Welcome to the 2007 graduate and career issue of Science and Business’ *scibus.ca* magazine. The three programs under the Science and Business umbrella which include Science and Business, Biotechnology and Economics, and Biotechnology and Chartered Accountancy are designed to produce highly sought after graduates who can be seen as leaders for the new economy. Our graduates have an excellent base in science which is enriched with strong business knowledge. This dual skill set allows our graduates to succeed in many diverse industries and career paths and they pursue careers ranging from business pursuits in marketing or finance to technical endeavours requiring graduate studies in science.

This year’s graduating class has completed a rigorous academic program that focuses on learning the essential and applied aspects of both their business and science based courses. Through participation in a variety of workshops, the 2007 grads were challenged to integrate the knowledge taught in both disciplines. They were also given the chance to develop their leadership, teamwork and communication skills by participating in various extracurricular activities including:

- The myBusiness program designed for career and personal development;
- The ambassador team where upper year students mentor younger students and build connections with alumni and prospective students;
- Science and Business Student Association (SBSA) which puts on an annual conference each year;
- Preparation of written contributions to our magazine, *scibus.ca*;
- Participation in the Coordinating Committee where upper year students help improve our programs through discussion and feedback meetings with the program team.

This issue of *scibus.ca* focuses on our graduating class. The articles have been chosen to help highlight some of the opportunities that our graduates look to in the future as well as providing memories from this past year that they can look back on. The SBSA and Ambassadors have provided an overview of their activities of the past year. These come complete with pictures to round out the memories. Two alumni have provided us with insight on what it is like to be a Science and Business graduate and how this program has helped them succeed in their career choices. The feature articles, written by students, provide information on many of the paths that can be followed by Science and Business graduates. Along with these articles are profiles of some of this year’s graduates who have set their plans for the future. Many of the articles and our cover also underline the importance of addressing the opportunities of the global economy.

As in last year’s magazine, there is a centerfold of our graduates where they have provided short descriptions of their interests and plans for the future. We invite you to meet these graduates through these pages. We are very proud of our graduates and as this magazine is dedicated to them I would like to take this opportunity to congratulate them for their many achievements at UW as Science and Business undergrads. We would like to thank all of the authors who helped in the production of this issue of the magazine. We would also like to thank you for taking the time to read our magazine and to learn about our wonderful graduating students.

Professor Owen Ward
Science and Business Director
Science and Business

Our technology-driven world requires a new type of professional. As technological developments are introduced more quickly there is a new demand for individuals with a dual skill set who are able to integrate scientific knowledge with the business world. The Science and Business program at Waterloo does just that, preparing graduates who can excel in very diverse fields such as technical sales, marketing, pharmaceutical sales, economic forecasting, business development, graduate studies in science or professional fields like law, medicine and pharmacy.

The Waterloo Science and Business program attracts very high calibre student entrants and it is our mission to deliver highly sought after graduates into the private or public work force and beyond.

8 Specializations
Students can choose to focus their scientific study in 8 unique specializations.

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<thead>
<tr>
<th>Biological Science</th>
<th>Chemistry</th>
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<tr>
<td>Biotechnology</td>
<td>Physics</td>
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<td>Biochemistry</td>
<td>Hydrogeology</td>
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<td>Environmental Sciences</td>
<td>Non Major</td>
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SciBus Students 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 - Microsoft Canada
- Special Project & Buyer Support - GM Canada

Biotechnology/Economics

The Waterloo Biotechnology/Economics program has a specific scientific focus on biotechnology, a subject which will have a large impact on many areas of our lives in the near future including healthcare, food, agriculture, energy and the environment. Biotechnology/economics integrates a specialized business focus in economics with the fundamental principles and applications of biotechnology.

The relatively new program of Biotechnology/Economics is unique to the University of Waterloo and prepares its graduates for career opportunities in a variety of industries and settings. Graduates can go on to work in pharmaceutical or biotechnology companies, banks, government agencies, research firms, consulting and many more.

Biotech/Econ Students at Work

- Sales Analyst - PetroCan
- Research Officer - National Taiwan University
- Business Analyst - CIBC World Markets
- US Business Development Co-ordinator - STORM of London

Biotech/Econ Courses

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<th>BUSINESS</th>
<th>SCIENCE</th>
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<td>Genetics</td>
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<td>Business Finance</td>
<td>Cell Biology</td>
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<td>Economic Forecasting</td>
<td>Microbiology</td>
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<td>Micro/Macroeconomics</td>
<td>Molecular Biology</td>
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<td>International Trade</td>
<td>Fermentation</td>
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<td>Science and Business Workshops</td>
<td>General/Organic Chemistry</td>
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Biotechnology/Chartered Accountancy

The Biotechnology/Chartered Accountancy program at Waterloo provides students who are pursuing careers in the accounting profession with the technical experience necessary to make them more effective at interacting and working within modern biotechnology based organizations. This unique program, also only offered at the University of Waterloo, integrates advanced biology, biochemistry and molecular biology courses with studies in financial management, accounting, auditing and taxation.

Biotechnology/Chartered accountancy provides a unique opportunity to high calibre students which gives them an integrated educational experience which will prepare 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 obtain their Certified Chartered Accountant Designation. The University of Waterloo offers a Masters of Accountancy degree (MAcc) which allows students to obtain their Canadian CA designation even faster.

Biotech/CA Students at Work

- Staff Accountant - Deloitte
- Research and Validation Analyst - GlaxoSmithKline
- Financial Planner - Ernst & Young
- Microbiology Research Technician - Environment/Agriculture Canada
Kathryn Dorman - 2006 Science Co-op Student of the Year

Kathryn Dorman a Science and Business student has been recognized for her exceptional contributions through her co-op position by being proclaimed 2006 Science co-op student of the year. Kathryn had four outstanding work terms with Mount Sinai Hospital’s Surgical Skills Centre. During her first work term, as Research and Administrative Assistant, Katie completed the research and helped write and edit a paper entitled, “Tensiometry as a measure of improvement in knot quality in undergraduate medical students”. In her fourth work term Katie travelled to Ethiopia to aid in the development of a surgical lab and train the appointed staff in ways to manage the facility. She also organized an Objective Structured Assessment of Technical Skills (OSATS) exam for the surgical residents and faculty members to complete. While in Ethiopia, Katie also volunteered at an orphanage where she would play with the children, tutor them in English and help teach them to cook. She felt very fortunate to have this “family away from home”. Over the past year Katie has also helped to set up a group on campus at UW called the SciBus Community Outreach Initiative. Katie and her fellow team members have raised money for a children’s charity, Sunshine Dreams for Kids.

The Science and Business Resource Centre team congratulates Katie on her success and wishes her luck in the future. Congrats Katie!

Cayleah Matthews - 2006 SciBus Leadership Award

Cayleah Matthews is the 2006 recipient of the Science and Business Leadership Award. This award is given to a Science and Business, Bio-tech/Econ or Biotech/CA student who has shown leadership and initiative within the Science and Business programs over their time at UW. Cayleah was chosen as the leadership award winner for 2006 because in her final year at UW she founded the Science and Business Ambassador program, a dedicated group of upper year students who volunteer their time to mentor younger SciBus students, make ties with alumni and prospective students and help the Resource Centre team improve the quality of the Science and Business programs.

During her year as lead ambassador Cayleah worked with her team to host student events, recruit prospective students at Campus Day and UW Day and began the First Annual Alumni/Graduate Dinner an event which will continue into the future.

Thank you for your hard work and dedication to the Science and Business program Cayleah!

Additional Recent Award Winners

Rebecca Baxter ~ 2006 Science and Business Director’s Award
               ~ 2006 Ministry of Economic Trade and Development, Ontario Global Traders Award
               ~ 2006 Canadian Female Representative for the ITU World Telecom Youth Forum

Sukirtha Tharmalingam ~ Multinational Association of Supportive Care in Cancer Young Investigator Award

Tasneem Nakhooda ~ 2005 University of Waterloo Co-op Student of the Year
SBSA In Motion...

By Punit Shanghavi
3rd Year Science and Business student

SBSA provides students with a “Global Perspective”

On the weekend of March 17th 2007, over 400 students, faculty, alumni, and industry professionals continued a tradition by congregating at the Davis Centre at the University of Waterloo campus to attend the 4th annual Science and Business conference.

This year’s conference, entitled “A Global Perspective: From Science to Business”, focused on the rapid transformation of global business along with changes in the way we conduct business in different industries. The annual conference has always been a platform for students interested in science, business, and technology, to gain motivation and develop professional skills.

This free one day conference featured eight separate events for the delegates to participate in or attend. Many of the sessions offered an interactive forum for students to network, discuss, and share thoughts about the topic at hand.

The day began with an inspirational speech from Dr. Owen Ward, the Director of Waterloo’s Science and Business Program. Even on St. Patrick’s Day, our faithful Irish director was able to keep the crowd motivated and captivated in the early part of the day.

From there, the baton was passed to Jim Knowlton, a knowledgeable professional who has implemented training sessions for large corporations. The topic “Think Globally, Act Locally”, provided a great introduction to the rest of the conference. One of the key points he preached was “Leave global issues to someone else who already has a job and isn’t trying to pay off a student loan.” He indicated that most successful entrepreneurs were able to initiate plans on a local basis before deciding to take over the world, a point which radiated well with the enthusiastic delegates.

Based on its success last year, the Innovation Challenge was held again, this time hosted by CBET. Delegates were given a choice of products from several industry sectors, and were assigned a country in which they must market their product. Using information provided, they had to create a successful marketing strategy to induce a demand for their product in that country. From the presentations made at the end of the challenge, it was evident that the delegates were
able to broaden their thinking about consumers in the global market and appreciate the factors that must be taken into consideration when reaching out to another country.

Brad J. Ryder, from Merck Frosst Canada discussed the role public and private partnerships play in the advancement of treatment of HIV/AIDS in third world countries. Brad spoke about his first hand experience in Botswana three years ago. His presentation was truly inspiring.

One of the larger attractions during the day was the exhibition that was paired with lunch. SBSA had invited sponsors and student groups to talk to the delegates to provide insights on some of the global initiatives that were available to them.

The conference also included keynote presentations by Kathleen Barret from BMO Financial Group, Dominic Covvey Director of Waterloo Institute for Health and Information Research and Stephen Li from EMD Serono Canada.

Brianne Michael, a third year science and business student, felt that “each part of the conference offered a different view on many issues that will be emerging in the near future, from the validity of your degree to running global initiatives”. The SBSA team from this year was a very motivated group with a newfound desire to do better and reach beyond boundaries, and once again the group displayed a passion to present issues that were relevant to the new cohort of students.

Harold Harder, a co-op field coordinator at UW had this to say: “I am proud to see Science and Business students displaying the leadership required to organize an outstanding educational event of this high caliber. Your awareness of the importance in discussing key global issues and their solutions distinguishes you as truly innovative business professionals.”

Knocking Down Silos, in the not so literal way

SBSA held their first ‘Knocking Down Silos’ (KDS) networking workshop with Keynote speaker Dave Howlett, VP of Corporate Development of The Magnes Group on Tuesday, October 3rd, 2006. The event which was part of Waterloo's Entrepreneurship week, included over 300 industry and student delegates.

Because it was the first event of its kind at UW to offer students attending a 50/50 ratio of industry professionals to students, it generated a lot of interest around the campus, and was considered a huge success.

If you were confused about what Dave defines as a “Silos”, do not worry, you were not the only one. It was defined as “vertical networks that people live and work in.” The workshop was based on how to penetrate this network and how to get ahead. There were three main points that Dave was able to translate for the crowd at hand.

- 5 key attributes of WOMBAT™ (Word of Mouth beats All Techniques)
- The principle that knocks down a silo and builds a bridge
- A proven takeaway that get clients to remember you 6 months later.

Unfortunately, I will not be able to share these fantastic tips with you. The only way you can find out more is by attending the next SBSA KDS workshop. But I can share one of the more memorable tips from that evening: “find a way to make people look like a hero to people around them.”

More on the Social Side Bringing Students Closer

Along with educational events, SBSA also organizes social events for students in Science & Business, Biotech/Econ, and Biotech/CA. On the 8th of July 2006, SBSA organized a beach trip for students in these programs. This trip included roundtrip transportation and refreshments at the local beach, Grand Bend. SBSA also provided a drop in dinner social in fall of 2006, as a networking tool for students (especially first year students). These events provided an opportunity for students to meet each other outside of the classroom and educational setting and created a more informal atmosphere and a more close knit society.

New 2007-2008 SBSA Team

President - Hashim Ghazi
VP Operations - Yvonne Lae
VP Marketing - Fatemah Abdallah
VP Finance - Haroon Ahmad
VP Information Services - Bernice Tong
The 2006/2007 student ambassadors had a busy term filled with initiatives involving our current and prospective SciBus students as well as our Alumni. The team consisted of 14 dedicated and motivated SciBus students who demonstrated leadership and teamwork skills and exhibited keen interest and enthusiasm for the Science and Business Programs.

**Science and Business: Bridging the Gap with Biotech/CA and Biotech/Econ**
by Gaurav Sohli

One of my primary reasons for joining the Science & Business ambassador team was to bridge the gap between the Biotech/CA & Biotech/Econ students with the Science & Business department. Some “Biotech” students may have felt disconnected with the Science & Business Resource Centre as its name can be deceiving. I knew from the get go that we were all one family and that, for me to grow and develop, I would need to embrace this fact.

This year the Science & Business ambassadors held an event at South Campus Hall for the Biotech/CA and Biotech/Econ students from all 4 years. It was a chance for students to meet up and socialize with fellow classmates and Science & Business staff. The event was a spectacular success as evidenced by the large number of students who showed up. The main goal of the event was to emphasize that “Biotech” students are a part of the Science & Business family, and the ambassadors were successful at conveying this message.

**First Year Info Session**
by Akshay Shah

On Thursday, March 22, the ambassadors held a quick meeting for all first years. The reason? To help frosh strengthen their job applications. Getting a good first job represents a key challenge and candidates selected for interviews generally have previous involvements that highlight important skills, especially soft skills. While not everyone gets involved either within or outside of university, the ambassadors were there to tell the SciBus frosh that getting involved is easy and essential.

The meeting covered three main topics: a profile of the average student who has completed his/her first year; what to do in one’s first summer; and what types of first-time jobs exist. The average student probably had a great first year but may not have become sufficiently involved in extra-curricular activities. Frosh learned that this situation is a common one and that there is no need to panic. The great thing is that there is still the summer and second year before many will apply for their first coop jobs so there is time to accumulate valuable resume experience.

What is a valuable experience? Frosh learned that committing, not joining, is the key word. They then heard from upper year students on first-job experiences. The upper year students talked about what they did, how they got their jobs, and their overall experience.

A handout was then given to all frosh with actual job postings for reference and online resources that link many employment/non-employment opportunities. Getting a good first job is not difficult but it does require diligence. This meeting will help frosh understand what is required and how easy it is to meet those requirements. The ambassadors hope SciBus frosh become the most competitive frosh in the job market.

**Prospective Student Recruitment**
by Sukirtha Tharmalingam

The Science and Business ambassadors were involved in a number of different initiatives in mentoring prospective students. Here were some examples:
Ontario Universities Fair
The Annual University Fair took place early in the fall at the Metro Toronto Convention Centre, attracting thousands of prospective students shopping around for University choices. It was clear that UW Science was among the top choices for many students, as we had a full turn out at the UW pavilion. From the Science and Business team, project manager Sheri Howard and two of the student ambassadors were present to take questions from prospective students and their parents. The three programs under the Science and Business umbrella were popular among students, and all their questions regarding career prospects, on campus life, co-op placements, student lifestyle, academic load and much more were answered.

UW Day
On Saturday, November 4, 2006, UW hosted its annual UW Day. This day gives prospective students an opportunity to visit the UW campus with their friends and families. It provides them with an opportunity to visit specific departments and speak with program representatives. An enthusiastic team of SciBus ambassadors were ready to share their experiences and expertise with the prospective students during the program session. The panel of ambassadors answered many questions from the audience of parents and students ranging from specializations, courses, moving and extra curricular activities.

Campus Day
On March 13, 2007, UW hosted it’s annual campus day. This usually takes place during the march break for high school students. The SciBus ambassadors were on hand at the SciBus booth to answer questions. A myBusiness session was also conducted where the students shared their progress through myBusiness with prospective students and this was followed by a question and answer period.

UW Ambassador Email:
The ambassadors have also been actively answering emails from local and even international prospective students looking to speak to a current student in the program for some friendly advice on Science and Business and campus lifestyle. This email service is also available to any interested student who may have a question for a Science and Business ambassador about the program, coop, campus life or anything else that students wish to inquire of upper year SciBus students. Check out our student ambassador profiles and send your questions to scibusambassador@uwaterloo.ca.

Alumni Dinner
_by Jennifer Beckman_
On March 3, 2007, the Science and Business ambassadors held the second annual Science and Business Alumni-Graduate dinner. One hundred guests attended, including science and business staff, alumni and current upper year students. The theme of this year’s dinner was the “Journey to the Top” and focused on how the Science and Business Programs help students achieve this success. Speakers included Dr. George Dixon, Dean of Science; Sheri Howard, Science and Business Project Manager an alumnus of the program; Dr. Owen Ward, Director of Science and Business; Lou Mouaket, Vice President TD Securities and Science and Business alumnus; and Debika Burman, Research Analyst at the Toronto General Hospital in psychosocial oncology and palliative care and Science and Business alumnus. The first director and founder of Science and Business, Dr. Morton Globus, also attended. Alumni were seated with current students of similar educational background and with similar interests. Students, alumni and faculty engaged with and learned from each other. It was a successful night of networking in a dinner setting which also included a trivia game with prizes. The graduating ambassadors are certainly looking forward to attending this event next year as alumni!

Ambassadors at Play:
The female ambassadors pose for a picture at an ambassador dinner event.

Diane Tsang and Sukirtha Tharmalingam smile for the camera.

Tasneem Nakhooda and Andrew Wong impress the ambassadors with their piano playing skills.
David Talach’s Journey to the Top

By David Talach
2002 Science and Business Graduate

It’s a warm Saturday in Sacramento, and yet another great work week lies ahead. It’s been nearly 3 years since I left for California and nearly 5 years ago that I graduated from Waterloo with my Science & Business degree in hand. It’s amazing how time flies when you are having fun, and are truly happy with the career and direction your degree has given you.

Those 5 years seem like a flash in the pan, like it was just a couple months ago, it is indeed frightening how fast time flies past us and how quickly we can find our stride within the world. While some of this was planned, much of my path was paved by the type of thinker the Science & Business program nurtured. It has taken me those 5 years to actually realize how much I owe to my degree, and the outlook it gave me. It’s with a bit of guilt that I’ll confess that during my time at Waterloo, I didn’t really see the vision, I didn’t understand my mixed up schedule, and how possibly plant biotechnology had anything to do with the elasticity of demand. It’s not until now, at the awkward age of 28 that I finally understand, and feel obligated to give back, and to help assure new graduates that they have made a great decision, and will have a great advantage over their peers.

I’ve seen this advantage clearly. The coop program gave me 6 work-terms; a collection of unique experiences which I could immediately apply in the workforce. It offered the luxury of working at RIM for 12 months before graduation, and securing some seniority in advance. I was employee 500 and something (my memory is fading), so I had the chance to work at RIM during the boom years. It was truly great to see RIM’s famous “Monday Morning Sales Meetings” go from a small set of people in the lunch room to truly a large and internal political affair with people arriving early to get their seat secured.

During co-op I was treated as a full-time contributor and had already flown solo on customer sales meetings, closed 4 million in revenue, and secured our largest new US customer (by chance, my current employer) all before graduation. I spent 2 years working at RIM, focusing on Business Development, and travelling mainly in the US, although I did make trips to France, Belgium and Germany. It was a great two years, but ultimately RIM’s executive management decided to shut-down the OEM team, and transition the team members to other positions.

During this transition time, I was called on by RIM’s Chief Operating Officer, and their job offer was to move me to Germany for 8 months and help manage a carrier relationship out there. But the Vice President of Engineering at my largest customer challenged me to relocate to California to help manage their Global Product line of Wireless Products. Essentially, life had taken a quick unplanned left turn leaving me no way to play safe.

The end result after three restless nights was to sell my car, sell my house, sell off my furniture and move to California with only two 60 lbs suitcases of clothes to start my new career, as VeriFone’s “Global Product Manager, Wireless Systems”. During the next 18 months I assumed leadership over the company’s wireless products, their definition, their design, and ultimately their delivery into the sales
channels. During this time, I co-designed the industry’s smallest Wireless all-in-one POS terminal, submitted a design patent, and saw sales of wireless systems into 60+ countries, with shipments growing from ~20,000 units to over ~140,000 units globally.

Eighteen months ago, VeriFone’s executive management team promoted me to my current position of Director, Global Product Management. My current responsibilities include managing the company’s 1-3 Year Product Roadmap for a $600,000,000 USD product portfolio, obtaining annual executive management budgetary funding approval, helping my team work with engineering management, and sales management on product delivery into 110+ countries. The job has also allowed me the opportunity to fly around the world presenting our product strategy; highlights include Israel, Iceland, Greece, Singapore, China, Australia, Philippines, Argentina; among others. I have published five articles in industry trade-publications, participated or spoken at 4 industry events, and sat on one industry technology steering committee.

I want to let you know that you’ve made the right decision with Science & Business, and that great things are ahead if you choose to take them. There are many paths this degree affords you. I keep in touch with some of my peers, and it always amazes me how versatile they all are, whether it be Erijka Haalboom on her way to become an MD, or Karen Rudnitski and her MBA, and newly purchased flat in the UK. With this said, there is one concept and of teaching that I wish to leave before I depart, its what I call the “Successful Chameleon”.

Soon you will all be alumni and your career will be a reflection of what you have learned, and how you have harnessed it. There is one key thing I have come to learn about the Science & Business program, which I hope you will remember. We are a crossbreeding experiment of different disciplines. Call it hybrid vigor. We can see the world through the eyes of engineers, sales managers, operations staff and customers. We don’t adhere to one silo or one process. We can dabble with different viewpoints and make considerations of how one organization’s silo affects the others, and how processes should be built to break down these silos. We are the chameleons, who can understand engineering talk, understand scientific logic, and speak in marketing tongues. We are the flexible, cross-functional minds that blend into our surroundings. We are engineers on Monday, scientists on Tuesday, sales managers on Wednesday, and marketing managers on Thursday. Our education at Waterloo and our Science and Business degrees have forged this thinking into our neural pathways and forever changed us. As students of this discipline we must always remember this, and learn to harness it. It has taken 5 years after my graduation for me to realize the purpose of the Science & Business program. It wasn’t so much about what I was learning, it was more about the process, the viewpoint, the way we see the world, the way we process that information and present it to the various viewpoints in the world. We are tomorrow’s leaders across all organizational functions, and across all geographic regions. We have this potential, and I look forward to you all coming to the same guilty realization I have, hopefully sooner rather than later. Thank you Waterloo.
Hindsight for the Science Geek is 20/20

By Debika Burman

2004 Science and Business Graduate
2006 MSc. Health Research Methodology, McMaster University

In the three years since I graduated from the Science & Business program, three things have become glaringly clear to me:

1. I’ve become more of a science geek than I ever expected to be.
2. Despite my apprehension, I’ve made good decisions so far.
3. The Science & Business and Co-op programs paved the path I’m currently on.

Let’s cover each of those in reverse order. But first, let me tell you a peanut about myself. I graduated from the Science & Business program in 2004 with a specialization in biology and with Honours Co-op designation, with diverse work term experiences. This included working at a generic pharmaceutical company post-September 11/2001 when anthrax scares and patent law wars were raging, working within the economic development office of the City of Toronto, in the middle of which there was a legal strike of City employees, and working in an Ontario hospital during the SARS outbreak. My undergrad was certainly an unforgettable experience.

The opportunity I chose

It all started in my 3B term… I decided I wanted a more science-related co-op job for my final work term, and somehow the stars were aligned when I found the posting for a research assistant who would be involved in the daily activities of several clinical research studies in cardiovascular disease. It was a job targeted towards students in health studies, and as I found out later, mainly taken by students aiming for medical school. I wasn’t either of those, but I did have something to offer and I was given the gig. Not only did I have a solid biology background, I had the capacity to learn medical terminology, to offer my UW-learned business skills (including a good grasp of database design), and to enhance my interpersonal skills.

How is Science & Business good for Clinical Research?

Clinical research is a fabulous blend of science and business. It requires the ability to understand medical terminology, physiology, and literature. It also requires strong analytical skills to choose the appropriate design, to judge a study’s feasibility, to calculate the results, and to translate the results into information the general public can appreciate. Finally interpersonal skills are needed to interact with a broad range of people: research staff, physicians, nurses, and most importantly, study participants (both healthy and ill).

These are all skills and abilities that I tried to learn and hone as a Science & Business undergraduate. I can attribute many of my abilities to writing work reports, examining annual reports, designing marketing and entrepreneurship projects, co-op job interviews, and group and individual assignments and presentations.

I currently work as a study research coordinator in the Psychosocial Oncology & Palliative Care Department at Princess Margaret Hospital, and I am responsible for three research studies involving terminally-ill cancer patients. I am involved in each project from the recruitment of the participants to the organization and analyses of the data. Each day is different and I meet some very wonderful people. Without question, I am witness to the importance of research to the practice of medicine on a regular basis. It is stimulating, challenging, and very rewarding. If you need some perspective on life, spend one day in this job.

My path

After I completed my 8-month work term as a research assistant, I decided to pursue clinical research further by getting graduate training in health research methods, also known as epidemiology. In its simplicity, epidemiology is the study of epidemics and other phenomena in a population. This includes studying the prevalence of and risk factors for chronic and infectious disease and behavioral disorders observed in human beings, as well as, the effects of different drug and therapeutic treatments.

I chose the 2-year Health Research Methodology MSc. program at
McMaster University, studying genetic epidemiology under a professor well-known for his clinical trials in cardiovascular disease. He was also Head of the Department where I was a co-op student, making the transition from undergrad to graduate student fairly seamless. Unfortunately the entire experience wasn’t as easy as that transition. Here are a few things I wish I had known ahead of time:

1. Graduate training requires a lot of self-directed learning. No one makes deadlines for you, and you really have to make your own boundaries.

2. Most students in the program are either medical residents or practicing medical professionals.

3. Your relationship with your supervisor is fundamental in determining your commitment to the project and your overall satisfaction and enjoyment.

Briefly, my degree gave me advanced theoretical training in different research methods/designs, research ethics, questionnaire design and measurement, and biostatistics, as well as practical experience through a research internship component.

A few months after graduation I was offered the job at Princess Margaret Hospital and I am now 6 months into my career.

The “soft” things I learned

I left UW feeling pretty apprehensive and nervous about the future. I started my graduate degree with a lot of doubts and worries that I was not capable of finishing the degree, and that it was not the right choice for me. With certain strength and determination though, I came out on top. I learned to trust myself and my decisions, and I learned that I am much more capable than I thought I was when I was an undergrad, or even 8 months ago. Whichever path you choose, don’t doubt your abilities or what you learned here because you’re going to finish with a useful degree and skills that you can use everyday.

If I could give one piece of advice to those of you considering graduate school, I would tell you that a sincere and genuine interest in what you are studying is essential to your success. Without that, it may be difficult to stay motivated and committed. With it, you are primed for a memorable experience, life-long friendships, meaningful mentoring, and a piece of work you can truly be proud of.
REBECCA BAXTER
Science and Business - Biochemistry, Co-op, Economics Minor
Interests: International business, finance, business development, travelling abroad and learning about different cultures
What's Next: Starting a career with GE in their financial management program. I would also like to work internationally in business development
Email: baxter.rebecca@gmail.com

JENNIFER BECKMAN
Science and Business - Biochemistry, Co-op, Economics Minor
What's Next: Travelling and volunteering in South America. Interested in health and medicine, looking to further study and obtain a career in this field.
Email: beckman.jennifer@gmail.com

BLAISE BOLLAND
Science and Business
Interests: Alternative energy, investing
What's Next: Travelling for a year throughout Europe and Asia then back to North America to look for work.
Email: blaisebolland@gmail.com

JANICE CARMICHAEL
Science and Business - Co-op, Economics Minor
Interests: Plants, environment, travel
What's Next: Have full-time position with Gro-Bark in Milton, my former co-op employer
Email: janicepants@hotmail.com

FRANCES CHEUNG
Science and Business - Psychology Minor
Interests: Travel
What's Next: Travel and find work.
Email: frances.cheung@gmail.com

VICTORIA CHEUNG
Biotechnology/Chartered Accountancy - Co-op
Interests: Medicine/HealthCare, travel, cooking, languages
What's Next: Pursuit of a career in medicine
Email: victoria.s.cheung@gmail.com

JANE CHUNG
Biotechnology/Chartered Accountancy - Co-op
Masters of Accounting
Interests: Travelling, tennis, skiing, reading, playing piano
What's Next: I have a full time position at KPMG to obtain my CA designation. Afterwards I plan on going on an international secondment in London, England. In the future I hope to attend law school and specialize in intellectual property or corporate law.
Email: jpychung@gmail.com

PETE CRONIN
Science and Business - Chemistry Co-op, Economics Minor
Interests: Raptors, sports, reading (especially Wheel of Time)
What's Next: Will be working in Burnaby BC with the Telus leadership and development program for the next 2 years.
Email: petecronin@gmail.com
Ratna Dewi Tjan
Biotechnology/Economics - Co-op

**Interests:** Travel, music, health, nutrition

**What’s Next:** Summer position at research centre; plan to work as health professional, medical technologist

**Email:** xuiphing@gmail.com

Zainab Dhanani
Science and Business - Biology, Co-op, Economics Minor

**Email:** zainab_dhanani@hotmail.com

Michael Hsieh
Science and Business - Co-op

**Interests:** Travel, IT, pharmaceuticals, biotechnology, golf

**What’s Next:** Travelling to Europe to explore 8 countries before starting work or continuing my search for work.

**Email:** torrex83@hotmail.com

Matthew Hurst
Science and Business - Physics, Co-op

**Interests:** Law, finance

**What’s Next:** Starting a position in the automotive industry before applying to graduate school

**Email:** m_hurst01@hotmail.com

Neha Khambanda
Science and Business - Biochemistry, Co-op, Economics Minor

**Interests:** Food, travel, music, protein science, bio-nanotechnology

**What’s Next:** Graduate studies at U of T in protein folding and design or molecular biosensors

**Email:** nkharban@gmail.com

Leticia Kwok
Biotechnology/Economics - Co-op

**Interests:** Entrepreneurial ventures, IT, marketing, public relations and business development

**What’s Next:** Gain more work experience helping start-up firms while aiming to get into a prestigious MBA program in the US. I would also like to participate in mission trips to various locations in South America

**Email:** leticiak@gmail.com

Angie Loknath
Science and Business - Earth Science, Co-op

**Interests:** Travel, Environmental Science/Studies, Economic/Environmental sustainability

**What’s Next:** York University for Masters of Environmental Studies, with option to receive a diploma as well in Business and the Environment. Afterwards, I am hoping to get into the environmental consulting industry, specifically in economic and environmental sustainability.

**Email:** aloknath@gmail.com

Erin Miller
Science and Business - Co-op

**What’s Next:** Ambition to attend medical school within the next few years to work towards a specialization in pediatrics, surgery, emergency or OBGY. I have been told you change your mind about your specialty many times so I am keeping an open mind.

**Email:** ek_miller@hotmail.com
ALISON MOORE
Science and Business - Non-Major, Co-op
Interests: Biotechnology, pharmaceutical sales, marketing
What’s Next: Pursuit of a career in marketing or consulting
Email: ajm.moore@gmail.com

TASNEEM NAKHOODA
Science and Business - Biology, Co-op
Interests: My interests are currently in health care and biotechnology. I also want to travel as much as possible.
What’s Next: Pursue a career in the business side of the health care field.
Email: t_nakhooda@hotmail.com

STEVE PAUL-AMBROSE
Science and Business - Economics Minor
Email: stevejpa@yahoo.com

SABA REHMANI
Science and Business - Biochemistry, Co-op
Interests: Strategy, technology, entrepreneurship, marketing, sales
What’s Next: Move to NYC; work as a Strategy Consultant with Mercer Oliver Wyman
Email: srehamni@gmail.com

KRITHIKA SIVA
Science and Business - Biochemistry, Economics Minor
Interests: Pharmaceuticals, health care regulation laws
What’s Next: Currently looking for a business associated job in the healthcare sector. In the long term I hope to apply for law school with a focus on patent or corporate law.
Email: krithikasiva@hotmail.com

MIMI SIVONGSAY
Science and Business - Biology, Co-op, Economics Minor
What’s Next: Employment in marketing, technical writing, biotechnology or pharmaceuticals.
Email: msivongsay83@gmail.com

TYLER TENNANT
Science and Business - Biology, Co-op
Interests: Travel, pharmaceuticals, biotechnology, business development, venture capital
What’s Next: I would like to enter the Biotech or Pharmaceutical Industry in a sales/marketing or project management role. After a few years of work I hope to obtain an MBA.
Email: tylertennent@gmail.com

SUKirtha ThArMALINGAM
Science and Business - Biology, Co-op, Economics Minor
Interests: Global health challenges, initiatives and policy development efforts
What’s Next: Starting a Masters in Community Health and Epidemiology in September 2007.
Email: sukirtha.tharmalingam@gmail.com
Ján Tkáč
Biotechnology/Economics - Co-op
**Interests:** Research, biotechnology, health care, economic development, travel, sports
**What’s Next:** Graduate studies/research at UBC Department of Medical Genetics
**Email:** jantkac@gmail.com

Correne Tran
Biotechnology/Economics - Co-op
**Interests:** Travel, banking, finance
**What’s Next:** I begin my job as an Associate with TD Securities in the Global Business Services rotational program.
**Email:** correne_tran@hotmail.com

Diane Tsang
Science and Business - Biology, Co-op, Economics Minor
**What’s Next:** Finding a business position within science and technology based organizations related to the improvement of human health and the environment.
**Email:** dhtsang@gmail.com

Kenneth Tse
Science and Business - Biochemistry, Co-op
**Interests:** drawing, painting, photography, piano playing, astronomy, biology, genetics, technology, fishing, dancing, camping, biking, hiking, canoeing, snorkeling, skiing, travelling, stargazing, on and on and on.
**What’s Next:** Masters at U of T, researching under a supervisor at Princess Margaret Hospital.
**Email:** kcktse@gmail.com

Karri Way
Science and Business - Chemistry, Co-op
**Interests:** Business and accounting - currently doing the bookkeeping for three franchises
**What’s Next:** Planning on getting my CGA (certified general accountant) designation
**Email:** karri.way@gmail.com

Anthony Whitfield
Science and Business - Biology, Co-op
**Interests:** Law, travel, tennis
**What’s Next:** I am moving to Halifax and starting Law School at Dalhousie University in September
**Email:** aj_whitfield@hotmail.com

Andrew Wong
Biotechnology/Economics - Co-op
**Interests:** Travel, finance, biotechnology
**What’s Next:** I am off to work at Millennium Research Group
**Email:** d.andrew.wong@gmail.com

Rebecca Zhou
Science and Business - Biology
**Interests:** Health informatics, travel, business/product development (consumer goods, health care products, pharmaceuticals), consulting
**What’s Next:** I start work in the Global Business Service department at Proctor & Gamble (June 2007)
**Email:** rebecca.zhou@gmail.com
So you think you want an MBA degree? Many undergraduate students consider an MBA as an option for graduate school. Why? Possibly because you would like to further your overall business skills and there seems to be an infinite number of schools that offer the program, or perhaps it is what employers want to see so it will give you the opportunity to easily climb the corporate ladder. Whatever the reason, before you start the application process, it is crucial to do your research and take several things into consideration before making the investment.

First of all, you need to consider whether an MBA degree is actually right for you. It is important to know yourself in order to know whether an MBA is really what you want – know your objective and why you want an MBA to ensure it fits in with your long term vision. If you have any needs or constraints ensure you know them, whether they relate to location, time commitment (full time vs. part time) or finances.

**Researching for MBA schools**

Most of your research will go into searching for a school that suits your needs. Since several Science and Business students I spoke with are interested in the top Canadian and US Business schools, I am going to focus on some top B-schools. Schulich’s School of Business at York University is located in Toronto and is known as Canada’s Global Business School. It is one of the top 20 MBA schools in the world and is ideal for its convenient location in the city. Schulich has 19 different specializations to choose from and, unlike most MBA schools, there are no personal interviews and you can apply online. Currently the tuition for a 2-year MBA program at Schulich is approximately $40,000 CAD.

Another excellent MBA program in Canada is offered at Richard Ivey’s from the University of Western Ontario located in London, Ontario. Ivey’s MBA program offers a 12 month degree and teaches a concept called “Cross-Enterprise Leadership.” This concept helps train students to develop skill sets necessary to be analytical, action oriented, and to lead initiatives in organizations. Tuition is currently $59,000 CAD. Both Schulich and Ivey offer scholarships and students can also apply for student loans such as OSAP.

In February, I got the opportunity to visit The Wharton School of the University of Pennsylvania campus (this is the B-school Donald Trump went to). I was very impressed with the vast number of courses available from Negotiation to Healthcare Marketing. While at Wharton, I audited an MBA course called Healthcare Entrepreneurship taught by Jeffrey Libson and Gary Kurtzman. This course would be of great interest to Science and Business students since it covers topics such as, how to analyze biotechnology sectors and strategies to help finance life science ventures. There are several guest speakers who come in to share their experiences throughout the term. For example, Robert Glassman, the director of Healthcare Investment Banking at Merrill Lynch & Co., talks about the major trends in the biotech industry while David M. Bowser, the VP of Technology Transfer & Academic Relations at Johnson & Johnson talks about sourcing technology for biotech start-ups. Wharton accepts approximately 800 MBA students per year and the current tuition for a 2-year degree on average is about $90,000 USD.

Barry Bisson, the president of Shad International and a professor at the University of Waterloo shared with me his experiences as an MBA student at the Harvard Business School (HBS). His classes, 1.5 hours long, consisted mainly of case studies and discussions and were lighter on the lecture component. At the beginning of discussions the instructor chooses one individual to present their suggestion and opinion about the case study in front of the class. This was known as “cold calling” and can be rather intimidating at first because either your class agrees with you and backs you up or disagrees and challenges your ideas. These are the types of experiences that will help you communicate, make decisions, and think under pressure. The cost of tuition for an MBA degree from HBS is approximately $79,200 USD. Canadian students planning on returning to Canada after completing an HBS MBA degree can apply for the John H. McArthur Canadian Fellowship for financial assistance. Also, Citibank Loan Bank guarantees loans to international students, has a very low interest rate and is priced competitively as an alternate loan program.

Generally, tuition from a top US MBA school is more expensive than tuition from a Canadian school mainly because of the school’s brand. However, if you are planning on staying in Canada, you may want to consider getting into a school located in Canada since it will be less expensive and Canadian employers are more familiar with them. If you are planning on working in the US or internationally, a degree from a well branded school will definitely work to your advantage.

Several universities now offer joint or dual MBA/MD degrees which can usually be completed in ~5-6 years. This may be an excellent option for Science and Business students looking to further their careers in both areas. If interested, many prestigious business schools offer this option (In Canada: Schulich, Ivey and in US: HBS, Wharton, Chicago GBS, Stanford GBS, Kellogg etc.) .

Also, you may want to know how the program is delivered when deciding on a school because every school has different teaching methods (lecture, case study, team projects). One of the best ways to get a feel for the school and classes is to visit the campus and audit some lectures if possible. Another way to shop for potential MBA schools is to attend the QS World MBA Tour (similar to the University Fair) held at the Toronto Convention Centre (www.topmba.com). It will give you the opportunity to meet admission officers face to face from MBA schools all over the world, ask questions, and ensure the quality of education being offered is what you are looking for.
**Application Process**

Stephen Lamb was a Science and Business student who graduated in '05 and was recently admitted to Wharton at the University of Pennsylvania. With his first hand experience, he has provided excellent advice and shared with me what the application process is like:

“Although the bulk of my research and effort was put into three applications for top-10 US schools, the importance of a few application fundamentals is the same no matter where you’re applying.

Assuming you know which schools you’d like to go to and why, the key things to determine are the strengths and weaknesses of your application. It’s difficult to speak about the importance of each part of the application independently, because it’s really the whole package that matters. A strong GMAT can make up for poor undergrad marks. A lot of community involvement or volunteer work can help offset a lack of post-grad experience. In your applications you must highlight your strong points while minimizing (but not hiding) your weaker ones.

It’s impossible to say “to get into School X, you need 26.5 months post-grad experience, an 82.3% undergrad average and a 683 GMAT” – in reality it is nothing like this. Schools are looking for well-rounded, accomplished and driven candidates. Through your essays, resume, application and interview, you must simply present yourself as the strongest candidate with highest potential that you can, and convince the admissions committee you will do their school proud when you finish.

**GMAT:** Make an effort and put in the time! Work through as many

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**GMAT:** Make an effort and put in the time! Work through as many

books as you can and do as many practice questions as you can! The official GMAT materials and Princeton Review books are best. Try eBay or a public library to keep the costs down.

**ESSAYS:** You can’t just pull a one-nighter to get these done – give yourself ample time. There is plenty of reference material on the web and in print to help you compose these. Research is key to writing effective essays - put in the time!

**INTERVIEWS:** Practice. Mock interview with a current student, a friend, your mirror – no matter how well you speak or think on your feet, practice will help. Make sure you have bulletproof answers for the typical MBA interview questions and any that are specific to your target school. Make sure you know your application so you can ‘wing’ any oddball questions.

An MBA application is a fair amount of work and boils down to time and effort invested – make sure you devote enough of both!!

References are also an important component of the package. Having strong references can give you a competitive advantage since it can make your application stand out from others. Ensure those writing your references are actually people who know you.

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**Genny Brown**

BSc. Science and Business (UW) 1999-2004  
MBA/MHSA (Master's of Business Administration/Master's of Health Services Administration) (Dalhousie) 2006-2009

**After Graduation**

Following SciBus graduation, I headed to Lake Louise AB and worked at the Fairmont Chateau Lake Louise in the front desk office as a tour group representative. I had always been drawn to pictures of Lake Louise and felt it was a great time to experience the outdoor lifestyle (I did a lot of hiking) and the realm of customer service. After this summer I came back to Ontario and helped a small company convert its cost based accounting system to technically updated software using Simply Accounting. Upon completion of this project I took the opportunity to travel to Pangani, Tanzania where I volunteered as a teacher for 3 months. It was an eye opening experience that I often think back to and miss. My next year was spent acting as the first Project Manager for Science and Business. During this time my skills came together as I created magazines, organized events and established both the website and the current student resource centre. It was during this time as project manager that I was really able to think about and create my career dossier – which ultimately led to my decision of returning to school to complete my MBA/MHSA at Dalhousie University.

I don't know exactly why I chose the path that I did. I suppose one thing appeared after the other and I took a chance with each opportunity. I’m glad that I took some time off school before returning for graduate studies. It allowed me to figure out a career path that was truly me. What I am doing now fits much closer with who I am and what my strengths are.

**How SciBus helped**

I often tell people that it is because of the dual nature of Science and Business that I have had such broad experiences and hold so many different skills and yet am able to tie them all together and provide valuable and unique output. Some have told me that my wide, seemingly unfocused experience is a weakness…but I truly feel that it is one of my greatest strengths and one that I will continue to feed and develop.
Biotech/Econ: The Next Step

By Jesse Kancir
4a Biotechnology/Economics student

Biotechnology/Economics. Generally, students enrolled in this program at UW can be categorized into one of two positions. For some, the polarity that separates these two topics is enticing and comforting. It spares the student from having to make the decision to focus on any one sphere of study throughout the undergraduate degree. For others, the obvious distance that separates the two subjects in the minds of employers compels the entrepreneurial and questioning mind to forge connections, to put away the conventional and to explore the unique possibilities that emerge from overlapping these two disciplinary spheres as if they were drawn in a Venn diagram. Regardless to which category students belong, five years of studying Biotechnology/Economics brings one to a point where one must step out of the lecture hall and prove that interdisciplinary studies are both beneficial and relevant. This article will look at options for Biotechnology/Economics students hoping to pursue further studies.

The Next Step for Further Studies – From Broadness to Specificity

MBA

Likely, the most common question posed to Biotechnology/Economics students other than “How do you combine these topics?” is “So Economics, that’s like business, right?” And, while occasionally the simplest response is to agree, the truth is that many graduates of the program move into a project management capacity and would benefit well from an MBA. With biotechnology already of significant interest to both the public and private sectors, some novel post graduate programs exist that combine both biotechnology and economics with a heavy emphasis on management. (Note: students interested in an MBA should consult http://www.mba.com/mba for information regarding the General Management Admission Test, or GMAT.)

- Interesting program: Master's in BioScience Enterprise – University of Cambridge, UK - http://www.biot.cam.ac.uk/
- UW Option: Master’s of Science (M.Sc.) http://www.science.uwaterloo.ca/departments/biology/graduate/index.html
- For a listing of several universities throughout Canada that offer MBA programs, please visit: http://www.canadian-universities.net/MBA/MBA_Schools_Canada.html

Master’s – Biotechnology

Based on my own discussions with classmates and graduates, most graduates of the program that intend to do further studies focus on management studies. But with a strong training in biology and chemistry and some exposure to biochemistry there is good potential for graduates of the program to continue on to research positions in biotechnology. Students interested in combining both aspects of their undergraduate studies but with a strong emphasis on science may be interested in the following programs:

- Interesting program: Master's of Biotechnology – University of Toronto, CAN - http://www.utm.utoronto.ca/1659.0.html
- UW Option: Master's of Science (M.Sc.) http://www.science.uwaterloo.ca/departments/biology/graduate/index.html

Master’s – Economics

Economics is a large field of study. While Biotechnology/Economics does not provide students with the opportunity to specialize in the various options available through the Faculty of Arts, it does provide the fundamental courses required by Economics departments for admission to graduate studies. Students would do well to research the various departments to which they are thinking of applying and seeing if the professors and publications coming out of these institutions lean more to free-market principles or make way for the role of a strong government. Do your views hold more closely to Smith’s Invisible Hand or are you a Keynesian? As well, students wishing to travel might be interested in applying to several graduate schools in the US or Europe. The economics departments at Harvard, Chicago, M.I.T., Cambridge, Oxford, and the London School of Economics are all exceptional if one has shown the capacity to excel in undergraduate studies. Other schools in Canada are also well regarded and provide greater likelihood of funding: These include - UBC, Western, Toronto, Queen’s, and McGill.

UW Option: Master's of Arts (Economics) http://economics.uwaterloo.ca/graduate.html

Health-Related Studies
Several health-related options are open to Biotechnology/Economics students. However, deciding that one would like to go to a medical school or some related profession might require additional courses to obtain the prerequisites necessary for admission. And with only a limited number of electives in Biotechnology/Economics, the sooner one makes a decision to pursue a professional health degree, the easier it will be to get the appropriate credits.

Interesting program: Master's Program in Genetic Counselling – University of British Columbia, CAN - http://www.medgen.ubc.ca/academics/mast_gen.htm


And so much more ...
Many other career opportunities exist for Biotechnology/Economics students. The nature of the program is indeed broad and yet, graduates of the program have significant in-depth knowledge of their fields. In addition to the options listed above, students might be interested in furthering their studies in financial markets and investment services, public administration and policy studies, journalism, and education. Regardless of the next step chosen, the program truly is exceptional and attracts high calibre students. Simply put, whether it be furthering studies or entering the workplace, graduates of Biotechnology/Economics will be distinguished by the spirit of achievement cultivated by one of Waterloo's top programs.

Travel Plans
After exams finish I will have a week to relax before heading off for some much needed travelling. For the month of May I will be touring Thailand, Cambodia, Vietnam and Hong Kong.

Work Plans
My new position will be as a Market Research Analyst with Millennium Research Group. My responsibilities will be focused on the market segment to which I will be assigned; possibilities include medical devices, pharmaceuticals and biotechnology. I will be required to become very knowledgeable in that market segment, to communicate with industry professionals, to analyze data and ultimately to report on my findings.

How Biotech/Econ Has Helped
Biotechnology/Economics has prepared me in various ways. Something that I think is very important is to be able to think out and analyze situations from different points of view. With the Biotech/Econ program, I was exposed to the sciences and the arts. Each discipline requires a different way of thinking, and I believe this ability to tackle problems from different view points will be beneficial to me in all facets of life in the future.

Advice to others
The best hint I can give is to learn about everything there is to learn, not just what is taught in your courses. What is taught in your courses is very important, but everyone is taught the same thing. Whether it is world events, politics, arts or science, learn about what interests you so you have the extra knowledge to set you apart from the rest of the crowd.
Ronald Reagan once said that the Challenger astronauts had attempted to break the surly bonds of Earth, and touch the face of God. Although co-op terms as an astronaut would likely have to be arranged outside of JobMine, an international work term could be the next best thing to broaden your horizons and see the earth as never before; if not necessarily from 300km above it.

We all dreamed of overseas adventures after high school graduation: University was where we planned to break loose and explore the world. Yet only a small number of Waterloo students travel overseas each year for work experiences. After spending a co-op term exploring the lochs of Scotland followed by a quick tour through Eastern Europe this past summer, I am surprised that the numbers of students pursuing international experience remains so low.

There are after all plenty of opportunities: Waterloo sends 1,100 students on international co-ops each year, with additional jobs remaining unfilled every term. UW also has over 110 academic partner institutions worldwide that students can visit for academic credit while gaining priceless cultural experience. Our University President David L. Johnston is committed to increasing the numbers of academic exchanges and overseas work placements. Waterloo also has two dedicated international co-op advisors each with a multitude of personal experience, as well as literary and online resources.

Students are often daunted by the overwhelming required research, cost and the fear of the unknown. When faced with the additional task of deciphering visa laws, language barriers and university rules, while already busy with co-op, many students balk at the challenge. But you are not alone. There are many resources which provide advice and research on how to arrange a work term overseas. It is certainly an experience of a lifetime and well worth the effort involved in getting there.

But does the experience end up being worth all of the hard work in the end? Absolutely.

### When the Money is Tight

Finances can be a touchy subject for a student longing to travel. It is true that many international work terms pay less than average (unless one is travelling to the United States where employers pay salaries that sometimes exceed starting graduate wages). In fact, some non-profit organizations actually require a fee to cover your expenses and help fund their organizations. While this loss of income can be a limiting factor for some, for others it simply comes down to poor economic analysis. As Science and Business students, we should realize this is a classic case of opportunity cost. These are once in a life time experiences generating a great collection of stories and offering the potential for international networking and a new outlook on life. Several University of Waterloo scholarships such as the McCall MacBain International Undergraduate Scholarship are designed to give financial aid to students who work overseas. For a complete listing of available scholarships check out the current scholarship listings at the Student Awards site.

### Taking the First Step

Often deciding where to go and what to do when you get there is the hardest step. Dust off those plans to travel to Taiwan to help the local government protect migrating purple milkweed butterflies or follow the example of Science and Business Student Shazeen Bandukwala who volunteered at a children’s hospital in Nepal. Always wanted to study in Australia? It is possible with the extensive UW academic partnerships.

For more information some great resources are:

- UW International Co-op Website
- UW International Exchange Website- Study in one of the 110 schools partnered with Waterloo in countries such as China, France, Australia and more!
- [http://www.swap.ca/](http://www.swap.ca/) - they offer work programs to about a dozen countries (they handle the visa application and offer support services upon arrival including housing resources, job listings, student discounts, local orientation)
- [http://www.vergemagazine.ca/](http://www.vergemagazine.ca/) - this is a travel magazine with volunteer/work abroad info and adventure travel aimed at young travellers
- [http://www.voyage.gc.ca/consular_home-en.asp](http://www.voyage.gc.ca/consular_home-en.asp) - Canadian government website with full travel information on every country around the world - great information resource
- The Big Guide to Living & Working Overseas by Jean-Marc Hachey is available in hardcopy at Career Services in the Tatham Center and at any library. You can also link to it and related information at [http://www.workingoverseas.com/](http://www.workingoverseas.com/).
International Experiences

After Graduation

Upon finishing my final exams for the last time at UW, I will be taking some time off to travel Europe. I will be travelling with three other graduates from Science and Business and Biotech/Econ. We plan to travel to over 10 countries throughout Western Europe; from the Netherlands to Monaco.

Why Travel?

I chose to travel after graduation before going straight into the workforce because there is so much in the world that I would like to see, and right now seems like the best time to do it. The last 5 years passed quickly and it is a strange feeling that life will not be mapped out with registering for classes, finding a co-op position and switching cities every four months. For myself personally, I think taking the opportunity to travel and explore the world, instead of the conventional career path after graduation will provide me with new experiences to learn and contribute towards my personal growth – and this will be beneficial to my career in the long run.

How SciBus has helped

Science and Business has helped prepare me for the future as I am graduating with a solid scientific background combined with strong business fundamentals. The opportunity to learn, grow and build relationships in a challenging environment with like minded individuals has been an unforgettable experience.
An education in Science and Business has equipped us with a broad mix of academic and business skills and experience. There awaits a world of career opportunities and possibilities for us, so here are some industries to consider as we take that first leap of career explorations.

**Private Sector**
The strong science background and business acumen can be applied in Science (Biotechnology, Pharmaceuticals, etc.) as well as in technology oriented firms. Some of our past graduates have been employed in technical and managerial positions in these firms. Utilizing your scientific and analytical skills to understand emerging technologies, you will be able to communicate these ideas with clients in the worlds of both Science and Business. There is a demand for individuals with the ability to integrate and apply scientific know-how in the arena of business. We can participate in diverse settings including stock and mutual funds analysis, pharmaceutical/technical sales, marketing, accounting, economic forecasting, project management, technology development and commercialization. This integrated educational experience opens up advisory opportunities in the rapidly growing science and technology business sector of the economy and consulting roles in areas such as strategy, finance and management.

**Academia/Research**
Some may further their studies with graduate level education in their specialization in Science. This also opens up a range of careers in academic and research settings. The need for research and innovation in science is rapidly increasing and this provides great opportunity for our graduates. Graduate level training may open paths to careers as principal investigators and educators in academic institutions, public and governmental research agencies as well as in private corporations.

**Public**
With the emergence of novel technologies and the expansion of the global economy, the public sector becomes a field of significant importance with great potential for our graduates. This field seeks individuals who understand the ethical implications, economical conditions and other social considerations associated with these technologies. In the public sector, there are roles for SciBus graduates within government and non-profit organization as policy analysts, researchers and advisors associated with sectors ranging from health care, food and agriculture to energy and environment sustainability.

**Conclusion**
The interdisciplinary nature of this program enables its graduates to acquire management and leadership positions in fields requiring technical experience and dealing with modern technology whether they be in a biotechnology firm, a consulting firm or as a national policy maker.

SciBus graduates are able to function in sales and marketing roles...
in a variety of industries ranging from technology-based firms (Microsoft, RIM), food industry (Campbell's Soup) to healthcare and pharmaceutical industries. In these roles, you will be involved in determining market needs and communicating those needs. A SciBus grad employed with CPC Healthcare Communications (an advertising agency serving the healthcare and pharmaceutical industry) as an Account Executive, describes her job as one with a lot of variety (reading studies in journals, liaising with the Pharmaceutical Advertising Advisory Board, deciding how to lay out a particular piece for use by sales reps, or helping brainstorm new ideas for products), one that SciBus really helped her prepare for.

SciBus graduates also have an opportunity in the finance and accounting sector of many firms. Our graduates have found roles as Financial Analysts, Investments Bankers and Accountants in many prestigious financial and investment firms.

SciBus graduates have found successful careers with insurance firms (e.g. Sun Life Financial, Aon Reed Stenhouse). Their roles range from Business Analysis, to Risk Management to Case Management.

The interdisciplinary nature of the Science and Business program has allowed our graduates to take up different roles in various consulting firms targeting different business sectors. Our graduates have expertise to offer from health care consulting (e.g. Courtyard Group), to workforce management (Work Brain).

Intellectual Property is an area that is well studied in the undergraduate years of SciBus and as such, many graduates have gone onto specialize in this field with private law firms or in the management of technology commercialization in research and academic settings (Mount Sinai Hospital, Samuel Lunenfeld Research Institute, Office of Technology Transfer and Industrial Liaison).

Some examples of other career paths undertaken by SciBus graduates are below:

- Clinical Data Analysis in Pharmaceutical Firms
- Management Information Analyst (Active Health Partners)
- Production Management (Food Industry)
- Lead Management Analyst (Moneris Solutions)
- Business Planning (BMW Group Canada)
- Regulatory Affairs (S.C. Johnson)
- Project Leader (Four Seasons Hotels and Resorts)
- High School Teacher in Sciences
- Pharmaceutical Regulatory Affairs (Health Canada)
- Director, Global Product Management (VeriFone)
- Account Executive (Torre Lazur McCann - a healthcare advertising firm)
- Small Business Advisory Committee, Ontario Securities Commission

It is evident that as a SciBus graduate you can mold your career path as you wish, highlighting on many of your different skills and expertise. The Science and Business degree is your doorway to endless career possibilities.

### Saba Rehmani
2007 Science and Business – Biochemistry Graduate

#### Travel Plans
In the summer months immediately after convocation, I will be travelling throughout East Asia. Come September, I will commence my role as a consultant with Mercer Oliver Wyman's head office in New York City.

#### Work Plans
As a consultant at Mercer Oliver Wyman, I will be working with a team to help our clients address a variety of strategic issues across their organization aiming to optimize performance. Initially my role will focus on analysis and research, with responsibilities that include conducting financial assessments/projections, interviewing customers/suppliers/employees, benchmarking an industry, analyzing internal data, etc.

I chose to pursue a career in consulting because it provides me with the perfect blend of challenge, variety and opportunity for impact. Consultants are challenged to solve difficult strategic problems in a fast-paced environment. In addition, they are exposed to a tremendous amount of variety (in terms of different industries, different functional areas within a firm, and different types of problems – both qualitative and quantitative in nature). Lastly, consultants are provided with tremendous opportunity to make an impact, often working to solve strategic issues with C-level executives and management boards. On a separate note, I am also excited about the numerous travel opportunities that will become available to me in my role (both within North America and Internationally).

#### How SciBus Helped
The SciBus program has helped me to prepare for the future by helping me hone a variety of important skills such as the ability to work well in a dynamic/ flexible environment, analyze methodologically to solve problems and learn and apply new skills quickly and effectively. In addition to these softer skills, I have been equipped with a “toolkit” encompassing wide-ranging disciplines including finance, business law, accounting, marketing, organizational design and behaviour, and more. Finally, the SciBus program has better prepared me to think and compete at a global level.

#### Advice to others
My advice to students (regardless of what type of career you would like to pursue) is to take advantage of the SciBus programs (and UW university life in general) to gain a variety of skills and experience (in terms of academics, co-op and extracurricular activities). Make sure to take the courses that interest you, seek diversity in co-op experiences and get involved on campus and in the community. It’s a sure way to leave UW with not only a degree, but with a true feeling of accomplishment and satisfaction, and as a bonus – a world of opportunities at your fingertips.
By now, it is probably quite evident that the Science and Business programs offer a great amount of diversity and prepare students for a variety of career paths. The previous articles provided information about the paths that are seen as more obvious for and more often followed by Science and Business grads: MBA, travel, entering the workforce. There are however, a growing number of Science and Business graduates who choose to do something a little different. A small number of graduates from the Science and Business programs have decided to pursue further studies either through professional schools or science-based graduate programs. In this article, a few of the less pursued paths will be highlighted. Examples of some of the graduates who plan on following these areas of study will also be mentioned.

Health Profession
In recent years the health care profession has started to adjust its perspective on what makes a good professional. It is no longer sufficient to have only the scientific and technical knowledge to become a health professional – such as a physician, a pharmacist or a dentist – it is now necessary to have exceptional communication, leadership and team working skills. The idea behind these additional skills is to produce professionals who are better able to communicate with and understand their patients, clients or customers and to provide a more enjoyable health care experience. Some schools, like McMaster’s Michael DeGroote School of Medicine, are so committed to producing physicians who are well rounded and capable of interacting well with people that they do not require students applying to the school to have a degree in science.

The new philosophy of producing health care practitioners with well rounded backgrounds is perfect for graduates of the Science and Business programs. With the dual skill set obtained from a Science and Business degree, students pursuing one of the medical professions will have the scientific knowledge that is needed to study the intense curriculum, as well as the communication skills necessary to make them more humanitarian practitioners.

One of our fourth year graduating students, Erin Miller hopes to explore her options as a medical student, and choose a specialization that suites her personality and lifestyle. Congratulations and good luck Erin!

To find out more about law schools in Canada and the US visit http://www.lsac.org/.

Law
With the exposure to intellectual property information that Science and Business students learn through their years at UW, more students are choosing to study law after finishing their degree, in hopes of following careers in intellectual property rights. Analytical skills learned in the workshops and science courses enable Science and Business students to excel in the analytical study of law. Workshop classes, discussions and presentations can also help students to stand out with respect to their abilities to reason through topics that are difficult and diagnostic in nature.

AJ Whitfield was recently accepted to Dalhousie University’s Bachelor of Law program. AJ plans on working towards a career in intellectual property rights or as a corporate lawyer. Congratulations AJ!

Graduate Studies
Students graduating from Science and Business have ample experience in the science field to go on in their studies and do a Master of Science in their specialization. There are countless Master's programs at all Universities in Canada, US and around the world. Instead of providing a list of programs, here are some aspects to think about.

First, if starting out it is a good idea to explore new and exciting options. Although you might be comfortable at UW and know a lot of peers and professors, you have the opportunity to make another change in your life. Look into programs at schools across the country and maybe you will find a program in a city in which you have never before lived.

Second, when looking for a Master's program it is wise to have a specific idea about what you would like to do. Having a plan will
narrow research options and will help you find the right supervisor to suit the area in which you would like to study. The third piece of advice is to take your time deciding. Further study after graduation is not something that needs to be rushed into. If advancing your education is something that is desired at any point in the future, go for it! Expanding your knowledge will only benefit you in the future.

Some of this year’s graduates will be going on to do work in graduate studies at various institutions. Here is a glimpse into what they will be studying.

Neha Kharbanda has been accepted to the University of Toronto’s Master’s in Biochemistry program. Neha is interested in studying the dynamics of protein folding, structure and design or designing molecular biosensors for therapeutic applications.

Jan Tkáč will be attending graduate school at UBC in the fall in their Medical Genetics Department. Jan will be researching the genetic basis of Fanconi Anaemia (FA), a chromosome instability disorder which is characterized by multiple congenital defects, bone marrow failure and high cancer susceptibility. FA is a very rare, autosomal recessive disorder, however Jan’s research will have broader significance as several FA-associated proteins are mutated in breast and ovarian cancers.

Kenneth Tse will be doing a Masters program at the University of Toronto’s Medical Biophysics department in the Biological Science stream. He has yet to meet with his supervisor to determine what project he will be working on specifically, but in general he will be studying DNA damage and repair pathways in normal and tumourigenic cells under oxic and hypoxic conditions.

Angie Loknath
2007 Science and Business – Earth Sciences Graduate

After Graduation
In the first month after graduation, I will be travelling Europe with some of my fellow SciBus classmates (we really don’t know how to move outside our little – but fantastic – social circle). After that I will likely be working to help supplement graduate school.

The reason I decided to travel rather than work the entire summer was mainly because I just did not want to regret not taking the time to do it. My thought process was that I wouldn’t have the chance to take an entire month off while working or even during graduate work. I’ve also never travelled anywhere outside of North America and on top of that, I’ve never vacationed without my parents. Needless to say, the experience is long overdue.

I was recently accepted to York University’s Master’s of Environmental Studies program. Alongside, I chose to continue to work with the Science and Business theme of my post secondary education and applied for the option to receive a diploma in Business and the Environment through Schulich (the business school affiliated with York University).

How SciBus has helped
I truly believe that this program has helped me prepare for the future by giving me not just knowledge of earth science and economics, but it has given me skills that I don’t think I would have gotten with any other program. The ability to analyze something technical (whether it be for our SciBus workshops, or out in the workforce during co-op terms) and be able to put a business perspective on it (Can it make money? Does it have a future? What can this company do with this idea?) is something that has been so valuable. I find that employers really recognize the soft skills that Science and Business has taught me.
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