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Further information on the Science and Business Programs may be found at www.scibus.uwaterloo.ca.
Welcome to the 2007 High School Edition of scibus.ca, the magazine of the University of Waterloo’s Science and Business programs. This magazine was created for you, our prospective students to help you learn more about the Science and Business program to which you have applied. The Science and Business programs, which include Biotechnology and Chartered Accountancy, Biotechnology and Economics and Honours Science and Business, are designed for intelligent and highly motivated high school graduates. Our slogan “Producing Leaders for the New Economy” sums up our mission which in part is to produce highly sought after graduates for the new global economy.

These unique programs provide you, our future students, with an academic experience of the highest quality. The programs will also give you the tools to develop the personal and career related skills that will aid you in following many different career paths, including the following:

- Technical and managerial positions in science and technology oriented firms
- Careers as entrepreneurs with a broad mix of academic, business, soft skills and work experience
- entry to professional schools, including medicine, law and pharmacy, where your business and soft skills are a major advantage
- pursuit of postgraduate programs in the area of either science or business

Our workshops and other activities will help to develop your research, communication and team skills. The myBusiness program created and run by the Science and Business advisor helps students develop their personal career plan (see page 6 for more details). Our student ambassadors (page 5) provide mentorship and support to all of our students throughout their years at the University of Waterloo. The Science and Business Student Association (SBSA) (page 4) organizes a variety of social events each term. SBSA also organizes a major annual Science and Business conference which offers great networking opportunities to our students with industry employers.

I would like to invite you to use this magazine as an introduction to our programs and students. As you will see, most of the articles are written by our dedicated students. You can also meet some of our students from different years and programs by reading their profiles. You will learn why they enjoy the Science and Business programs at Waterloo and how they get involved on campus.

If you enjoy working in a flexible and versatile environment and desire an excellent academic program with supporting extracurricular activities aimed at developing a well rounded individual, consider joining the Science and Business team.

Thank you to all of our authors and to those who provided profiles and pictures for the magazine.

Professor Owen Ward
Editor and Science and Business Program Director
The following Science and Business students have recently received awards for their work outside of the University of Waterloo Campus.

**Rebecca Baxter**

**Award:**  
*Ministry of Economic Trade and Development, Ontario Global Traders Award*

In June 2006, Rebecca Baxter, a 4th year Science and Business student, was awarded the Ontario Global Traders Gold Award. Rebecca was given this award for assisting her co-op employer, Apotex Canada, in the development of a new subsidiary in Australia. Rebecca spent four months in Australia acting as a liaison between the home office in Canada and the new subsidiary in Australia.

**Award:**  
*Canadian Female Representative for the ITU World Telecom 2006 Youth Forum*

In September 2006 Rebecca was informed that she was to gain an experience of a lifetime. Rebecca was chosen by the Canadian government to be the female youth representative for Canada to attend the ITU (International Telecommunications Union) World Telecom 2006 Conference in Hong Kong, China. Rebecca, along with many other young people aged 18 – 23 arrived in Hong Kong on Dec 3rd and spent the next 5 days participating in the conference events.

Congratulations on your awards Rebecca!

**Sukirtha Tharmalingam**

**Award:**  
*Multinational Association of Supportive Care in Cancer Young Investigator Award*

Sukirtha is currently in her last year of the Science and Business – Biology program. In her final work term at Toronto Sunnybrook Regional Cancer Centre Sukirtha was awarded the Multinational Association of Supportive Care in Cancer (MASCC) Young Investigator Award. The award was for her abstract, entitled “Patients’ and Health Care Professionals’ Perspectives on the Most Important Quality of Life Issues in Bone Metastases”, which she presented at the 16th Annual Provincial Conference on Palliative and End-of-Life Care last April.

Sukirtha’s previous work experience included opportunities as a Genetic Counselling Research Assistant at Princess Margaret Hospital and as an Economic Research Analyst for the provincial government. Sukirtha’s extracurricular involvement with the Science and Business program also makes her a well recognized face by all of our students. She is currently the lead ambassador for the SciBus Ambassador team and last year planned the Ambassador Alumni Dinner.

Congratulations on your award Sukirtha and thanks for your leadership!
ON CAMPUS AWARD WINNERS

The following Science and Business students have won awards on the University of Waterloo Campus

Tasneem Nakhooda

**Award:** 2005 University of Waterloo Co-op Student of the Year

Each year, one student from each of the 6 Faculties on the University of Waterloo campus is awarded the honour of Co-op Student of the Year. Prospective candidates for the award are evaluated based on their contributions to their co-op employers, their academic standing and community involvement. The 2005 Science faculty recipient was 4A Science and Business student, Tasneem Nakhooda. Tasneem was honoured for her outstanding work at Symcor, an outsourcing company in the financial services industry based out of Mississauga Ontario.

Tasneem is in her final year here at the University of Waterloo and is planning to enter a career in the areas of consulting or promotions in the healthcare field. While on campus Tasneem has been involved with the Science and Business program through SBSA (Science and Business Student Association) and is also a Science and Business Ambassador. Great work Tasneem!

Saba Rehmani and David Kendel

**Award:** 2005 Science and Business Leadership Awards

*Saba* is a fourth year Science and Business – Biochem student who in the past few years has done a great deal to enhance the Science and Business programs. As the president of SBSA (formerly SCRUBS) in the 2004-2005 school year Saba directed and coordinated the 2005 SCRUBS conference “Keys for Success: From Science to Business”. The conference was very successful, with approximately 300 guests, 10 guest speakers and approximately $15K raised. This success was due, in part to the dedication and leadership style Saba displayed.

Saba has continued her involvement in the Science and Business program by helping plan the 2006 SBSA conference and through her participation on the Science and Business coordinating committee. Thanks for your dedication to the program Saba!

*David* graduated from Science and Business in 2005 and was the recipient of the Governor-General’s Silver Medal. This award is presented to graduates with the highest overall academic standing in a bachelor’s degree program and UW is only allowed to give three awards to each graduating class across the whole campus.

The multidisciplinary Science and Business program challenges students to think and study in different ways. Clearly David exhibited outstanding academic performance and leadership in courses from both the science and business backgrounds. Congratulations David!

David is currently working at Accenture as a Management Consultant for the Strategic IT Effectiveness Group.
A SERIES OF FORTUNATE EVENTS
by Rebecca Zhou
4th Year Science and Business - Biology student

Studying SciBus at UW started a series of fortunate events that eventually led me to where I am today, as the COO (Chief Operating Officer) and Fall term acting president of the Science and Business Student Association (SBSA).

Back in first year, as a curious student, I wanted to gain many new experiences and attend various events that would help me grow academically and socially. I rarely ever turned down invitations to attend conferences, lectures, interactive seminars, or other social functions.

One event I attended three years ago that set me on the path of involvement with SBSA was the Intellectual Property: From Science to Business conference organized by our student association. At this conference, I learned about one of the key steps in bringing scientific research to business. Aside from the intriguing information presented about the world of intellectual property, I was amazed to learn that this high calibre, professional event was completely organized by students not much older than me. Having had no previous exposure to conference planning, I was curious about how these students handled all the logistics, from registration to sponsorship and guest speakers for a full day conference. After this initial exposure, I paid more attention to their activities and eventually got myself a small role in helping with the surprise retirement party for the founder of the SciBus program, Dr. Globus. This was my first baby step into the world of SBSA, and I am now one of its executives and the co-chair of our 2007 conference.

Although I had not originally planned on being involved in the 2005 conference I joined the marketing team for Keys for Success, an experience that changed my attitude and behaviour towards my career and future completely. The resulting practical knowledge motivated me contribute more to the promotion of the science and business program, I joined the 2006 conference team for The Driving Force: From Science to Business as the co-marketing director.

This academic year, with a strong executive team, SBSA hosted an inaugural networking event during Communitech’s Entrepreneurial Week in October. The event titled, Knocking down Silos featured keynote speaker David Howlett from Magnes Group, who impressed a large crowd of both students and corporate attendees with great tips on networking in the industry. The event attracted a significant number of attendees from the corporate world and we would like to continue this success with our upcoming conference in March 2007. The planning has already begun for the 2007 conference A Global Perspective: From Science to Business, and as a co-chair, I’m extremely excited to work with a great team of students to move SBSA’s annual conference to the next level.

In addition to planning professional development events, SBSA also encourages the building of a close-knit community among the three SciBus programs. We have in the past hosted fun activities such as Wine n’ Cheese events, camping at Elora Gorge, a beach trip to Grand Bend and many others to bring SciBus students together at a personal level.

I am very proud to be a member of this growing student organization. I was fortunate that I met the right people at the right time. I truly believe that if you have the determination to achieve something, you will find the right opportunities to lead you on to your own series of fortunate events.
SCIBUS AMBASSADORS: BUILDING BRIDGES, MAKING CONNECTIONS

by Jennifer Beckman and Sukirtha Tharmalingam
- 4th Year Science and Business students

The Science and Business Ambassadors are a group of volunteers connected to the Science and Business resource centre. We are upper year students from each of the three Science and Business programs (Science and Business, Biotech/Chartered Accountancy and Biotech/Economics), with different specializations, different interests and unique experiences. The goals of the Ambassadors are directed toward bridging the gaps between current Science and Business students and promoting our program to prospective students, employers and alumni. These goals are being accomplished through peer mentoring, attending science and campus events to promote the Science and Business programs, organizing alumni-student events and connecting current students with the resource centre.

The Science and Business Ambassadors became active in the fall of 2005. We realize that for new University students, moving to a different city, starting at a new school, choosing courses and adapting to a new lifestyle are not easy things to accomplish alone. Upper year students often say that they wished they had someone to talk to who had gone through the process. And so, the Ambassador team was born. The vision soon expanded from pure mentorship, to one which included bridging not only the gap with current students, but also with prospective students, alumni and industry. Students were made aware that the Ambassadors were willing to answer questions about Science and Business, life at the University of Waterloo, activities outside the university, and about any other areas of concern. Discussion events were held involving current students and Science and Business director, Dr. Owen Ward, and coordinator, Kashif Memon.

One of the most successful Ambassador events of the year was the Annual Science and Business Alumni-Undergraduate Dinner, which was organized to increase positive alumni-undergraduate relationships. This year a group of 14 students, including a few from last year and many enthusiastic new faces, has teamed up as Ambassadors. They look forward to meeting new students and helping to make the transition into Science and Business a comfortable one. They attended UW day on November 4 and will be visiting high schools to promote the Science and Business programs to prospective students. They wish to make the program better known to industry and to co-op employers. Events for current students to meet and talk to each other, the Ambassadors and the program director, coordinator and project manager have been organized. Finally, the Annual Science and Business Alumni-Undergraduate Dinner will be held again in 2007 to encourage relationships between Science and Business students of yesterday and today.

*If you have any questions about the programs or would like to contact a student for advice please email the ambassadors at scibusambassador@uwaterloo.ca.

Meet Diane...
Name: Diane Tsang
Year and Program: 4A SciBus-Biology

Why she likes being an Ambassador
Being an Ambassador is a great way to meet everyone under the SciBus umbrella – outside of class. Every ambassador meeting is fun and we are always coming up with new ideas because our group is made up of people with diverse backgrounds, expertise and perspectives.

Her volunteer experience
I volunteered in a biology lab here on campus which helped me sharpen my technical skills and gave me a glimpse into some of the great research happening right here on campus.

Her advice to you
Challenge yourself by trying something new because you never know where it may lead you – and have fun!

*Diane is one of our SciBus Ambassadors!
So you’re a university student, always busy, always on the go with lectures, assignments, midterms, finals, it always seems to be the same schedule, term after term. Sometimes all you need is a chance to step back and take a breath; think about your current situation and where you are going? Where do you want to end up? Where do you see yourself in 5 years? 10 years?

With so many other things going on in your universe you barely have time to stop and smell the flowers let alone plan your life. So you ask yourself, what are my strengths and weaknesses? What are my opportunities and threats? Do I have a vision and a mission for my life? What is my strategy for reaching the goals and objectives along the way in order to attain this ultimate vision? These are all questions that the myBusiness program helps students of the Science and Business programs answer.

myBusiness was developed by the Science and Business team and involves a ten step documented process of self reflection and development. Some of the objectives include implementing a personal SWOT analysis and identifying your vision and mission.

Once a week students from Science and Business, Biotechnology/ Economics and Biotechnology/CA from all academic years get together for an hour with the Science and Business resource centre team and discuss their outlooks. There are no right or wrong answers and there are no rules or expectations. It is merely a way for students to plan out their futures. It does not necessarily have to be academic, career or personally oriented. It can be a combination and does not always stay the same from term to term or even from week to week. The beauty of the exercise is the personal growth that one experiences and the realization that one will have many different visions and missions for life and that these will evolve.

The finest components of the program are clear. It allows students to engage in long-term career and personal planning. It helps students to identify their strengths and weaknesses so that they can improve themselves and, it also gets students thinking proactively about their options and about the directions their lives can take. Many students are surprised by how challenging it is to make concrete decisions and take steps towards achieving their goals. The session is open and does not have a formal structure. Students are free to share what they choose and give advice and suggestions where they see fit, affording students opportunities to mentor their peers.

Through my experience with the program my entire perspective on where my life is going has changed. You cannot imagine how much one can learn about oneself and what one wants out of life by merely sitting back and taking the time to think about it. I had never truly thought about where I wanted to go and how I was going to get there. The program challenges students to take decisions they are not normally challenged to take and to think outside the box. It challenged me to start to take the steps required to achieve my vision.

With this program students can help to identify their strengths, both comparative and competitive, as well as the leader and scientist within them. With a firm grasp on the future, the opportunities of the present can easily be capitalized upon. As Bo Bennett once said, “A dream becomes a goal when action is taken towards its achievement”.

Meet Andrew…
Name: Andrew Wong
Year and Program: 4A Biotech/Econ

His involvement in the programs
I have been a participant of the myBusiness program being run by the Science and Business resource centre for the last two terms. myBusiness is an exercise in forming your vision and planning your future. Before I started in the myBusiness program, I had a vague idea about entering a career in the business side of the biotechnology industry but I never had any clear idea of what I wanted to do. Through the ongoing process of myBusiness, I have a much more focused vision of where I want to be in the future and a plan that will take me there.

*Andrew is also one of this year’s Science and Business Ambassadors. Thanks for your dedication Andrew!*
University of Waterloo’s Science and Business program has taken a proactive approach to develop its students. Individuals enrolled in the program have access to distinctive resources that are certain to enhance both their scholastic performance and overall university experience. The resource initiative places a means of mentorship, preparation and research at the students’ fingertips at all times. This three-tiered approach is designed to give students access to key tools that facilitate their ultimate success in the program.

First, students are encouraged to take advantage of the wide-ranging publications and online resources that are available in the Resource Centre – located in ESC 254D. Students are able to view top-notch magazines and publications that provide information on current issues in related industries for free! This is a great way to keep abreast of the latest topics in scientific research, technological advancements, business developments and future career opportunities.

Additionally, students have access to a broad spectrum of individuals knowledgeable about the Science and Business, Biotechnology/Economics and Biotechnology/Chartered Accountancy programs. Academic Advisors and Student Ambassadors are available to mentor current and prospective students in each of the programs.

The following easily approachable Academic Advisors provide students with information about course and program selections, degree requirements and professional program prerequisites.

- Dr. Owen Ward (Program Director) – Is highly accredited in the field of applied microbiology research and development and has launched several successful biotechnology companies such as Biorem Technologies Inc. and Lystek International
- Kashif Memon (Program Coordinator) – Has 15 years of extensive work experience in the public and private domain working with World Bank, Asian Development Bank, the World Trade Organization and the United Nations on trade and agriculture issues.
- Sheri Howard (Project Manager) – Is a recent Science and Business graduate with first-hand knowledge of the program idiosyncrasies and with work experience with MDS Sciex, an “analytical instrumentation and technology solutions” company.

The other facet of the advisory portion of the resource initiative is the Student Ambassadors program. This distinct group of upper year students is available to mentor and share experiences – both good and bad – with fellow classmates.

All things considered, the necessary tools are available for students in any of the Science and Business disciplines to meet and exceed their greatest expectations.

Meet Lian...
Name: Lian Chen
Year and Program: 1A SciBus

Why she chose UW
I chose University of Waterloo because of its high reputation in Canada. As well, the brilliant quality of the courses and professors also came into play. Co-op was also a strong aspect that affected my decision to enroll at Waterloo. Although I have not started my co-op term, I can already predict that the valuable experience that is gained from work will help my future and will make me a more valuable asset in the working industry.

Her Advice to you
Study hard! But don’t forget to have fun!
There are many companies that compete in the world of oncology research. Cancer treatment ranges from surgical removal of the solid tumor to radiotherapy and chemotherapy. From the pharmaceutical company point of view, finding a cure for cancer is like finding a gold mine. Researchers are competing against each other to discover more effective cancer treatments whether the research lab is large or small. Several big players in the oncology pharmaceutical industry include: AstraZeneca, Roche, and Novartis. These three companies are very active in pursuing research of treatments for various types of cancers, such as breast, colorectal, lung, and prostate cancer. Several interesting corporate strategies and new findings have been reported in 2006.

AstraZeneca

*Joint Development and Commercialization of Novel SERDs*

On September 15, 2006, AstraZeneca joined Schering AG to co-develop and commercialize a novel selective estrogen receptor down-regulator (SERD) for treatment of breast cancer. With this alliance, AstraZeneca will lead the clinical development and Schering will manage the non-clinical development, process development and manufacturing activities. The two companies will share equally the development and commercialization costs and global profits.

SERD is an important advancement in breast cancer treatment. It offers a specific therapy approach for women with breast cancer. AstraZeneca believes that the partnership will strengthen its product pipeline and further develop its leading position in anti-hormonal disease therapy.

The co-development plan will allow leverage in cost-spending for research and development, as well as the commercialization of the end product. Collaboration of expertise in the two companies will be beneficial in the race for the ultimate cure for breast cancer.

Estrogen, a steroid hormone, stimulates the growth and progression of many breast cancers. Estrogen receptors, present in breast cancer cells, mediate the actions of the estrogen hormone. The selective estrogen receptor down-regulators are a new class of compounds. They increase the rate of estrogen receptor protein degradation and thus reduce the availability of estrogen receptors for interaction with estrogen hormone. This also lowers the resistance to hormone treatment, via intracellular signaling pathways, that exists in currently available treatments. SERDs can potentially be used for monotherapy or in combination with other chemical agents for the treatment of hormone sensitive/resistant breast cancer.

*AstraZeneca and M.D. Anderson Cancer Centre Collaborate in Research*

Earlier this year (January 2006) AstraZeneca collaborated with University of Texas M.D. Anderson Cancer Centre, a recognized world leading cancer research centre, in an agreement for integrated pre-clinical and clinical research on aero-digestive cancer treatment (lung, head, neck, colorectal cancer). This agreement allows the two organizations to work more efficiently in delivering future cancer treatment solutions.

Due to the alliance, less time and effort can be allocated to negotiation of new pharmaceutical cancer research from AstraZeneca. The goal in searching for effective cancer treatment will be accomplished through establishment of a relationship with a highly recognized leader in cancer research. Newly established knowledge from the pharma industry will enhance the ability to bring innovative approaches to research.

The agreements will allow scientists in both organizations to work flexibly with a portfolio of novel cancer agents to accelerate development of new treatments. This will greatly benefit cancer patients.

Roche

*Herceptin®, Synergic to Hormonal Therapy for Lower Progression of Cancer in Patients with Breast Cancer*

Data presented at the European Society for Medical Oncology in October 2006 showed synergic effects of Herceptin with the hormonal therapy, anastrozole. This combination
significantly controls cancer for a longer duration than hormonal therapy used alone, in patients diagnosed with advanced hormone receptor-positive and HER2-positive breast cancer. Patients with hormone receptor-positive breast cancer are considered to be at ‘lower-risk’ due to successful hormonal therapy treatments. Patients with HER2-positive breast cancer (one quarter of hormone receptor-positive patients) have an aggressive form, which requires special and immediate attention. This form of patient is considered to be at ‘higher-risk’. The result from the phase III study of Herceptin in combination with hormonal therapy anastrozole versus anastrozole alone to treat advanced hormonal receptor-positive and HER2-positive breast cancer shows positive results.

Whether the patient's condition is in early stage or advanced settings, in the process of chemotherapy or hormonal therapy, Herceptin has been administered to consistently benefit patients with hormone receptor-positive and HER2-positive breast cancer.

Xeloda and Avastin demonstrate superior progression-free survival patients with advanced colorectal cancer (October 2006)

The phase III study of Xeloda and Avastin demonstrated a new effective treatment option for patients with advanced colorectal cancer. The study resulted in evidence that XELOX (Xeloda + oxaliplatin) is effective in progression-free survival patients and more convenient (2 hours versus 48 hours treatment times and fewer hospital/clinic visits) than the FOLFOX-4 treatment (current standard) in advanced colorectal cancer. Furthermore, the addition of anti-angiogenic agent Avastin further improves progression-free survival.

The Avastin and XELOX chemotherapy treatment option resulted in a clinically meaningful and statistically significant improvement of 20 percent in progression-free survival patients.

Novartis
Four-Year Results of Femara in Reduction of Breast Cancer Recurrence and Spread After Surgery (October 2006)

Initial treatment with Femara following surgical removal of breast cancer offers higher protection from recurrence and spread of cancer, compared to tamoxifen. The 51 months of follow-up, starting from July 2002, in postmenopausal women with hormone receptor-positive early breast cancer taking Femara after surgery resulted in an 18% reduction in overall risk of recurrence, and 19% reduction in cancer spreading. The risk of recurrence reduction is notably higher in women whose cancer had already spread to lymph nodes (23% reduction) and those who had received chemotherapy (26% reduction).

The data provides confirmation of a consistent safety profile, with no increase in adverse events in patients with long-term treatment.

Glivec® Treatment of Rapid Progressing Leukemia and Hard-to-Treat Solid Cancer Tumor

In September 2006, Glivec received additional EU approvals to treat patients with rapidly progressive leukemia as well as hard-to-treat solid cancer tumor. The drug is initially approved to treat Philadelphia chromosome-positive chronic myeloid leukemia (Ph+ CML) patients and now has further approvals, namely, Glivec can be used, in combination with chemotherapy or alone, in adult patients with newly diagnosed Ph+ acute lymphoblastic leukemia (Ph+ ALL). Glivec was also approved for treatment of unresectable, recurrent and/or metastatic dermatofibrosarcoma produbersans (DFSP), that are not eligible for surgery. This disease has as a symptom, a hard lump found in the skin of the chest, abdomen or leg, and progresses to invade nearby tissues. Submission of Glivec for the treatment of hypereosinophilic syndrome (HES), systemic mastocytosis (SM) and myelodysplastic/myeloproliferative diseases (MDS/MPD) has been done and is under review for approval. The US Food and Drug Administration (FDA) is reviewing the submission of all five treatments for approvals.
TECHNOLOGY TRANSFER

Meet Lisa…
Name: Lisa Milligan
Year and Program: 3B SciBus-Biology

Why she chose Science and Business
The opportunity to try a variety of work experiences appealed to me, as well as having a full mixture of disciplines in my undergraduate coursework. I could see that entering into such a diverse program would allow me to better determine where I fit in the professional world.

Why she likes the workshops
The SciBus workshops are quite different from other classes— not only do we learn about how technology-based businesses successfully establish a presence in their chosen market, we also learn how to interact with others in group and project work settings.

*Lisa recently completed a work term as the Technology Transfer Assistant at TRIUMF in Vancouver, BC where she was featured in their brochure as a summer student intern. See the brochure at [http://www.triumf.info/public/repository/ttb200608](http://www.triumf.info/public/repository/ttb200608).

TECHNOLOGY TRANSFER: FROM SCIENCE TO BUSINESS
by Lisa Milligan 3rd Year SciBus - Biology student

Whether or not you’re aware of it, most of the technologies that you use in your daily life are probably the outcome of a complex technology transfer strategy. Somehow, somewhere, an ingenious scientist had to foresee applying abstract scientific concepts to what we may now deem to be lifestyle necessities - the use of radio waves for quick cooking (the microwave oven); employing optically-thin, pure glass strands to transmit digital information (fiber-optics); or using pancreatic hormones from farmyard animals in treating diabetes (insulin). The result of scientists making these types of discoveries has been the exceptional array of technologies available to developed and developing societies worldwide.

In Canada, the process of technology transfer usually involves a tell-tale progression of scientific discovery and movement towards commercialization. Following the formation of an innovative concept (perhaps even a “eureka!”-type idea), the scientist gains interest from funding bodies, performs research and experiments on the concept, and eventually progresses through the proof-of-concept phase of development. Although not all ideas will become the next big pharmaceutical boom, many smaller discoveries make waves with various members of industry, enticing enthusiastic momentum in the technology’s research. Assuming that the funding, prototype testing, and commercial partners all successfully come together, the technology will reach sure-fire commercial maturation.

As a future undergraduate student, you may have many opportunities to be exposed to this exciting process of technology commercialization. One way to learn more about technology transfer is through selecting co-op work terms or summer employment with the goal of learning more about the Canadian biotechnology, high-tech, or pharmaceutical industries. You can also align yourself with a professional association, giving you access to even more information about intellectual property and technology transfer in North America. Some reputable societies include the Alliance for Commercialization of Canadian Technology, the Association of University Technology Managers, and the Licensing Executives Society. The latter two of organizations offer student membership rates.
PROGRAM OUTLINES

BIOTECHNOLOGY/CHARTERED ACCOUNTANCY

BIOTECHNOLOGY/ECONOMICS

SCIENCE AND BUSINESS
Our Biotechnology/Chartered Accountancy program is geared towards providing students pursuing careers in the accounting profession with the requisite technical experience to make them more effective in interacting with and working in modern technology intensive organizations. This unique program integrates advanced courses in biology, biochemistry, and biotechnology with studies in financial management, accounting, auditing, and taxation.

This program provides a unique opportunity that gives students an integrated educational experience while preparing them for a role in providing accounting and advisory services in the rapidly growing science and technology business sector of the economy. Offered through the co-op system only, graduates may choose to continue to obtain their Certified Chartered Accountant designation.

### Meet Gaurav...

**Name:** Gaurav Sobra 
**Year and Program:** 2A Biotech/CA

**Why he chose Biotech/CA**
I really like the fact that the program allows you to explore different interests while giving you a dynamic education. On behalf of the accounting program, I can say that it is definitely one of the best accounting programs in the country. The program puts you ahead of other accounting students upon graduating.

**How he gets involved**
I have been involved as Science Society first year rep, as an Accounting Students Education Contribution Ambassador and as a Science Orientation Leader. I was involved in these activities because I felt that they would be a great way to meet new people. I also felt that through these activities I would learn so much. *Gaurav is also a SciBus Ambassador.*

### FIRST YEAR

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<td>PHYSICAL AND CHEMICAL PROPERTIES OF MATTER/ CHEMICAL REACTION LABORATORY 1</td>
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<td>MATH 109</td>
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**At work**
(Co-op and Alumni)

- **Staff Accountant - Deloitte**
- **Research and Validation Analyst - GlaxoSmithKline**
- **Microbiology Research Technician - Environment/Agriculture Canada**
- **Audit - Deloitte & Touche LLP**
- **Financial Planner - Ernst & Young**

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*Gaurav is also a SciBus Ambassador.*
The Waterloo Biotechnology/Economics program has a specific technical focus on biotechnology which will impact upon many facets of our lives including healthcare, food and agriculture, energy and the environment. This program integrates fundamental principles and applications of biotechnology with a more specialized business focus on economics.

This relatively new program is offered through the co-op system only. Career opportunities vary from working for a pharmaceutical company to a brokerage house, from a bank or government agency to a research firm or consulting company. Waterloo’s Biotechnology/Economics program can uniquely qualify you to capitalize on the opportunities created by the expanding field of biotechnology.

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**Meet Sabrina...**
Name: Sabrina Khamisa
Year and Program: 4a Biotech/Econ

**Why she chose UW**
I choose Waterloo for many reasons, the top one being its reputation. I had heard great things regarding the standard of education and its innovative programs.

**Why she chose Biotech/ Econ**
The first time I came to the University of Waterloo, I sat down to talk with the Administrator of the Faculty of Science. I explained my dilemma of the love of biology but the fear of being stuck in a research lab. That’s when she introduced me to the hot new trend of biotechnology. I instantly fell in love with the idea of meshing the streams of science and business disciplines. “Envision the possibilities!”

At work
(Co-op and Alumni)

Sales Analyst - PetroCan
Research Officer - National Taiwan University
Business Analys - CIBC World Markets
US Business Development Co-ordinator - STORM of London
Our technology-driven world requires a new type of business professional. As technological developments are introduced at an ever-increasing pace, there is a demand for individuals with the ability to integrate and apply scientific know-how in the world of business. Waterloo’s Science and Business programs are designed to produce graduates who can excel in fields as diverse as high-tech stock and mutual funds, technical sales, marketing, accountancy, pharmaceutical sales, economic forecasting, business development as well as in the areas of technology development and commercialization and project management. Our programs prepare students to compete and prosper in the current technology-intensive global market place.

These programs attract very high caliber student entrants. Consistent with the University of Waterloo’s technology and business oriented mission, Waterloo’s Science and Business-related programs have been developed to serve the important needs of modern national and international businesses.

Our mission is to deliver outstanding highly sought-after graduates to the private and public sector work force.

Meet Hina...
Name: Hina Parmar
Year and Program: 1A SciBus

Why she chose UW
Waterloo has a very welcoming campus, and a remarkable student body. You can almost find an activity or program to match any student’s interest. In doing so you find people with whom you have a lot in common.

What she likes about the workshops
Through my time at Waterloo, I feel that one of my most enjoyable classes is my science and business workshop. I feel that the workshop is quite different to what I had expected from any university class. This class has two components to it. One is a formal lecture style, and the other is a discussion. You are matched with a group for the term and you learn to problem solve, and communicate with your team members.

FIRST YEAR

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At work
(Co-op and Alumni)

Project Analyst - University Health Network
Product Marketing Manager - Research in Motion
Business Development Intern - MDS Proteomics
Product Marketing Associate (Desktop Products) - Microsoft Canada
Special Project & Buyer Support - GM Canada
Within the Science and Business program there are 7 unique specializations that allow students to concentrate their scientific study in different areas. These specializations are:

- Biology
- Biotechnology
- Biochemistry
- Environmental Sciences
- Chemistry
- Physics
- Hydrogeology

Students can also choose not to specialize which allows them more freedom in the choices they make about their science courses. The non specialized stream of Science and Business is flexible enough to allow students to attain the required prerequisites needed for entrance into many of the medical professions such as medicine, pharmacy and dentistry.

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**INFO FOR ALL PROGRAMS**

**Co-op Schedule**

- Fall 2007 (1A) - School
- Winter 2008 (1B) - School
- Spring 2008 - OFF!
- Fall 2008 (2A) - School
- Winter 2009 - Co-op
- Spring 2009 (2B) - School
- Fall 2009 - Co-op
- Winter 2010 (3A) - School
- Spring 2010 - Co-op
- Fall 2010 (3B) - School
- Winter 2011 - Co-op*
- Spring 2011 - Co-op
- Fall 2011 (4A) - School
- Winter 2012 - School

* Biotech/CA students have 8 month work term after 3A school term instead of after 3B.

**Understanding Course Codes**

- **AFM - Accounting and Financial Management**
  - AFM 123: Accounting info for Managers
  - AFM 231: Business Law, etc.

- **SCBUS - Science and Business Workshop Course**
  Courses integrate science and business in a discussion setting, taken by SciBus and Biotech/Econ students

- **ECON - Economics**
  - ECON 221: Statistics
  - ECON 344: Principles of Marketing
  - ECON 371: Business Finance, etc.

- **MSCI - Management Science**
  - MSCI 211: Organizational Behaviour
As a first year SCBUS 123 student, one can’t help but wonder how science and business intertwine. What is SCBUS 123? Why is it a workshop style course? And how does it differ from other courses?

The name might fool you into believing that SCBUS 123 consists of both science and business principles fused into one course. SCBUS 123 initiates the process of moulding of a new generation of science students, capable of dealing with the increased competition in both science and business related fields. Waterloo Science and Business students will not only be equipped with laboratory skills, but also will have a solid grounding in the principles of microeconomics and accounting. The SciBus workshop offers heightened understanding of business principles through application, for all science undergrads that choose the hybrid programs of science and business and biotechnology/economics.

While many courses are posting up study notes, course notes, supplemental readings, and exhausting overall financial resources, in SCBUS 123 students are encouraged to open their minds, put away the cue cards and take a new approach to studying business.

The course is divided into lecture and discussion sections. Within the discussion section, various groups of students analyze businesses by identifying economic advantages and disadvantages to their often-changing business tactics. The tactics analyzed range from a company’s decision to change its market segmentation all-the-way-up-to changing its entire vision statement. Examples of a few of the many topics brought up during the discussion sections include, “Should Wal-Mart go upscale?”, “Around the World on $48 (or so): How High Can Discount Airlines Fly?” and “Beware of Dissatisfied Consumers: They Like to Blab”.

So you might wonder who the person behind the curtain is. Kashif Memon is the puppeteer of the SCBUS 123 play. He takes extended pleasure in teaching the SCBUS workshop, while focusing on being more then just a teacher. Depending on the occasion, he might be a friend, a boss or a hero running away from peril. In view of the fact that our instructor is not too keen on memory work, the SCBUS 123 workshop does not require the writing of a midterm nor final exam. Instead, a final presentation of a small business model is presented and judged in a business setting simulation.

How then is this course beneficial to the future of SCBUS 123 undergraduates? The unique advantages offered by the workshop are designed to equip SCBUS 123 students with a business-like demeanour that can be used in all areas in their future, from writing reports to their next co-op interview to perhaps presenting new marketing strategies to a business panel. The global economy just got more competitive with the SciBus way of doing business, where scientists are wearing business suits underneath their lab coats, and solving more than just stoichiometric equations on their calculators.

Meet Dave...
Name: Dave Wilkin
Year and Program: 1A SciBus-Biology

Why he chose SciBus
I have always been interested in both science and business and this program allows me to study both of these subjects. Additionally the jobs are endless after graduation; I could pursue a career in a variety of fields and UW’s world renowned co-op program will help me choose exactly where I want to go.

On SCBUS 123
The science and business workshops are only for science and business and biotech/ econ students and allow students to perfect their presentation, communication, and interpersonal skills. At the end of this course we get to apply our skills by launching a new product.

Advice to First Years
Be sure to compare University of Waterloo’s co op program to degree offerings from other schools to realize just how strong it is.
BRINGING THE SCIENCE TO BUSINESS
by Yvonne Lae
2nd Year Science and Business - Biochemistry student

Larry Wood, who teaches the SCBUS 223 workshop, is a very inspiring teacher because he brings the "real world" into the "school world". By day Larry owns and operates three dairy companies with his partners and by night, he inspires his SCBUS 223 class by bringing what he does into the classroom! Larry’s companies are called DairyCheq, Norwell Systems Ltd and Promat Inc. These companies essentially amalgamate the science experience with business fundamentals.

DairyCheq is dedicated to serving the growing need for quality assurance of raw milk and management of on-farm critical systems. Some of the unique featured products are the DairyCheq MilkGuard, which is an electronic time and temperature recorder, and the DairyCheq System, which is a web-based farm process management system. These products assist the dairy producers in ensuring that their farms operate profitably as a result of producing quality milk.

Norwell Systems Ltd offers regular scheduled maintenance checks and accurate performance testing of milking equipment that are essential to profitable milk production. If anything goes wrong for the dairy producer, Norwell also offers an Emergency 24-7 Service in which Norwell’s route program delivers consumables and other dairy products when needed- right to the door!

Promat Inc is dedicated to manufacturing products to increase cow comfort and to allow cows to act naturally like they do in pasture. Promat Inc is the manufacturer of Pasture Mat, and Poly Pillow. These create the ultimate cow comfort, which is really important when milking.

More information on Larry’s companies can be found at the following websites: www.dairycheq.com www.promatinic.com www.norwelledairy.com

Larry Gets Personal...

Why do I teach?
I like the challenge of helping people find out what they are really good at, and then seeing them succeed at it. Its rewarding to me when someone really finds their passion for something and then they put their energy and determination to it. That’s when we see people really excel.

I like the SciBus program (I probably would have taken this program had it been around in my undergrad) because it adds an important dimension to science - its one of the reasons why we do what we do. I like the entrepreneurial environment and the SciBus programmatched what I do in business every day.

I like the students - lots of questions, great interaction and seeing the benefit of their studies at U of W- it’s a great science program.

The Upper Year Workshops

SCBUS 323 - In this workshop students learn about up-and-coming technologies and the technology transfer process. For their major project the students are required to contact a professor on campus who has a commercializable technology and through scientific and business analysis make recommendations as to whether the professor should licence out their technology or spin-off a company based around the technology.

SCBUS 423 - The fourth year workshop ties all of the concepts of the previous years together as well as teaching students frameworks used in the real world that help bring a technology from discovery through to the end consumer. The major project in this class requires students to analyze the science behind an emerging technology and to use the business frameworks learned throughout their years to develop a business plan to take the product to market. Although this project is similar to those in the previous years, it is a lot more relevant in the real world because the students now have a thorough understanding of both the science and the business that they are studying and can make real world suggestions to the companies they are working with.
Supply chain management (SCM) over the years has come a long way in terms of combining arts, management and science to improve the way organizations or sectors find the raw components needed to make a product or service and deliver it to customers. SCM is the integral component for seamless connectivity of stakeholders within the supply network meaning that supply chain management is no longer confined within the organization or sector. The concept also extends to intermediaries, work in progress and end producers. Peter Drucker the dean of modern management in his 1998 work of business relationships “Management’s New Paradigms” calls for it to extend beyond traditional enterprise boundaries and seeks to organize entire business processes throughout a value chain of multiple companies and sectors. As we advance towards a global economy, it can be observed that Supply Chain has graduated beyond being just a subset of business policy towards a subject in its own right. Organizations whose only benchmarks were profit orientation, basic marketing or down right pushing the product in the channel have incorporated SCM in their day to day strategic planning.

Despite the fact that so much sophistication has been achieved in terms of management application of SCM in various sectors in many parts of the world, disparity exists in terms of implementing supply chain concepts in others. The process of applying the traditional four P’s, of getting the correct product at the right price, to the appropriate place at the right time for promoting it in the 21st century has become an elusive challenge for many sectors or countries.

My travels and research in parts of Asia over the last few years have been aimed at understanding the application of SCM and appreciating the weaknesses and challenges that exist in a variety of sectors. For example, some success was achieved in urban settings, however, those in rural areas ran against obstacles due to lack of technologies to integrate themselves in the supply chain that may require adopting a new business form which may lead to significant cost savings. The European fishing industry is an example of a sector that has undergone a radical transformation in response to both regulatory change and increased competition. The industry has restructured and modernised operations across the supply chain over the past 30 years. The same cannot be said of some of the fishing nations in Asia. Lack of technology availability, resistance to change against new paradigms or make up of societies inhibit adoption of new business models to a greater extent.

The framework that emerges from observations on the ground helps business managers and leaders make better decisions and takes managerial thought one step beyond analyzing why one size does not fit all sectors or parts of the world. A customized solution may be needed at times when an in-depth understanding of cultural inhibitions or political impediments must be addressed before a concept can be implemented beyond the board room. A typical case would be the fisheries sector in the Asian region. The economic make up of this sector is very diverse and presents a challenge for the SCM concept. Let’s examine a few facets of the sector with respect to SCM in terms of implications and challenges for the international manager.

I) Industry
At one extreme are well organized efficient supply chains of large multinational joint ventures, utilizing large factory trawlers and numerous other vessels, employing thousands of workers on several oceans. At the other extreme are small wooden canoes and other boats used by individual fishermen to catch sufficient food for their families and, perhaps, more to sell in their local communities. Most fishing operations fall somewhere between these extremes. The technology used can be simple and traditional, or it may be highly sophisticated, incorporating the most advanced equipment.

II) Market Demand, Consumer Acceptance and Product Positioning
In order to remain competitive, this sector faces added challenges in the chain due to the perishable nature of the product. Consumers and retail chains demand a higher quality product, i.e. fish that are fresh (or which have been quickly frozen) and have suffered little or no damage in the supply chain. Businesses are increasingly examining their logistics requirements and discovering that a competitive advantage can be gained through better customer service in the delivery of orders. In addition, these benefits can be achieved while, at the same time, reducing costs in the supply chain though greater efficiency, lower inventories and shorter lead times. Due to the cost of developing systems and the challenge of matching performance, operators are increasingly losing market share due to an inefficient supply chain and inventory management system.

III) Global Considerations
Globally some countries require that seafood products be traced along the supply chain of sales and transportation, all the
way to the original harvesting area, and even to the fishermen responsible for the first handling. The necessity of providing a quality product has had a major impact on fishing operations. It has become increasingly important to ensure that gear is not left in the water too long and that fish are not left too long before being cleaned and stored. This can affect the rhythm of work. Icing and freezing at a rapid pace can also influence working conditions and in particular safety. This is one of the most difficult issues to deal with in some developing nations and a major weakness in implementing SCM.

IV) Fishermen

In the coastal zones most fishing is small-scale. A fisherman may be the owner or a member of the same household as the owner, or may be a casual labourer without any particularly strong links to the owner. The traditional system of renumeration in the fishing industry is sharing the catch. Crew and owner must together cover certain operating expenses, which are deducted from the gross proceeds obtained from the sale of the catch. The net proceeds are then divided between the boat owner and the members of the crew according to an agreed formula. The fishing vessel owners and the members of the crew share the risk. The earnings incentive encourages the crew to improve productivity. In order to maximize their share of the proceeds, fishermen tend to operate with as few crew members as possible. Variations in the catch make it difficult to estimate an optimum number of crew for a vessel. This can lead to periods when the crew is underemployed and others when the crew works excessive hours. While there has been some success in shifting fishermen to stable and formal contractual arrangements approaching those of workers ashore, the majority still belong to the “informal” sector. This includes self-employed fishermen, the employees of very small fishing enterprises employing one or two fishermen on either a regular or casual basis, and fishermen who have no formal employment relationship with their employer.

IV) Intermediaries

Developing economies have an unsophisticated network of some six or seven intermediaries between the primary source (producer and the end consumer). These many intermediaries, a lack of adequate storage facilities and inefficient transport results in 30 - 40% of perishable catch spoiling before reaching the end consumer. Fishermen, intermediaries, and retailers form a supply chain shaped like an hourglass, with the number of intermediaries increasing when producers and retailers at both end of the chain are numerous.

Given my observations questions arise with respect to the implementation of an efficient SCM mechanisms that fit well within this cultural and managerial context. There very well may be problems with an efficient supply chain in the above setting. Supply chains in the fishing industry with its highly fluctuating raw material supply and stringent quality demands have to be robust in order to meet the relatively stable demand for fresh, salted and frozen fish. The supply chain must have the capacity to withstand the variations in the system. Political uncertainty, change resistance, difficulties in monitoring intermediaries, language and culture issues are all impediments to implementation of a global concept of a supply chain system that adds value to the whole process. This is a real challenge for international managers who must understand these variables as well as social relationships in individual nations. In addition managers and business students have to tackle the scourge of unemployment that afflicts so many Asian economies. Complex traditional industries, like fishing, hold great economic importance in this part of the world. Sectors are highly regulated and cannot implement on a local level the changes required to move forward. Any technology or process that creates unemployment will be a source of resistance by local communities.

SCBUS 425 Workshop - Competing in the Global Competitive Environment
New Workshop offered to upper year SciBus, Biotech/Econ and Biotech/CA students

Workshop Objectives:
This is a thought provoking and outcome oriented workshop emphasizing an in depth multi-disciplinary discussion on the latest trends and new concepts in globalization. It is aimed at addressing the current gaps in knowledge in the field today. More importantly it will demonstrate how the skills from Science and Business can be combined to enable students to take part effectively in a global community and will advocate a strategic approach to the concept of globalization.
My co-op experience has truly been a journey of exploration. The opportunities available are endless if you have an ambition for personal growth, an enthusiasm to explore new challenges and a determination to succeed. I decided to take advantage of my first summer before second year to gain some well needed experience in the work force, and through a contact, I was able to land a job working for a start-up biotech company. This position allowed me to gain valuable business skills, which subsequently started me on my path down the business stream.

My first co-op job was at Honeywell Aerospace in their sales and marketing division. They had a well established and thriving co-op culture which enabled me to be assimilated seamlessly into the company. My journey of exploration began as a Sales and Marketing associate. With limited training I was put to work on creating a marketing strategy to increase the market share for a designer avionics product. Being thrown into the deep end, I forced myself to learn the ropes quickly by collaborating with engineers, sales and marketing executives and customers to develop new strategies to successfully re-position the product in the marketplace.

Honeywell was invaluable at establishing my confidence and business aptitude. However, it was my experience at Symcor for my following two work terms that marked a pivotal step in my personal growth. Symcor is an outsourcer of financial services for the major banks of Canada and wealth management companies. As an Associate Solutions Consultant, I supported Account Executives by interfacing directly with leading clients to build customized financial statement solutions. The learning curve was steep because of the technical expertise demanded, the acute multitasking and tight deadlines. I worked with exceptionally intelligent and inspiring co-workers who mentored and challenged me everyday. My first term equipped me with the know-how, while I contributed value in the second term by independently securing a major contract.

My accumulated co-op experiences thus far served as a catalyst towards determining my future career aspirations in marketing, and in my final eight month co-op term I worked in the fast paced dynamic world of Microsoft Canada as a Marketing Assistant. I worked side by side with the Product Marketing Manager of the Visual Studio 2005 and Expression product lines. I was able to lead and collaborate on multiple marketing campaigns and programs devoted to stimulating adoption of these products. Microsoft knew how to ‘dream big’ and I was exposed to the endless possibilities of the creative mind. The eight month co-op period enabled me to fully immerse myself into the Microsoft culture and establish strong friendships with my co-workers and fellow co-ops. I was surrounded by such passionate, driven type-A personalities. My manager in particular, through his charismatic personality, endless intelligence and true sincerity became a teacher, a mentor and a friend. I couldn’t have asked for a better end to my co-op path of personal growth and career exploration.

I leave co-op with fond memories and a sense of true accomplishment that will continue to motivate and inspire me to find my next great step in the world that awaits me after graduation. I guess my journey of exploration has only really just begun.
Before their first work term the university provides all co-op students with training in job search, interview and resume writing skills. I experienced my first co-op within the Math faculty before I switched into the Science and Business program. I was proactively seeking my first science co-op opportunity from professors in the Biology department (a path not usually taken). Fortunately, Dr. Brian Dixon chose me for a 4-months research assistant position. I was unaware that this position would determine my future career path.

Dr. Dixon is a teleost immunologist with a primary focus on rainbow trout and Atlantic salmon immune system. We examined the CD9 surface marker during the 4 months requiring techniques such as bacterial culture, cloning, ligation, transformation, PCR, SDSPAGE, Western Blot and His-tagged filtration columns.

Armed with these skills, my next co-op application process was much easier. I was offered 3 co-op positions and I chose to work at the London Regional Cancer Center with Dr. Eva Turley. We spent 4 months studying two hyaluronan receptors known as CD44 and RHAMM. We were interested in the branching morphology of breast epithelial cell aggregates under the induction of hyaluronan. I learned new techniques such as RNA riboprobe construction, in situ hybridization and murine cell culture in gel matrix. I was offered the opportunity to return to the lab for another 4 months. However, I wanted to broaden my skills and seek other opportunities on my third co-op term.

Returning to school for my second year, I found myself at a significant advantage in my biology courses. The practical skills from my co-op projects, paired with the theories taught in the courses, greatly strengthened my understanding of the course materials.

To start my third year, I was working with Dr. Elise Heon. She is the Ophthalmologist in Chief at the Hospital for Sick Children. As per plan, I was opening up an opportunity to work in a genetics lab. We used Single Nucleotide Polymorphism (SNP) genotyping technique on an Armenian population and found a novel mutation in the LIM2 gene. We published the results as a poster presentation at the American Society for Human Genetics. Although I had fun, genetics and bioinformatics were less appealing than cancer biology.

Fast forward to my last co-op, I worked at Princess Margaret Hospital with Dr. Rob G. Bristow, a prostate cancer clinician and chair of the Prostate Cancer Research Foundation of Canada’s scientific advisory committee. We designed a series of experiments to investigate whether the PML protein is involved in DNA-double stranded breaks sensing or repair. We employed various techniques including immunofluorescence, confocal microscopy, 3D reconstruction of confocal images and Western Blot. The 8 month co-op was extremely productive. We had generated enough data for 3 manuscripts including a publication in the Journal of Cell Biology.

The greatest return from my 8-month co-op was the invitation to study under Dr. Bristow as his graduate student. I have plans to continue my education in a Master’s and PhD program starting at the University of Toronto’s Medical Biophysics department for their Master’s program.

The co-op process has been a tremendous experience. It provided the possibility for me to immerse myself in various biology fields and helped to map out my career path.

Meet Karolina…
Name: Karolina Drozd
Year and Program: 3B SciBus-Biochem

Why she chose UW
I knew I wanted to be in an environment that’s challenging and highly rewarding. Waterloo has a great reputation for providing that.

Her take on co-op
I can’t imagine going without the experiences that co-op has provided to me. It has allowed me to reach exceptional places – like my upcoming term on the trading floor at TD Securities. The truth is that working is very different from going to school and there’s no better way to learn about it than just getting out there.
THE MAN BEHIND THE NAME
by Jamie Soo
4th Year Biotechnology/Chartered Accountancy student

On a typical cloudy Saturday afternoon, while having a coffee and overlooking the heart of the retail district in Bay Street Toronto, Harry pointed into the distance, looked at me and remarked, “This store is going to do very well for itself. Take a look at its entrance – the store opens up with those vibrant colours and invites customers in. But look at that store, the flair is just not there – this one won’t make it. But Jamie, there is more to success than the front of a store though, we’ll just have to wait and see.” As the conversation continued, I eagerly digested his evaluation of various stores in this bustling area of the neighbourhood. I knew he was on the verge of unlocking something big, but I just did not know what.

It was two years ago when I first met Harry Rosen. He came to the University of Waterloo on a cold, snowy day to share a bit of wisdom with the hundreds of eager eyes and ears on-campus. He told us a story of an incredible journey that night, from his humble beginnings as a junior clerk at a local menswear store, to the establishment of his own store, to the transformation of Harry Rosen the clothier to Harry Rosen the brand, and all the ups and downs along the way. At the end of the speech, one of the captivated audience members asked the single perplexing question that was on all of our minds, “All in all, what is your formula for success?” With a little curl on his lips, Harry replied, “To focus on making sure that the staff is superbly trained so that every person that walks into the store will experience the Harry Rosen experience.” But what is this Harry Rosen experience? It was such a simple yet enigmatic answer, but in it was the heart of what drove Harry Rosen from a single store on Parliament Street 52 years ago to a national icon with fifteen stores across the country and a 35% market share today. On my personal quest to find out what this “experience” is, I joined the organization during my co-op work term in the summer. I retraced Harry’s early footsteps – by working on the selling floor during the weekends and at an accounting firm full-time during the weekdays.

I learned a lot over the short four months at the store. Most distinctly, I can remember the early summer Saturday morning when I first walked onto the selling floor as a trained “sales specialist”. A manager told me to keep one thing in mind - that the ideal personality of a salesman in the industry behaves like a chameleon – someone who can adjust and adapt themselves to serve customers to the best of their satisfaction. With those words in mind, I confidently walked onto the selling floor and approached my first customer.

To say the least, that first day was disastrous. Even with all the product training, manager shadowing, and mentorship from the helpful staff, the first day working was completely overwhelming. As a bare minimum, I had to keep track of the customer’s articles of interest, neck size, shoe size, waist size, and pants length. Next, I had to remember where all the different styles and brands of shoes, ties, shirts, belts, and accessories were kept. To compound upon my problems, it was also essential that I kept my composure as a knowledgeable “specialist” as demonstrated through remembering the various cuts and styles of 36 different designer labels and also showing customers products that would interest them. How was I supposed to act like a chameleon with all these thoughts running wildly in my mind? By the end my first weekend, my performance was catastrophic at best, selling a grand total of a belt and a pair of socks – 2 items in the 20 hours that I was standing in the store.

As different staff came over at the end of the week to say a few words of compassion, I was in a state of utter dismay. In the past, I have had a wealth of experience in leading student governments, organizing conferences, and coordinating events – how can this be so hard and how could I have failed so miserably? It was at that point of contemplation when one of the store managers approached me and offered a useful piece of advice, “Jamie, you’re trying hard, I can see that – but perhaps you’re trying way too hard. Just relax, SMILE, and have some fun! If you are really not having fun at all, at least try to act as if you are.”

It is funny how a simple smile can change everything. Such a simple gesture tripled my sales in the next week, which doubled again in the following week. I found that smiling is infectious: it puts the customers at ease so that they can enjoy the shopping experience as I introduce garments such as Hugo Boss, D&G, or Armani. I thought I finally held in my grasp the meaning behind the “Harry Rosen experience”. Quite simply, the goal is to make sure customers enjoy the experience and walk out happy with the garments they purchase.

This notion completely changed one day when a woman walked into the store. Just like any other customer, I put some mints into my mouth and approached the lady with a smile on my face. She smiled and told me that she was only looking for a pocket square and nothing else (a pocket square is the square piece of handkerchief that is worn in the breast pocket of a suit or blazer).

We casually chatted and it turned out that she was getting married in two weeks, at a cottage off the coast of Vancouver on Victoria Island. Her fiancé and her family were both flying in from France. We talked about the wedding, the colour
coordination, the theme of the venue, and eventually about the groom’s and the groom’s men’s attire. For a woman that first came in to buy a pocket square, I spent two hours with her in helping her select dress furnishings for the groom and the four groom’s men: from belts to tuxedo shirts to cuff links. At the end, she took my hand, looked straight into my eyes, flashed a big smile, and said, “Jamie, thank you very much for your help. This was one of the best shopping experiences I have had and I am very happy with the choices. I am even more excited about the wedding!” It was at that instant that I realized I had it all wrong. The Harry Rosen experience, or what I thought was basically the art of selling, never was about selling at all. In fact, the essence of the experience was building customer relationships.

For the rest of my term working at the store, I learned more about the menswear business than I could have ever dreamed of. It seems almost cliché to say that everybody has a different personality, but there is always something that makes everyone who walks into the store feel at home.

I walked Harry back to his store that Saturday afternoon. One in every five people strolling along Bloor Street stopped and greeted him like an old friend. Harry, in his usual friendly demeanor, welcomed them with a smile. Whether he was asking about next week’s opera performance, this Christmas’ vacation, or some family members overseas, Harry seemed to strike a common resonating chord with each and every one of them. It was then I realized, as a man, Harry Rosen’s success lay in his humble and confident personality. As a brand, the strength of his organization lies in the way his personality has transcended and permeated through the stores through 52 years of business.

As Harry said goodbye and went into his store, I stared through tastefully adorned store windows and observed how he warmed to the staff, incoming customers, and everybody around. The heart of Harry Rosen, as both the man and the brand, is not interested only in selling, but in building relationships - maybe even life long friendships.

Meet Jamie...

Name: Jamie Soo
Year and Program: 4B Biotech/CA

His extracurricular involvement
The most notable experience outside of the Science and Business programs was my involvement with Impact. Impact is a non-profit organization that is run by students nationally. It aims to promote entrepreneurship and leadership in Canada. During my involvement with the organization, not only did I have the chance to listen and speak to some of the leaders of today, such as Harry Rosen and Kendra Todd, the 3rd season winner of “The Apprentice”, but I also had the chance to meet many young and ambitious students who have developed into enduring friends.

His Advice to you
Walk into any situation with the aim of learning something. Even if you do not achieve your intended goal, you’ll never walk away empty handed. Some of the best things that happen are never intended.

*Jamie is one of the SciBus student ambassadors. He is also part of our committee of dedicated students that help make suggestions and improvements to our programs. Jamie was recently featured in the Globe and Mail in an article about combined accountancy programs. Congratulations Jamie!
GETTING ENTREPRENEURSHIP DOWN TO A SCIENCE

External Article by Tim Johnson featured in the August Issue of Universities Affairs Magazine
Reprinted with permission from Tim Johnson and University Affairs Editor Peggy Berkowitz

It was the first warm Saturday morning in March, and one could safely bet that many students were basking in the sun or rolling over for a couple more hours in bed. But at the University of Waterloo, hundreds of them, well-coiffed and dressed for success, showed up early and packed the school’s William G. Davis Centre for a day of seminars and activities organized by the student leadership of Waterloo’s undergraduate science and business program. The sold-out conference, called “The Driving Force: From Science to Business,” included talks on networking, commercialization, and how to launch your own start-up. In the afternoon – just before dividing into teams that would compete to invent a new product and then sell it to a panel of judges – the students were asked to raise their hand if they were hoping to start a business or be otherwise entrepreneurial. Fully one-third did so.

There’s a genuine and growing interest in entrepreneurship and the commercialization of ideas among Canadian science students, says Anne Swift, president of Young Inventors International, a nonprofit organization that provides education, networking and practical help to student entrepreneurs and innovators. A plurality of Young Inventors’ 1,300 individual members are Canadian, nine in 10 are students, and 80 percent of those are either science or engineering students.

But the challenge, she says, is getting Canadian institutions on board in a comprehensive way, by providing a breadth of programs, centralized support and networking opportunities to students who want to be entrepreneurial. Ms. Swift, (now a doctoral candidate in the strategy, entrepreneurship and technological change program at Carnegie Mellon University), founded Young Inventors in 2001, when she was a second-year economics student at the University of Western Ontario and couldn’t find any practical resources to help her secure a patent on a flexible keyboard.

Young Inventors hosted three conferences for young inventors and entrepreneurs in Toronto, but had a better reception after its latest was held in Boston earlier this year. “Since our conference at MIT, my phone has been ringing off the hook,” says Ms. Swift. “In the U.S. we’ve found a very significant interest in what we’re doing, and so the faculty and administrators and people running business plan competitions are calling us. In Canada, it’s really been about us trying to find the right individual at an institution that is receptive and open, and that’s been a very big challenge.”

Canadian schools are starting to provide resources for students and introducing relevant programs (some are described later in this article), but faculty members who are active in the entrepreneurial game say the institutions have a long way to go to catch up to the best that the U.S. has to offer. Perhaps it’s not surprising that Young Inventors has had a harder time making institutional connections north of the border, since Canada has had its own problems in the area of entrepreneurship and commercialization. “We’ve developed everything from insulin to geographic information systems to space technology, and they end up being commercialized or marketed or produced and developed somewhere else, usually in the United States,” observes Harvey Silverstein, whose PhD is in science, technology and international affairs.

“It’s simply because we don’t have the culture and some of the infrastructure that propels scientists and enables them to commercialize and build upon their scientific and technological breakthroughs,” continues Dr. Silverstein, who directed the executive MBA program at the Sobey School of Business at Saint Mary’s University before returning to the private sector this summer.

Commercialization doesn’t lend itself easily to measurement, but some indicators give a sense of how Canada compares with its major trading partners. The World Economic Forum ranked Canadian businesses 27th overall in their propensity to compete on the basis of unique products or processes rather than low-cost labour or raw materials (cited in the recent report to the federal government of the Expert Panel on Commercialization of University Research). Ontario’s Institute for Competitiveness and Prosperity has shown that Canada trails the U.S. in patent output, an important measure of commercialization, with 60 percent fewer patents granted per 10,000 employees.

People in the field say the “disconnect” between research and business creation that prevails in the wider Canadian society is often reflected on Canadian campuses.

“Most academic institutions don’t have a culture of entrepreneurship and innovation,” says Luc Lalande, director of Carleton University’s innovation transfer office. “It’s not like at Stanford or MIT, where students with ideas are actually nurtured and supported in various ways. If you’ve got a neat idea on those campuses, it’s almost expected that you’re going to do something with it.”

Brian Courtney, a Canadian and now an internal medicine resident at the University of Toronto, found that the help he received from Stanford University was very helpful in being able to produce and
market a medical device that he invented with two other students while enrolled in a master’s program in electrical engineering.

Their “Rinspiration System,” which simultaneously rinses and aspirates a blood vessel before a stent is inserted, is now used by cardiologists across the U.S. Like many young entrepreneurs, the students accumulated tens of thousands in credit-card debt and lived on peanut butter sandwiches in the process, but in a very short time they garnered the capital and regulatory approval they needed to produce and sell the technology.

Dr. Courtney says individuals at Stanford played an integral role by introducing him and his team to potential mentors in San Francisco’s thriving biomedical community. “We were very lucky, as three engineering students who were very wet behind the ears, to have world-class physicians and entrepreneurs involved with us from the get-go,” says Dr. Courtney. “They were critical.”

Money, money
Predictably, some of the problem for Canada boils down to dollars and cents. The much larger U.S. population translates into a bigger market, huge sources of government funding, more investors and more venture capital.

Comparing Ontario with California and Massachussetts, two states that are also economic powerhouses, Ontario’s Institute for Competitiveness and Prosperity found that in 2003, roughly $400 of venture capital was invested per capita in those two states, compared with roughly $100 in Ontario (see related article, “Survey reports Canadian tech transfer”).

Many people also see a cultural divide between Canada and the U.S. when it comes to entrepreneurship. This is harder to quantify, but the Global Entrepreneurship Monitor (in a report prepared by researchers from HEC Montréal and UBC’s Sauder School of Business) found that eight percent of adults in Canada took part in entrepreneurial activity, compared with 11.9 percent in the U.S.; Canada ranked much closer to Norway, at 7.5 percent, or Ireland, at 8.1.

Dr. Silverstein in Halifax says that mixing science and commerce is often seen as perverse in Canada, whereas in the U.S. the opposite is often true - academic science and the business world partner up in a big way. Also, scientists in Canada aren’t rewarded to the same extent by their peers, says Dr. Silverstein, or seen as positively “if they decide to take something out of the laboratory and try to make a commercial success of it.”

Cultural differences are also cited by David Brener, director of research translation programs for the Canadian Institutes of Health Research. He says U.S. investors, both public and private, are more aggressive and invest more heavily, while Canada is content to produce top-quality knowledge for the rest of the world to use. “For too long, we have been very happy to be slapped on the back and told how clever we are,” says Dr. Brener. “We have to learn how to lead and be proud of it.”

Many in the innovation field are convinced that more commercialization could bring unlimited benefits to Canadian society, including more jobs, more wealth for the country and a greater competitive advantage internationally. Owen Ward, professor of microbial biotechnology and director of the University of Waterloo’s science and business undergraduate program, says universities need to develop entrepreneurial skills, like risk-taking and acting quickly on ideas, so that Canada can stay competitive.

“We need to encourage that in our students,” he says, “because before most of them are 35, the order of economies is going to be: China number one, India number two and the U.S. number three. Is that ever going to have a significant impact on North America and Canada?”

Universities’ role
Many players are involved in nurturing and developing entrepreneurship, from university leaders to business scions to investors and even consumers, whose demand for better products and services also fuels innovation. What is the specific role of universities in strengthening the beginnings of entrepreneurial education in the sciences?

Different strategies will work for different institutions, and changes will take place slowly, predicts Ms. Swift of Young Inventors International: “It’s about moving incrementally towards something that’s a bit more radical.”

Mr. Lalande of Carleton’s innovation transfer office says students need courses that are relevant to entrepreneurship, as well as support beyond the coursework to help them gain momentum. Deans should involve the community, so that students can find mentors and gain experience, and they shouldn’t shy away from hiring faculty with a background in business.

“It really depends on a few champions within these universities and colleges,” he says, “to start new programs or deliver courses that are entrepreneurship-relevant.”

Brian Guthrie, director of innovation and knowledge management for the Conference Board of Canada, says Canada needs graduates who become entrepreneurs as well as people whose scientific research skills mesh with an understanding of the market and of consumers, so they can work in science-based industries like biotechnology. For him, work placements are the most important part of the mix. “First and foremost, universities should help students get real-live placements in real-live business environments.”
Perhaps the best example of a meeting place for science, business and practical experience at the undergraduate level is in the University of Waterloo’s science and business (or SciBus) undergraduate program. Dr. Ward, its director, holds half-a-dozen U.S. patents and has spun off three companies from his research since coming to Waterloo almost 20 years ago.

In the program, business is woven onto a core science base, and students can major in biotechnology/chartered accountancy, biotechnology/economics, or simply science and business. Waterloo’s well-known co-op program is a chief component of SciBus.

By the time a student graduates, says Dr. Ward, he or she will have finished five or six different placements and gained a diversity of experience, from laboratory science to marketing and mixtures in between. Students also benefit from the university’s Research and Technology Park. It includes the Accelerator Centre, a facility created for the purpose of nurturing innovation and commercialization.

While there aren’t many undergraduate programs like Waterloo’s, several MBA programs mix science and business – including those at Queen’s, Waterloo, York, Western, Acadia, and the universities of Saskatchewan and New Brunswick (Saint John). Simon Fraser University’s graduate program in management of biotechnology in the Segal Graduate School of Business grew out of industry need, explains Michael Parent, professor and academic director of MBA programs at Simon Fraser. Biotech is big on the B.C. lower mainland, he says, so links with the business community are close and networking opportunities abound.

For students with an idea that they’re ready to launch, Carleton University offers the Foundry Program.

The Foundry gives small grants to undergraduate and graduate students and even to faculty, in science as well as other disciplines, to take their idea to the next level, and it introduces inventors to people in the industry. While it may not match what a creative student might expect to receive in the U.S., says Mr. Lalande, at least it provides much-needed encouragement and can feed a larger culture of entrepreneurship. “We want people to act on their ideas,” he says. “They may not all start companies after graduation, but we’ve already planted the seed that may awaken their entrepreneurial ambitions later on in their career.”

On a larger scale, the Canadian Institutes of Health Research last year launched the Science to Business (S2B) program, a series of grants designed to address the gap between research discoveries and their commercialization. The program provides universities with funding to allow several PhD graduates in the life sciences to pursue an MBA. In its first year, four business schools – at Toronto, Western, Simon Fraser and Saskatchewan – were granted funds to support three candidates each, and the program was re-launched with fresh funds and a new call for applications earlier this year.

In Atlantic Canada, the Acadia Centre for Small Business and Entrepreneurship, an affiliate of Acadia University, is trying to address another issue: how to integrate entrepreneurship into the university reward system to encourage more faculty to take part. “We know that faculty are driven by the factors that affect promotion and tenure,” says Chris Pelham, the centre’s executive director. “That equates to research.”

Founded in 1988, the centre is slowly gaining acceptance in Acadia’s halls.

It presents lectures on entrepreneurial and business skills, runs contests, and offers a credit course on the theory and practice of entrepreneurship that’s open to any student in any faculty. Mr. Pelham says the strategies for encouraging faculty participation include finding ways to give more weight to teaching and service in tenure and promotion decisions for professors involved in the centre; defining entrepreneurship to include social and community enterprise; and relying on champions who believe entrepreneurial skills are important to graduates.

Often, though, teaching entrepreneurship is more about inspiration than instruction. Dr. Ward of Waterloo says entrepreneurship in universities is about liberty, creativity and freedom of thought.

“Students need to be freed up from the chains of exams and evaluations,” he says, “so they can express themselves and not always be constrained by someone else’s expectations – which is what exams are all about.”

Back at the Waterloo conference for entrepreneurial students, as fellow student volunteers pack up the display booths from the industry exhibition and wearily sweep up the detritus of a very busy day, the Science and Business Student Association president and event co-chair, Ryan McCartney, concludes that the conference has been a success.

“People have ideas, but they’re sometimes a little intimidated to take action,” he explains. “I think this conference informed people [how] science and business are integrated, and inspired people to move forward with their ideas. We went from networking to food product development to how to sell as a scientist. I think we really encouraged people to think, ’Yeah, I have a good idea, and I think there’s potential for that idea to go somewhere.’”

Special thanks to Tim Johnson and Peggy Berkowitz for allowing us to reprint the article.
10 THINGS YOU DIDN’T KNOW ABOUT CO-OP
by Saba Rehmani
4th Year Science and Business - Biochem student

1. When do I start?
   - Your first co-op term doesn’t start until 2nd year (ie. you get your first summer off!)
2. But I don’t even have a resume!
   - Don’t worry! You can get great resume building and cover letter writing tips at UW Career Services and through CO-OP 101 (a course required for all co-op students)
3. Can I get extra help if I need it?
   - Yes! UW Career Services can help you with additional services such as resume critiquing and mock interviews. Just make sure to check out the services available.
4. What if I want to arrange for my own employment?
   - This is definitely a possibility! Talk to a Science co-op advisor early in the term prior to the co-op term of interest.
5. Do I get paid during my co-op terms?
   - Yes! In fact, co-op can help you pay for school (yes, tuition and text books are expensive, but you can save up for school terms during your co-op terms)
6. Can I start preparing early?
   - Yes, you can! Recognize that good grades will help you stand out, especially for your very first co-op term. Also, make sure to get involved in extracurricular activities (employers love leadership experience).
7. What goes on in the co-op building?
   - The good ol’ Tatham Centre (aka co-op building) is where you’ll find co-op advisors and Career Services. Plus, it’s buzzing with interview candidates during the school term. During final exam season, the super cool interview rooms double as great study rooms!
8. Do Science and Business students get “Science jobs” or “Business jobs”
   - You’ll be happy to know that as SCIBUS students you have double the options; you can apply to any and all jobs that interest you. Some students go towards Science, others towards Business, and there are definitely jobs where you can marry the two!
9. Will I have the opportunity to make a “real” impact?
   - Yes! Co-op students are often treated like full-time employees (especially in later work terms). Look for every co-op term as a potential long-term employer and a chance to build your networks.
10. What do current co-op students think about the program?
    - Many will agree that it was the BEST decision they’ve made!

Meet Ellenie…
Name: Ellenie Chan
Year and Program: 3B SciBus-Biochem

Her co-op experiences
I enjoyed my co-op terms immensely and made fantastic contacts! I plan on pursuing a career in finance and without co-op, it would be extremely difficult to get a job in that field. I think the co-op experience definitely helped me figure out what I DON’T want to do in the future and which areas I want to continue exploring. If I didn’t have co-op, I would probably end up spending a year or two after graduation volunteering and/or taking on an internship program to figure out what I want to do in the future. I think co-op definitely saved me time and helped me pay for school along the way!

Her Advice to First Years
Get involved! You’ll meet so many amazing, like-minded students when you do!
UW EXPO
by Sian Tsuei
1st Year Biotechnology/Economics Student

University of Waterloo is known as the most innovative and entrepreneurial Canadian university, and, while I expected no less, the UW Expo conference, held on September 29, 2006, still blew me away with its richness.

Entrepreneurship does not have to be confined to the realm of participation in for-profit businesses. It can extend to involvement in non-profit organizations such as Engineers without borders. Hearing Parker Mitchell and George Roter passionately discuss their reasons for starting a business made me realize that business skills can be used to impact upon our world in more than just the business way.

This theme was evident throughout the conference. The most important reason for starting a business should not be for money, for profit or for prestige. As the keynote speaker Larry Smith said, people will keep pounding entrepreneurs with doubt and skepticism, and if the need to establish a business is monetary, the entrepreneur really has to wonder if it is worth being immersed in a business environment 24-7. It must be for passion.

I had never thought of business in that way and that corporations may be constructed on a deeper moral foundation. It appears that there is always something that company founders truly believe will create value in this world.

Every speaker hammered at this point, and shared their own insights about how “youngsters” should arrange their lives by describing amazing stories of how they climbed up the socioeconomic ladder. For example, Angela Mondou, author of Hit the Ground Leading, stressed that while it’s great to have the passion to want to be an entrepreneur at an early age, it is absolutely crucial to have the training and network of support to be able to found a company or create an organization. Every mundane task that she had undertaken in the last nineteen years has taught her skills, big or small, that are helping her market her books and establish her publishing company.

I found the support available at the UW Expo to be much more helpful than general career path discussions. Scattered around the convention were booths of venture capital companies and various firms who assist entrepreneurs in establishing their companies or organizations. Infusion angels, for one, offered actual venture capital to entrepreneurs.

All kinds of opportunities are provided in the University of Waterloo for entrepreneurs. UWExpo was just one example. As the Impact Organization grows, more conferences will surely be held at this University.

Meet Shazeen...
Name: Shazeen Bandukwala
Year and Program: 3B SciBus-Biochem

Her on-campus activities
There is a club on campus to suit your every interest and if there isn’t you can easily create your own! I’ve been involved with Smiling Over Sickness, University of Waterloo International Health Development Organization and the World University Services of Canada to name a few. These activities all provide a medium to pursue other interests and to really make a difference around campus and in the community.

Her advice to first years
University is so much more than going to class and studying. Get involved in as much as you can. For example, attend the conferences and activities on campus or check out bands at Bomber or Fed Hall.
The hustle and bustle of students and professors racing to get from one class to the next can be a little intimidating at first, especially after you’ve just discovered that you’ve been walking in the opposite direction of where your next class should be. The University of Waterloo campus spans about 1,000 acres so even with a map, it can still be little confusing. With such a big campus and over 22,000 students, the activities and things to do outside the classroom and around campus are endless.

One of the first things you’ll notice about the University of Waterloo is that it is very diverse with people from different ethnic backgrounds, from different religions, and from many parts of the world. This is an especially wonderful thing about this school. Not only do you get to learn about the different cultures, but you will develop lifelong friendships and bonds with the new people you meet.

If you are going to become a first-year student, this may be your first experience of living in residence and away from home. Residence is one of the best ways to meet new friends since everyone you are living with is new to the university and in the same boat (except the residence don of course). I am currently in my last year at UW and I met five of my closest friends in first year living in Village 1 residence and to this day we still remain very close friends.

There are many other things you can do around campus, whether it be academically or socially. Since you are interested in UW’s Science and Business, Biotech/Econ, or Biotech/CA programs, you can join the Science and Business Student’s Association (SBSA). SBSA holds various events every term for you to participate in or help plan. This is a great way meet people from all different years in all 3 programs and it also looks great on your resume.

A little advice: getting involved in first year can be a big advantage. Not only did I get to meet new friends, but the older students were able to help me with my assignments and labs, and gave me suggestions about which courses and professors are the best, or the easiest!

For those interested in joining a club with students that share similar interests, there are currently 117 clubs offered at UW. From the Swing and Dance social club to UW’s investment club, I guarantee that you will find one in which you are interested. For a full listing and description of each club visit: http://feds.ca/club_listin.

UW’s athletics provides a wide range of sports in varsity and campus recreation. An extensive list of sports activities is available. I started off as a white belt in the Tae Kwon Do club at UW and now I am only 2 belt colours away from black! Taking up a sport or even going to watch varsity games is an excellent way to unwind and relax.

UW also holds fun events such as concerts, comedian shows, and hypnotist nights. I especially enjoy the concerts here for the live music and also because I’ve had several opportunities to meet famous band members! Now that is cool.

The campus life at Waterloo is great, it’s not only exciting, but you get the full fledged university experience while meeting new friends. When you arrive here at UW, I assure you there are always fun things going on and new people to meet. After all, there is a reason why the campus is 1,000 acres.

Meet Nicola…
Name: Nicola Weston
Year and Program: 3B SciBus-Biology

Her Activities on Campus
I’ve done a lot of volunteer work with the Off Campus Dons (OCD), the Faculty of Science Foundation and most recently the World University Service of Canada (WUSC). I enjoy working with other students as part of OCD who are dedicated to helping first year students living off campus adjust to university life. WUSC strives for a more equitable world through education and I am passionate about the work I do for this worthwhile organization.

Her Advice
Value what you learn in your lectures, tutorials, and labs, but don’t let that be the only thing your university career is about. See what other school, community, and international experiences are available and pursue what interests you.
Producing Leaders for the New Economy

www.scibus.uwaterloo.ca