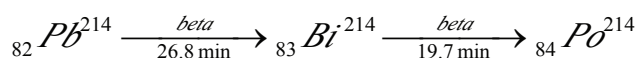
I hope you find a moment to sample the activities and forward this information to others who also share the joy for research, discovery and innovation.

John Matlock
Director of External Relations and Outreach
Perimeter Institute for Theoretical Physics
Waterloo, Ontario

Classroom-Ready Resources

Radioactive Balloons

It's been suggested (Cowie and Walkiewicz 1992; Walkiewicz 1995) that balloons, if charged by friction, could pick up radioactive dust particles from the air and actually yield a measurable amount of radioactivity. Most of the radioactivity is due to the beta decay of Pb-214 and Bi-214, both radon-222 daughters, which is a member of the uranium 238 decay series



Since radon-222 is readily available in the basements of most homes in Alberta, its decay curve could be easily measured and used to extract information about the half life of both Pb-214 and Bi-214, as well as the initial amounts of these two elements. The radioactive decay curve, which is mainly the result of the decays of Pb-214 and Bi-214, should yield an "effective half life" of about 45 minutes (26.8 min + 19.7 min).



Procedure

1. Hang an inflated, charged balloon in a convenient location for about 30 minutes.
2. Deflate and fold the balloon to a small size.
3. Tape the folded balloon to the front of a Geiger detector that is connected to a computer via a USB port (available from Pascal or Vernier).
4. Set the computer to count repeatedly over 150 seconds for duration of 2 hours.
5. Graph the count rate (counts/min) versus time.
6. Try to fit the data with the following function where C_o , A_b and A_p are constants found by the fit: $C = C_o + A_b \exp(-\lambda_b t) + A_p \exp(-\lambda_p t)$. Graphical analysis is one program that fits a variety of curves. (Microsoft Excel cannot fit two exponential functions!)

The initial amount of lead is $P_o = \left(\frac{A_p}{\lambda_p}\right) \left(\frac{\lambda_b - \lambda_p}{2\lambda_b - \lambda_p}\right)$

The initial amount of bismuth is $B_o = \frac{A_p}{2\lambda_b - \lambda_p} + \frac{A_b}{\lambda_b}$

For radon 222 decay $\lambda_b = .0352$, $\lambda_p = .0259$ with units $(\text{min})^{-1}$.

References

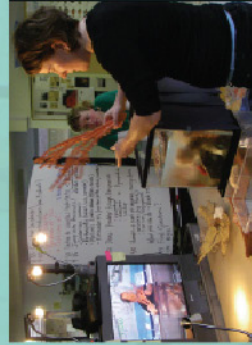
- Cowie, J Jr, and T Walkiewicz. 1992. "Radioactiveball." *The Physics Teacher* 30, no 1: 16–17.
- Walkiewicz, T. 1995. "The Hot Balloon (Not Air)." *The Physics Teacher* 33, no 9: 344–45.

Isaac Isaac and Wytze Brouwer
Department of Physics
University of Alberta

Marine Science Distance Learning

Our **innovative** programs **engage** your students in **interactive** learning with our **dynamic** marine science instructors. All **videoconference** sessions promote critical thinking and ocean literacy.

Live Dives - see, hear and speak to SCUBA diving biologists as they explore Pacific Ocean ecosystems. Together, students and divers collect data, encounter interesting organisms and learn about our undersea environment.



Live Labs - connect your classroom to our laboratory-studio for an interactive learning experience with live marine organisms, microscopy, video and other multi-media.

Integrated with **provincial curricula**. Learning materials included.

Booking and Info: Public Education 250-728-3301 (226) public_ed@bms.bc.ca
Bamfield Marine Sciences Centre www.bms.bc.ca

Women in Science

AWSN Mentor of the Millennium: Cecile Siewe

Growth Opportunities: Mentoring is how one woman gives back after the many opportunities she has been given.

The following article has been provided by the Alberta Women's Science Network. Minor changes have been made to conform to ATA style.

There is a saying that resonates with Dr Cecile Siewe: "If you're not stretching enough to be a little uncomfortable, you're not growing. And if you're not growing, then you're not moving forward."

Not only does the adage apply to her career as a technology development engineer at Shell Canada and her recent transition to Canada Lead for the Supply Centre of Excellence, but it is also befitting of her personal story, which goes from Cameroon to Calgary.

"When I was growing up in Africa, I was very fortunate that my parents always felt their kids should aspire to be all they could be. They instilled in us the belief that we could do anything we wanted to do as long as we had the right education to do it," Siewe recalls. "In our household, dropping out of school was unfathomable, just as going to university was a default assumption."

Siewe continues to be grateful that her parents sent her to an all-girls' boarding school in Cameroon, where she discovered an aptitude for science. "Going to school in a very traditional environment was good for me as there were no early expectations placed on what girls could and could not do, so I took math and all the sciences," she says. "By the time I reached high school, I realized what a benefit I'd had when I experienced



the subtle gender bias some teachers exhibited toward girls in science and technology, probably without even realizing they were doing it. Realizing the significant influence a teacher can have on a student's life, I was very lucky to have found and followed my interest in science from an early age."

Siewe left Cameroon after winning a university scholarship; she chose to pursue her postsecondary education at the Imperial College of Science, Technology and Medicine, in London, England. Upon finishing her PhD and toying with a career in academia, she applied for a position at the University of Waterloo and moved to Canada.

"That was a very good move because it helped me to realize that I was getting much more personal satisfaction coaching undergrad and postgrad students with their research projects than from the hands-on research I had been doing since before my PhD," she says. "Fundamental research is very important; you need to look no further than laser technology or nanotechnology

to see how it has changed our lives. But I knew I needed to be able to visualize the end result and work with a finite timeline for the application for what I was doing. So I decided to make the jump to industry.”

While completing her MBA, Siewe took a position with the Canada Revenue Agency in Calgary promoting a government program designed to entice multinational corporations to set up research and development facilities in Canada. This opportunity, along with its proximity to the country’s major oil and gas companies, whet her appetite to further engage with industry.

In 2005, Siewe joined Shell Canada as a senior technology development engineer for Oilsands, before accepting a growth opportunity to become Canada Lead for the Supply Centre of Excellence in 2008. From her enthusiasm, it is obvious that she derives satisfaction in her work.

“It is gratifying to be able to function at this level and be appreciated for a job well done. It means I have invested in an education and gained valuable experience and I am able to put both to good use,” she continues. “At the same time, having the respect of my peers and colleagues as well as the trust and confidence of my supervisors means a great deal to me.”

She says she also enjoys mentoring and passing along the benefit of her experience to others. “I have been given so many opportunities in life. I went from a boarding school in Cameroon, to being an 18-year-old university student in London, to working in Canada, and many people treated me with kindness along the way. I realize that even if I’m not directly in academia, I need to take part indirectly through teaching or coaching to share all that knowledge and experiences with others, as well as to pass on some of the kindness I received.”

Siewe has been actively involved in Operation Minerva and is exploring new mentoring opportunities through the University of Calgary and in her own work environment.

“It is impossible to overestimate the importance of coaching to girls, boys, adults and the young men and women coming into the workforce,” she says. “The first time I took on an

Operation Minerva group at Shell’s Calgary Research Centre, one of the girls subsequently won an award for the best essay about the experience—an experience that, hopefully, will colour her life in a positive way,” she says. “In addition to sharing information at work, I encourage the people in my unit to attend academic and industry association meetings now and then, so they are reminded to keep all the pathways in their brains open. The more open they are to that, the more receptive they will be to ideas coming from different directions and the more likely they will be to pass on that mindset to the people in their lives.” She also extends her personal growth philosophy to her home life, where Siewe delights in the countless teachable moments she finds with seven-year-old daughter, Schuyler, and five-year-old son, Julien. “Whenever they ask questions about the world around them, I use it as an opportunity to illustrate how pervasive science is: Why do earthquakes (such as in Haiti) happen? Is one going to happen in Calgary? Why did Terry Fox have to die? Why didn’t he just take medication and get better? she says. Even when the answer has to be no one knows yet, I always add that maybe one of them will become the scientist who eventually figures it out.

“Recently, Schuyler heard that everything that goes up must come down. ‘Even bubbles that go up in the air?’ she asked me, and I said, ‘Yes.’ Then we had a discussion about why some things go up and why they would eventually come down. Trying to break down the concepts of buoyancy, gravity and heat exchange to a seven-year-old is an education in itself!”

Siewe says that while she does expect that her daughter and girls like her will pursue an education and go on to a fulfilling career, she hopes they realize that their futures are wide open. “I don’t expect every young girl to grow up and become a scientist or engineer, but I do want them to have had many credible opportunities to explore those options as they grow, and whatever career path they eventually choose, they will be making an informed decision.”

Barbara Chabai

Alberta Women's Science Network

Encouraging Aboriginal Girls & Women in Engineering, Science, Trades & Technology

AWSN Opportunities: 2009 - 2010

Awards, Conferences, Contests, Job-Shadowing, Mentoring, Networking, Scholarships, and Workshops

Calendar of Events

Awards, Contests, & Scholarships

March 15th, 2010
AWSN Minerva Mentoring Award
Deadline
www.awsns.com - Mentors
awsns@awsns.com

May 21st, 2010
"A Day with my Operation Minerva Mentor" essay contest
www.awsns.com - Girls do Science,
omcalgary@gmail.com
Aboriginal Women and Girls in Science
liz.gandy@shaw.ca

June 1st, 2010
AWSN Scholarship Deadline
www.awsns.com - Mentors
awsns@awsns.com

Cybermentor

June 2010 - TBA
Year End Celebration
www.cybermentor.ca
administrator@cybermentor.ca

Operation Minerva
Job-Shadowing, Mentoring
& Mentor Workshops
www.awsns.com
Mentors
Girls in Science

January 29th, 2010
Operation Minerva - Medicine Hat
praxis@praxismh.ca

March 18th, 2010
Operation Minerva - Red Deer
kburley@rdpsd.ab.ca

April 15th, 2010
Operation Minerva - Lethbridge
kristy.burke@uleth.ca

April 2010 - TBA
Operation Minerva - Calgary
Mentor Workshop
omcalgary@gmail.com

May 6th, 2010
Operation Minerva - Calgary
omcalgary@gmail.com

June 2010 - TBA
Operation Minerva for Aboriginal
girls - Lethbridge
kristy.burke@uleth.ca

June & October 2010 - TBA
Operation Minerva for Aboriginal
girls - Calgary
liz.gandy@shaw.ca

UA-WiSE
www.ualberta.ca/uawse

November 25th, 2009
Coffee Night
University of Alberta

January 13, 2010
Mentor Night
University of Alberta

March 2010 - TBA
WISER / UA-WiSE Panel Discussion
University of Alberta

WISER
Women in Science, Engineering
& Research
wiser@ualberta.ca

December 10th, 2009
Holiday Social

January 14th, 2010
Negotiation Skills for Professional
Women

February 2010 - TBA
WISER Coffee Social

March 2010 - TBA
WISER / UA-WiSE Career Panel

April 2010 - TBA
Speed Networking



WISEST
www.ualberta.ca

November 28th, 2009
WISEST SET for High School Girls
wiser@ualberta.ca

January 14th, 2010 - 4pm
First Annual WISEST Lecture
Hon. A. Anne McClellan, P.C. O.C.
WINSETT Centre Launch, Telus/U of A
wiser@ualberta.ca - RSVP online

February 16th & 17th, 2010
WISEST Choices for Grade 6 Girls

July 5th - August 13th, 2010
WISEST Summer Research
Program

Women in Science & Engineering
University of Calgary
etnasim@ucalgary.ca
www.ucalgary.ca/wao

February 18th, 2010
Women in Engineering Day

May 5th, 2010
Explore IT - UofC, SAIT & Mt. Royal

Women in Science & Engineering
Student Organization
womense@ucalgary.ca
www.ucalgary.ca/~womense/
TBA or see website for events



AWSN: Suite #349, 305 - 4625 Varsity Drive NW, Calgary, AB T3A 0Z9
Phone: 403-282-6431 Fax: 403-284-4750 Email: awsns@awsns.com

Mentoring in Cyberspace

Reaching Out to Girls and Inspiring Them in Science and Engineering

Space shuttles, astronauts and the whole idea of blasting into outer space hold a certain excitement for practically every child. But an actual career in the space program seems out of reach to many kids unless they know someone who lives it every day and encourages them during the most influential years of their life. Holliston Logan was fortunate to know just such

a person—Logan spent two years being mentored by engineer Laura Lucier, a flight controller stationed at NASA. Lucier is a graduate of the University of Calgary and works for the Canadian Space Agency. She trains astronauts how to perform robotic manoeuvres on the International Space Station.

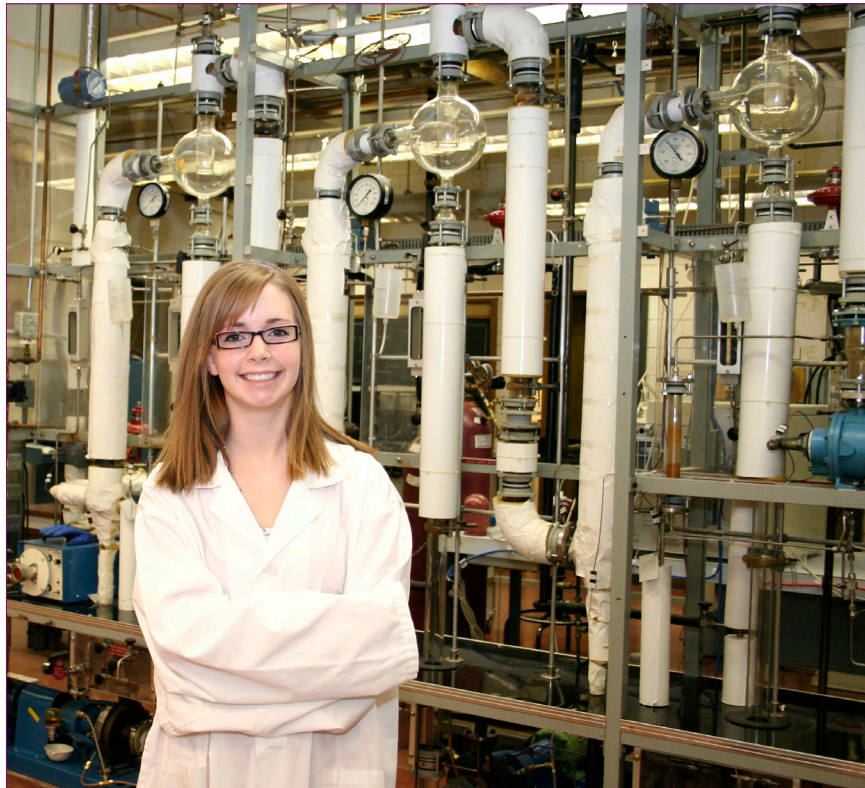
“Knowing someone who has personal involvement with NASA makes it a hundred times more exciting than simply watching or reading about the space program on the news,” says Logan, a Grade 12 student in Cochrane, Alberta. “My eyes have been opened to the incredibly wide range of options that are out there for me.”

Logan and Lucier met through Cybermentor, an Alberta-wide mentoring program that matches girls 11 to 18 years old with female scientists and engineers.

Despite a growing need for scientists and engineers, there has been a steady decline in enrolment in science and engineering programs around the world, especially among girls. Studies show that mentors play a crucial role in decisions to pursue science and engineering studies.

Along came the concept of matching young girls with successful female role models. Cybermentor was created in 2001 by Elizabeth Cannon, dean of the Schulich School of Engineering. “A thriving engineering profession and productive research environment rely on the ability to attract women to science and engineering,” says Cannon. “Diversity leads to more creative and innovative solutions to the challenges of today.”

Cybermentor began as an e-mail-based program with 66 matched pairs that grew to over 400. Over the years, the program has involved more than 2,000 students and mentors in 60 communities



Holliston Logan

throughout Alberta. Liz Brennan was one of them. “I have always been interested in birds, and my interest turned into a passion when I was in my teens,” says Brennan. “I knew I wanted to explore the field of environmental science but I was unsure exactly what I could do with it and how to pursue it beyond high school.”

Through Cybermentor, Brennan got connected with a mentor who shared her love of nature and taught her about opportunities she didn’t even know existed. Now, Brennan is studying environmental biology at the University of Calgary. “I’m hoping to pursue a career in research or a job focused on conservation that will make a positive impact on the environment,” she says.

Last January, the program adopted a new web-based platform—Cybermentor.ca, which is an online community with blogs and interactive discussion forums. According to a recent study, 93 per cent of teenagers use the Internet on a regular basis. Blogging, instant messaging and online networking are vital forms of communication in their lives. Cybermentor organizers latched on to the popularity of social media among their target age group.

Students are matched with mentors based on common interests and hobbies. The program sets up new matches every year to provide different mentoring experiences and perspectives. “Many strong bonds are formed and girls often stay in touch with their mentors long after the program is done each year, sometimes even after they graduate from high school,” says Meredith Underell, Cybermentor program director. “It’s so satisfying to watch budding careers and to hear that mentors provided guidance.”

Cybermentor is a collaboration involving the University of Calgary, the University of Alberta and the Alberta Women’s Science Network.

Industry and government also see value in the program. Sponsors include Alberta Advanced Education and Technology, Natural Sciences and Engineering Research Council of Canada (NSERC) PromoScience and EnCana Corporation. Bell Canada donated \$50,000.

Cybermentor is believed to be North America’s largest online mentoring program dedicated to attracting women to the science and engineering professions. It has been copied in Germany (cybermentor.de), and several organizations in South America have expressed interest in adopting similar programs.

While groups around the world scramble to address the decline of female enrolment in science and engineering programs, Alberta is bucking the trend. At the U of C’s Schulich School of Engineering, 24 per cent of undergraduate students are female, which is well above the national average of 17.5 per cent. Many believe the success is due to initiatives such as Cybermentor. “There really are no limits to what you can do with an education in science or engineering,” says Holliston Logan, who intends to pursue an engineering career. Her current mentor is Deanna Burgart, a chemical engineer with several years of experience working in the oil and gas industry. “The opportunity to help young girls discover an interest that may lead to a future career is the best thing about being a Cybermentor,” says Burgart. “Knowing I play a part in their lives and in helping them find their passions is very rewarding.”

Editor’s Note: Photo taken by Ken Bendiktsen, University of Calgary.

Jennifer Sowa
Media Relations Officer
Schulich School of Engineering
University of Calgary

CYBERMENTOR

Inspiring Girls in Science and Engineering



Calling all girls ages 11 to 18!

**Do you want to reach your full potential?
Do you want to learn about life and careers
outside of the classroom – from girls and
women who know what it is like to work
as a scientist or engineer?**

In this online mentoring program, you will be matched with a female scientist or engineer, to talk with online once a week during the school year.

Ask questions! Work through activity modules that help you discover your potential. Chat about interests, talents, ambitions and life as a scientist or engineer.

Now taking fall 2009 registrations.

www.cybermentor.ca

A partner in Alberta's Promise.

All mentors and participants must pass a screening process.

The online platform is a secure environment requiring parental approval.

Awards



2010 PSAC Public Scholarship Program

FIVE Education Fund scholarships of \$1,000 will be awarded in 2010!

The Petroleum Services Association of Canada (PSAC) is pleased to provide scholarships to Canadian students pursuing post-secondary education.

Applications are being accepted for full- or part-time studies in the following categories:

- Business or IT
- Engineering, Earth Sciences or Trades
- General Studies or Other

The scholarships are made possible through the PSAC Education Fund which strives to invest in the talent of tomorrow.

Applications can be found under "Career Resources" on our website at www.pfac.ca.

**Application deadline:
By 4:30 p.m. on Friday, April 23, 2010.**

How It Works

Applicants must be:

1. A Canadian citizen.
2. 25 years of age or under at the time of application.

Awards are made only to those pursuing post-secondary educational or vocational studies in a diploma, degree or certificate program at an accredited institution. Applicants must be entering the institution within 12 months of being awarded the scholarship.

Only one application may be submitted per individual per year. Anyone who applied in previous years may reapply, however, those who have received PSAC scholarships in the past are not eligible.

Selection of the scholarship recipients is done by way of a "draw by chance" lottery, drawn from all eligible applications received. Selection is not based on academic standing.

Scholarship funds are issued, in the recipient's name, directly to the educational institution upon receipt of written confirmation of admission and enrolment.

Questions? Contact PSAC at

Phone: (403) 264-4195

Toll free: 1 (800) 818-7722

Email: info@psac.ca

\$500 Bursaries to Improve Knowledge and Skills

The ATA Educational Trust is a charitable organization dedicated to the professional growth of Alberta teachers. The Trust encourages Alberta teachers to improve their knowledge and skills through formal education. The names of 30 (or more) eligible teachers who apply will be entered into a draw for bursaries of up to \$500 that they can apply toward tuition.

In January of each year, the Trust posts all application forms for grants and bursaries on its website. Visit [www.teachers.ab.ca/Professional Development/Grants, Awards and Scholarships/ATA Educational Trust](http://www.teachers.ab.ca/ProfessionalDevelopment/Grants,AwardsandScholarships/ATAEducationalTrust) for details.



AR-ETF-24

\$3,000 Project Grants Available

The ATA Educational Trust is a charitable organization dedicated to the professional growth of Alberta teachers. The Trust awards a number of grants of up to \$3,000 to help Alberta teachers or others involved in education and teaching develop innovative resources that support curriculum, teaching or learning. Individuals or groups planning to undertake such a project must submit a detailed proposal on or before May 1, 2010.

In January of each year, the Trust posts all application forms for grants and bursaries on its website. Visit [www.teachers.ab.ca/Professional Development/Grants, Awards and Scholarships/The ATA Educational Trust](http://www.teachers.ab.ca/ProfessionalDevelopment/Grants,AwardsandScholarships/TheATAEducationalTrust) for details.



AR-ETF-25

\$300 ATA Specialist Council Grants

The ATA Educational Trust is a charitable organization dedicated to the professional growth of Alberta teachers. The \$300 grant program offers teachers who otherwise do not have access to sufficient funds the opportunity to be entered into a draw for \$300 towards the cost of an ATA specialist council conference.

In January of each year, the Trust posts all application forms for grants and bursaries on its website. Visit [www.teachers.ab.ca/Professional Development/Grants, Awards and Scholarships/ATA Educational Trust](http://www.teachers.ab.ca/ProfessionalDevelopment/Grants,AwardsandScholarships/ATAEducationalTrust) for details.



AR-ETF-23

Science Council Executive 2009/10

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