



Science@Western

FACULTY OF SCIENCE

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One amazing Western Science student

By Matt Devereux, Editor

This past summer, Western Science was missing one of its top students. We weren't worried, though — she was at Yale University working on an interesting chemical research project. While there, she got some exciting news.

Tiffany Vogel received a prestigious "Top 20 Under 20" award from the non-profit national organization Youth in Motion.

That's quite an achievement, but Tiffany is very good at collecting accolades. She has also won the Queen's Golden Jubilee Medal, and Western's President's National Scholarship.

She was the only Canadian student at her summer research project at Yale.

"Western's excellent academic and community opportunities gave me a competitive edge," she said. "It's this approach that distinguishes it above other universities."

Tiffany graduated from Leaside High School in Toronto two years ago, and now she is working toward an Honors Specialization degree in Chemistry and Biochemistry at Western. Yes, she is on the Dean's Honor Roll. And no, her academic career does not control every aspect of her whole life.

Tiffany enjoys the vibrant community of London, Ontario, where she founded the Academic, Sports and Arts Program (ASAP) last year at Wilfrid Jury Public School. This

is a service-learning program, sponsored by Residence Life Programming, and the UWO Rotaract Club, which matched over 30 West-

ern volunteers with local elementary school students. The ASAP will continue to run this year, while Tiffany is a Resident Advisor in Alumni House on the Languages Floor and takes on the role of Alumni Residence Council Liaison.

That would be enough, even too much for most ordinary people, but Tiffany is far from ordinary.



Tiffany Vogel, stellar 2nd year student in the Faculty of Science at Western. Her future plans include professional medicine, possibly oncology

She has volunteered on student panels at the November and March Open Houses, and as a chaperone for visiting high school students during Pfizer Canada Discovery Days/Interactions last May.

"I am also extremely excited to be the incoming Volunteer Coordinator of the Rotaract Club, the largest community service organization on campus," she recently communicated from an Internet café in New Haven. There are over 500 volunteers in this group to direct.

"Western clearly understands that academic, social and extra-curricular components are interconnected to produce well rounded and successful students."

Yes, we do.

Who Said It?

"Anyone who has never made a mistake has never tried anything new..."

Answer on back cover...

Another superior Western Science grad

By Karmen Dowling, *Western News*

Carmen Barnett is a recent graduate with a Bachelor of Science in Biology and is very proud of her days at Western.

“My three years at Western were honestly the best years of my life,” says Barnett, currently enrolled in Medicine at the University of Ottawa. “I have grown immensely, both in character development and in terms of academic knowledge, during the time I spent at the school. Western’s mix of academic priority and school spirit provided an environment that was fun, stimulating and definitely memorable.”

Barnett recalls trying to decide which university to attend after high school. She visited Western and immediately told her parents it “felt like home” and that this was the place she wanted to go. Barnett explains that she was extremely impressed with the quality of the facilities, the outgoing nature of the students and the sincerity of the faculty.

Upon entering Western in September 2000, Barnett received a National President’s Scholarship worth \$30,000 over four years. In first year, she won the University Students’ Council Future of Western Award for superior academic performance and outstanding school involvement, the Andrew and Sarah Hamilton Scholarship for being among the top 12 first-year students in the Faculty of Science, and the U of T Life Sciences Award for being accepted into the Medical Biophysics Summer Internship Program in Epidemiology at the Ontario Cancer Institute in Toronto. In second year, Barnett was the recipient of a Women in Engineering and Science Scholarship, which gave her an opportunity to do a scientific research internship over three summers with the National Research Council.

And that is what Barnett did at Western. Although she was very academically inclined and was able to maintain a mid-nineties average all three years, she also had a very active social life.

Barnett was a member of the Western varsity swim team for two years, winning a number of awards including female rookie of the year, Western all-time swimming record holder, OUA All-Star and CIS Academic All-Canadian. She was also a member of the Western Pre-Medical Society, Athletes in Action and Inter-Varsity Christian Fellowship, Let’s Talk Science, National Scholarship Selection Committee (Science), National Scholarship Interviewee tour guide, and Women in Engineering and Science (WES)



Carmen Barnett, BSc ‘03, preparing for a career in Medicine, says “Thank-you” to Western Science

representative. Outside of Western, she volunteered at St. Joseph’s Hospital and was part of a youth group at a local church.

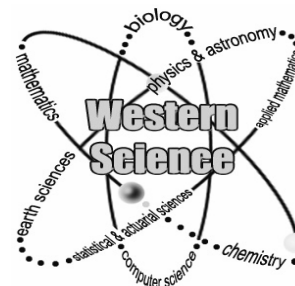
“One of the greatest lessons I learned from Western was how to keep the different dimensions of my life in perspective,” says Barnett.

“The university’s immense school spirit and provision for exciting experiences outside the classroom have confirmed to me that a lifestyle in which school, family, friends and community are given equal priority is both rewarding and satisfying.”

At 21, Barnett knows that she wants a career in medical research, possibly in anaesthesiology or haematology, “The opportunity to offer sincere and compassionate help to those in need and challenge myself through a truly stimulating profession have led me to believe that the study and pursuit of medicine is the career best suited to my interests and strengths.”

Barnett took to the stage in Alumni Hall to receive her degree with her proud parents watching from their seats. Her sister, Natalie, wasn’t able to attend the ceremony since she is in her first year classes, also at Western.

Barnett says it was important for her to return to Western for the ceremony. “I feel a strong sense of gratitude toward many of Western’s faculty and staff for the way in which they have prepared me to take on the next chapter of my life. Convocation, for me, represents a way to saying ‘goodbye’ and ‘thank-you’ to a school that has given me so much, both academically and personally.”



Western Science professors are top-notch

Adapted from *Western Alumni Gazette*

Western biology professor Alan Day and his wife Lynne have received a national award from Governor General Adrienne Clarkson for outstanding community volunteer contributions.

The Days were among 15 recipients of Governor General's Caring Canadian Awards presented April 3rd at Jarvis Collegiate Institute.

For more than 20 years, the Days have built friendships with isolated people, including psychiatric patients in hospitals and the elderly at home. They provide emotional support and transportation to medical appointments.

For 30 years, they have assisted a Montessori school, with Prof. Day helping to set up science fairs and Mrs. Day serving hot lunches and supporting reading programs.

For one month each summer over the past three years, they have traveled to Romania to support a camp run by a Christian orphanage for homeless boys. There, they have taught English, helped with cooking and sent clothing and books throughout the year.



Professor Alan W. Day,
Department of Biology

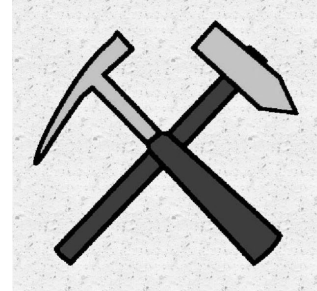
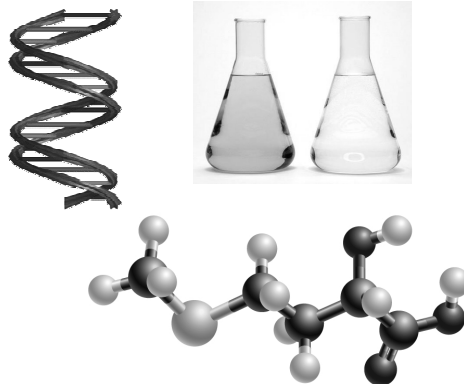


Professor Mel Usselman,
Department of Chemistry

A Western chemistry professor's skill at reconstructing historical experiments has earned him a celebrated honor from Germany.

Dr. Mel Usselman describes himself as a chemist who has become increasingly interested by the history of science. For example, the reconstruction experiments of Usselman and his students have helped demonstrate that it was the joint contributions of Liebig and Wohler (and not just the work of just one) that has led to modern methods of analyzing organic compounds.

The Liebig-Wohler Friendship Prize recognizes industrial scholarship in German science, especially exploration of the careers of leading 19th Century German Chemists.



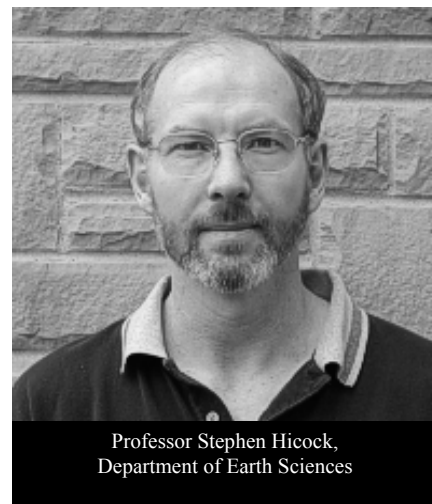
A sports analogy helped Western's Dr. Stephen Hicock win one of the most coveted prizes in teaching.

The Earth Sciences professor has won one of the six Ontario Confederation of University Faculty Associations 2003 Teaching Awards.

Hicock is widely known as an engaging teacher with a positive attitude. But being nice isn't enough to win this award. As Sandra Yoon, a former student, stated in a letter recommending him for the award: "Professor Hicock has what it takes to be the next Tiger Woods of Teaching."

For Hicock, teaching is clearly the number one priority.

"I find it very difficult to balance teaching, research and service with excellence, but I've always considered that teaching is number one and that's why I'm here to teach students. That's my primary function."



Professor Stephen Hicock,
Department of Earth Sciences

Science Challenge money for students



Money to help pay for university is easier to get than most people think!

The rapidly rising costs associated with university tuition and living expenses have forced students to seek out alternative ways of acquiring money without increasing their debt load. Scholarships are available, but for some reason they are often under-subscribed; potential applicants often don't apply because they think they aren't competitive enough to win. Some students may not have high enough marks to qualify for scholarships, but are otherwise bright and looking for a break.

The Faculty of Science at Western has developed a contest that any high school student in their last year may enter and win, regardless of their grades. Thousands of dollars are available to be won in six different categories:

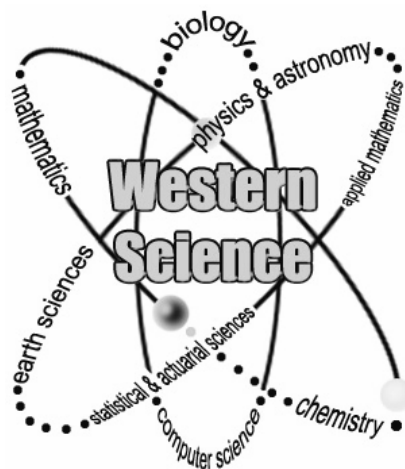
- ⇒ **Biological Sciences**
- ⇒ **Chemistry**
- ⇒ **Mathematical Sciences**
- ⇒ **Physics and Astronomy**
- ⇒ **Computer Science**
- ⇒ **Earth Science**



1st Prize: \$500 if you come to a science program at Western (added to any other entrance scholarships). If you opt for another program or university the prize is \$150.



2nd Prize: \$150 if you come to a science program at Western (added to any other entrance scholarships). If you opt for another program or university the prize is \$75.



Twelve prizes are available to be won (two in each category). Last year, some prizes were not awarded because of the lack of applicants! Don't pass up this tremendous opportunity to cut your debt load, and if your parents will be supporting you, they'll be grateful too.

Visit

www.uwo.ca/sci

ENTRY DEADLINE IS MARCH 1st



Fall Preview Day

Saturday November 13, 2004

*Visit the university campus and
meet professors and departmental representatives*

Register now:

www.welcome.uwo.ca

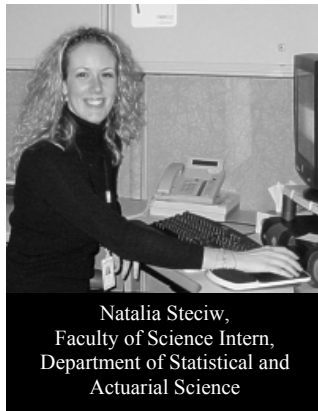
Science Internships provide valuable experience

By Justin Rensby, Geology student

Natalia Steciw is a perfect example of how students and employers both gain from the Science Industry Internship Program. She happily joined Manulife Financial, one of the leading life insurance companies in Canada, to explore her possible future and grow both personally and professionally. She has been able to show both Manulife and herself what she is capable of. Manulife has been able to meet the talent of the future and to help a student to prepare for the move to the ranks of the professional. They have met a potential recruit as well.

As an actuarial science major, Natalia was placed with Manulife where she is gaining valuable work experience with an established company. Manulife

is even helping her in the process of passing her Society of Actuary exams by giving paid study time and paying her exam fees. As her supervisor, Lisa Miolo, says, "Internship programs



Natalia Steciw,
Faculty of Science Intern,
Department of Statistical and
Actuarial Science

give Manulife Financial an excellent opportunity to work with talented students, and this term was no exception. Natalia approached her internship with much enthusiasm and

directly contributed to a number of projects that impacted the design of our products. She has an important role on our team."

Natalia has already worked on a variety of projects for Manulife, which have challenged her skills by giving her the opportunity to explore different projects and areas of the company, and to make a difference to the workings of her department. She has found the work interesting and rewarding.

Originally she hesitated to do an internship because she did not want to graduate without her class or move away from London, Ontario. Ultimately Natalia chose the program. Today she is carrying out work that is meaningful to the reputation of her department and is finding an-

swers to questions that co-workers and senior management pose. In the process she has discovered the differences between work and student life and been surprised by the changes to her lifestyle.

Natalia has enjoyed getting to know her colleagues and even helped to organize a summer fun event for her department. She has discovered how important relationships with fellow workers are to performance. She is glad for all the supportive people she has met and formed friendships with. Natalia has learned that a good supervisor is important, too and feels lucky to have had a supervisor who has given constructive feedback and assigned her "interesting assignments to work on."

Western Science reaches for the planets



Does Mars exploration fascinate you? What about the other planets in our solar system?

Starting in Fall of 2004, Western will be offering an undergraduate program in Planetary Science. Planetary Science is an interdisciplinary program combining the Departments of Physics & Astronomy, Earth Sciences, Geography, and Philosophy.

This program begins with a broad overview of contemporary planetary science, with an emphasis on the geology and surface processes of the varied bodies of the solar system. It also intro-

duces techniques necessary for working with images acquired by planetary spacecraft. The latest results for current missions are incorporated into student

For more information about this exciting program, please visit:
<http://aquarid.physics.uwo.ca/planetsci/>

assignments to encourage an active involvement in this rapidly evolving field. Lectures cover the principles of planetary astronomy and geology, and descriptions of individual bodies. Lab projects cover basic methods of image use

and interpretation.

In the Honors program, students will undertake a significant research project of their choosing, in any field relevant to contemporary planetary science, under the supervision of a faculty member in a participating department. This may lead to graduate work (Master's or PhD), and perhaps an exciting career as a remote sensing scientist, planetary scientist, astronaut, atmospheric scientist, environmental technician/engineer — the possibilities are nearly boundless and yours to explore and discover.



Editor: Matt Devereux
Email: mdevereu@uwo.ca

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We're on the Web!
www.uwo.ca/sci

**Answer to "Who Said It?" :
Albert Einstein**

SCIENCE CLIPS

Which invention came first?



The chicken or the egg? This one isn't very tricky after all. Chickens are birds of course, and a growing number of scientists are asserting that birds have their origins among a certain group of dinosaurs. Dinosaurs all apparently laid eggs. In fact, the history of egg-laying can be traced back to the Cambrian (and perhaps before then)—some 500 million years before the first chicken.

The lighter or the match? The first lighter was invented in 1816 by the German chemist, J.W. Dobereiner. Unfortunately, it was very expensive to use because it required powdered platinum as a catalyst. The much more practical and cheaper match was invented shortly thereafter.

Contact lenses or glasses? Leonardo da Vinci conceived the idea of contact lenses to correct vision during the 15th century. But, according to history, the first spectacles were invented in Pisa, Italy, by an unknown artisan in the year 1296. You didn't really think that contacts came first, did you?

Champagne or cork? This was actually a tie. The 18th century French monk, Dom Pérignon discovered that Spanish cork sealed in the CO₂ from fermentation better than the wood and leather stoppers used for regular wine. The result was a sparkling wine, the best of which now bears his name. Upon tasting the first glass, he stated: "I am drinking the stars." That was a remarkable thing to say, because Dom happened to be blind!

Cans or can openers? The sealed metal container for food was introduced in England in 1812, but the designer never bothered inventing a device to open it. As a result, chefs used large heavy knives, hatchets, hammers and chisels to get into the cans. The first can opener made a welcome debut in 1860.

Peanut butter or margarine? Peanut butter was invented by an anonymous physician in 1890 as a way to give patients without teeth a good source of non-meat protein. But margarine was developed by French chemist Hippolyte Mège-Mouriés twenty years before that, as a cheap substitute for butter.

CAREER

Computer Scientists in High Demand

Studies are showing yet again that computer scientists are in high demand, and in short supply across North America and around the world. According to the US Bureau of Labor Statistics, of the ten fastest-growing occupations projected for this decade, eight are computer-related. Computing has the top seven slots in this list, with the increases projected ranging from 60 to 100%. Human Resources Development Canada predicts similar trends in Canada, listing computing and information technology among the top most promising career paths.

There are a wide variety of computing careers including software engineering, systems and network admini-

stration, wireless and mobile computing, database administration, graphics and imaging, digital media, video game development, mathematical computing and distributed computing to name just a few. Other career opportunities exist if you link computer science and another discipline. Experts in computer science with business or law are desperately needed, as are those with experience in biotechnology and bioinformatics, where computing blends with biological and medical sciences. The possibilities are endless.

With our strong tradition of excellence in teaching and research, the Department of Computer Science at Western can open the doors to these exciting career paths, and others. If you have any questions, or would like more information, feel free to contact us online through our web site: <http://www.csd.uwo.ca>



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