



Canadian Undergraduate Technology Conference

... Where the Future Goes



Presented by



**on behalf of the McGill
University CUTC
Delegation**



McGill University Delegation



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Introduction

Last year was McGill University's first time at the Canadian Undergraduate Technology Conference (CUTC), the largest conference of its type in North America. A small team of 4 students represented the McGill delegation and came back with much success, knowledge, and stories of a good experience overall.

For the 2005-2006 academic school year, we were dedicated towards sending a much larger and diverse delegation. We wanted to truly reflect McGill's standing in Electrical, Computer and Software Engineering among other Canadian universities, and with a bigger team we could also take in a lot more from the various flavors the conference has to offer.

With the organization of members from the ExCESS (Electrical, Computer and Software Engineering Student Society) Council, we put together a team of 15 students from the department and set out for CUTC 2006.

This year, CUTC was held in the "Silicon Valley of Canada" - Markham, Ontario – at the Sheraton Parkway Hotel from January 12th to 14th 2006. Each full day of activities brought with it a wealth of knowledge, an incredible opportunity to network with distinguished speakers, and tremendous amounts of interaction with students from other universities.

CUTC's events could be divided into 5 categories:

- **Keynote speakers:** Usually a senior leader from industry addressed the entire conference of 600 students, speaking about important technology-related issues or significant company developments.
- **Seminars:** Seminars were smaller and hence more interactive. A company representative would address the group of about 50 students with a focus on giving counsel and tips that could help in our technology-driven careers.
- **TechTour and TechShops:** The TechTour was an off-site seminar -a visit to a company's facilities, led by industry experts. This year the Tech Tour took place at Telus Mobility. The TechShops were hands-on seminars in which delegates were provided with revolutionary software and were taught how to use it by company representatives.
- **TechExpo:** An exhibition of tech-industry big-names, in which students could interact with representatives and try out software on display.
- **ThinkTank:** The last event of the conference allowed students to discuss and exchange ideas with other delegations concerning topics that related technology to our society.

The following report, including write-ups from different delegates' perspectives, gives a summary of all the activities and events the delegation took part in while at the conference.

1. Keynotes



“The Future of Search”

- *Bradley Horowitz*

Director of Technology Development
Search & Marketplace Group, Yahoo!

by *Alberto Mann*

The opening keynote speaker of the conference, Mr. Bradley Horowitz, began by providing some details on the history of Yahoo! and its recent accomplishments, including the acquisition of several search companies. He shared with all of us some of the company's visions, such as to “enable people to find, use, share and expand all human knowledge” by means such as “sharing knowledge with people you connect with and connecting with people you share knowledge with.” For Yahoo!, it is not just about putting all the movies, books and pictures on the web, but their ultimate objective is to break boundaries for sharing all information.

One of their obstacles is to find a way to boil down massive amounts of information (e.g. broad search queries) into more useful results. Their approach in solving these types of issues is to focus on three ‘levels of search’. The first is the public domain: the typical web search we are all used to. The second is the personal domain, which involves desktop search applications. The third, and more ambitious level, is the social domain. This consists of forming a web community in which people have access to other people's desktops (the level of access into a user's desktop would be up to the user to decide).



Yahoo! wants to improve the searching experience by finding a way to customize search queries to the ‘type’ of people doing the search; thus, creating a ‘My Web’ type of environment, in which our bookmarks or favorites can be found in the entire network, and not just in our space. Mr. Horowitz mentioned how out of Mass Media (aimed at a large audience and more expensive to distribute) and Micro Media (more personal, cheap, but appealing to a smaller audience) will emerge ‘My Media’.

As an example of how Yahoo! is working to achieve these goals, Mr. Horowitz spent the last minutes talking about Flickr, an online photo management and sharing application owned by Yahoo!

**“Social uses and Implications of New Media Technology”**

- *Hanna Cho*

MA Candidate in Communication and Culture

by *Alberto Mann*

In her address, Ms. Cho's asked students to consider the impact of technology on society. She highlighted the effect it has had on globalization, culture, social interactions and organizations due to things such as e-mail, instant messaging, and new forms of media. It can affect all of society and its capacity to move the masses can even be useful to spread political views and campaigns.

However, Ms. Cho suggested that technology is not the root of all social change. For example, the recent \$100 laptop/child program should not be considered a complete solution. How will organizations or governments judge if it is more important to distribute computers instead of healthcare, food and shelter?

Finally, Ms. Cho also asked us to look beyond companies' marketing. She suggested that we always try to evaluate exactly who it is that benefits from a company's products and applications, and reminded us to always consider open source software and other alternatives.

**“The Changing Role of Technology”**

- *Mel Thompson*

VP, Xerox Global Services

Xerox Canada

by *Alberto Mann*

Mr. Thompson's lecture focused on Xerox's current objectives and services. In evaluating the future of IT, at Xerox they like looking at it as “Big-I, little-t.” Basically, their focus is on information. In improving their service to the customer, Xerox is shifting from an emphasis on infrastructure to an emphasis on value. Mr. Thompson stressed how spending so much on technology and products is of little use unless better service and solutions are provided.



In pursuing this goal, Xerox consistently asks itself how it can improve in the handling of information, including security and access to it. One example that was provided was the use of Xerox SMart documents: a way for businesses to find, store and manage information within documents efficiently.



Mike Lazaridis
Founder, President and co-CEO
Research in Motion

by *Mustansir Mukadam*

The presentation given by Mr. Mike Lazaridis was, in my opinion, the highlight of CUTC. Mr. Lazaridis is an inspiration to all North American engineers and entrepreneurs. The founder and CEO of Research in Motion, he has been paramount in creating wireless devices that are easy to use and extremely reliable. His company's product, the Blackberry, has revolutionized the way in which people communicate.

Mr. Lazaridis spoke to us about how the Canadian government is extremely interested in pushing research and innovation in the field of Electrical, Computer, and Software Engineering. His company being at the forefront of technological change in Canada, he stressed on the importance of universities focusing their curriculum to accommodate for current trends in networks, programming of real time and embedded systems, and wireless communication.

The next section of his talk was devoted to highlighting some of the outstanding facilities at RIM. RIM is one of the few companies in North America to have a dedicated secure environment for sound and reception testing. Each Blackberry goes through several stages of testing before it is acceptable for sale and this is what makes it reliable. The upward growth of the Blackberry has interested giants such as Google to write GSM and chat applications for the Blackberry platform. In fact, by using secure key authentication and Java as a platform for development, developers are able to write their own applications for the Blackberry, making it an extremely customizable unit.

Mr. Lazaridis left us with his prediction that the future of circuit design for embedded systems would focus mainly on the model of quantum physics. The increasing transistor density and decreasing circuit size will ultimately trigger "a quantum revolution where the difference between a 1 and a 0 is only 19 electrons!".

A truly inspirational talk from a global leader of technology, his address made the entire McGill delegation sit back and think about the technological revolution and how we would be able to play an integral part in its eventual outcome.



“Creativity, Human Values and Innovation: Looking Outward Inward”

- *Dr. Bryan Karney*

Professor, Department of Civil Engineering
University of Toronto

by *Dan Ni*

Prof. Karney gave an educating and insightful speech on creativity and human values. His presentation provided a good balance to this highly IT-focused conference. He thinks that technology is only one “tool for progression of science and the economy.” He believes that in the large context of humanity and society, some “technologists are lost in the glory and fame” that “innovations and inventions in technology bring them.”

Prof. Karney asked us to apply creativity when facing organizational and technological challenges, rather than solely rely on our analytical mindset and technical expertise. He also mentioned how having a balance between nature and human development is ultimately important for human progress.



Brian Arbogast

Corporate Vice President, MSN Communications

Platform MSN and Personal Services Division, Microsoft Corp.

By *Alberto Mann*

This keynote address had a strong marketing pitch to it, as Mr. Arbogast spent most of the time reviewing MSN and its spectrum of services, present and forthcoming. A lot of focus went into Windows Live, a service that is still in its development phase (a beta version is currently available) and which can be assimilated to Yahoo! and Google’s personalized homepages. The goal of the service is to provide personal information, e-mails, search, news, etc., from one single place. Right now, digital life is fragmented, argued Mr. Arbogast. One of MSN’s important goals is to attempt to connect one’s online life with one’s offline life.

Mr. Arbogast acknowledged the impact we have as engineers on different fields; however, he is convinced that “software innovation will fuel them all.” He then went on to state some rather controversial views on the use of web applications. He believes that services such as instant messaging have the ability to bolster self-esteem, deepen relationships, foster success, and they may even help people dream and then help them realize their dreams. This may or may not be true, depending on the context and the extent to which the user is using the services; and even so, I find that Mr. Arbogast’s views are still very questionable.

**“GE Innovations”**

- *Craig Young*

Global Research Centre Program Manager (AE)
General Electric

by *Indrayudh Ghoshal*

The GE presentation at this year’s CUTC was quite an eye opener. I have to confess I didn’t know them beyond their power systems and microwaves. Craig Young, Manager of GE-Aviation Research Programs delivered a compelling keynote address that opened my eyes to the enormous breadth of GE’s activities.

The advantage of having a senior member of an organization like Mr. Young speak to us, as opposed to a new inductee, is that he had the authority to be spontaneous and humorous about all that GE did. At one point, he got a few snickers from the audience by talking about how GE makes weapons on the one hand, and on the other, how they invest millions in researching medical instruments. It was all about the bottomline, and Mr. Young didn’t try and keep that from us.



He spoke passionately about the quality of research that goes on at GE, and highlighted the bar that GE had set for hiring candidates. At the same time, Mr. Young was determined to recruit at least five people from the conference. With the kind of talent attending, I’m certain he didn’t have a hard time.

As an aviation research manager, he was visibly proud to highlight the advances that GE had made in building jet engines, including the world’s largest such. He then spoke about how GE was also one of the big players in the locomotive industry.

The main focus of his presentation, GE’s new Ecomagination line of products, was cut short because of time constraints. However, it was heartening to learn that GE expected sales of \$20 billion by 2010 of these ‘Green Machines’: technology developed with a view to conserving our fast-receding natural resources.

**“The Graphics Revolution”**

- *Adrian Hartog*

CTO

ATI

by *Alberto Mann*

Mr. Hartog gave a brief, yet enlightening presentation. Instead of focusing too much on ATI's products and services, he highlighted many of the challenges that technology companies are faced with when developing consumer products. Some of the challenges that developers must deal with include:

- Designing how devices are interconnected
- How content is shared between devices
- Where content is securely stored
- How services are shared between devices
- Complexity of devices and environment
- Disruptive shift in business models for many industries

He explained how technology along with the consumers are the ones driving the digital revolution. This is a result of technology experiencing constant improvement, and consumers finding (and desiring) digital applications in everything they interact with. The content of these applications is increasingly allowing more personal control, as the user is now able to share, edit, and create more with what is available to him or her.



Werner Vogels

Vice President and CTO

Amazon.com Inc.

by *Wissam Moussa*

Mr. Vogels' speech was very interesting and included a lot of interaction with the students. He introduced Amazon.com's technology vision for the coming years. Right now, more than 52 millions active users are registered covering 7 countries. There are one million sellers and 9000 associates with 21 fulfillment centers. 108 million units were shipped between Nov 1 and Dec 23 2005.

Several Amazon.com web services exist which let many entrepreneurs or web start-ups use some resources from the Amazon.com system. Examples of these are simplest-shop.com and hivegroup.com.

Mr. Vogels' best point focused on Amazon.com's Mechanical Turk technology. Today, computers can do many things way better than a human being; however, humans still outperform the most powerful computers at completing such simple tasks as identifying objects in photographs, evaluating beauty, or translating text. The Amazon Mechanical Turk web service gives developers a programmable interface to a network of humans that solve these kinds of problems; thus, incorporating human intelligence into applications.

2. Seminars

“Incorporating Integrity: integrity and Security in Everything You Do”

- Carolyn Burke, Integrity Inc.

by Punit Aggarwal

Carolyn Burke, CEO of Integrity Incorporated, talked about how businesses must operate on principles. It is very important for businesses to do that so that not only customers are satisfied with the end product, but also gives the employees a better idea of what they expect from the company, and what is expected of them.



She talked about integrity by providing examples from the computer security industry. Basically the question was how much risk is one willing to take – is it enough to provide a password before one logs into his/her laptop, or is an extra password required every time the screensaver comes on? This mainly depends on how important the data is on a particular laptop, how much one is willing to spend on security.

Security issues were also discussed with respect to one's car. With so much hacking going on, is it possible that in the near future a hacker will be able to control the car you are driving? A comprehensive and continuous security program can only be successful if that manufacturer follows its principles. Having integrity means ensuring that regardless of the situations that arise, these principles will guide one.

“A Brief history of Dynamic Ram”

- Lawrence King, ATI Technologies

by Mustansir Mukadam

Lawrence King, a hardware engineer at ATI technologies, spoke about the history and trends of Dynamic RAM. Dynamic RAM, or DRAMs as they are popularly known, has completely revamped computing capabilities of computer systems. By using fewer transistors than their predecessor, the Static RAMs, DRAMs drain very little power making it very useful in portable electronics which require storage capabilities.

Mr. King started off by discussing the operation of the first memory magnetic core and then moved on to conventional DRAMs. He spoke about issues such as error detection and soft error rates in DRAMs to increase reliability. He stressed on the fact that it was practically impossible to add logic to the memory's core, making asynchronous pipelining to increase the speed of operation a challenge for hardware engineers. He mentioned the important fact that although Moore's law is obeyed when it comes to transistor densities, the same pattern is not visible for memory access times.

Mr. King was very receptive to questions and we were able to ask him technical details about his topic, something which I found hard to do with other speakers, more specifically the keynotes. I don't necessarily agree with his view that Magnetic RAMs will not eventually replace DRAMs but overall his was a very crisp, technical, and practical presentation and was quite impressive.

“Technology Start-Up Companies: Do you have what it takes?”

- *David Wang, University of Waterloo*

by *Kelvin M. Cao*

David Wang, a professor in Electrical and Computer Engineering at the University of Waterloo, is also a founder of several business initiatives. One of these is Hand Shake VR, Inc., which is based on a real time feedback development technology. In his one hour presentation, he borrowed from his own experience to show some of the differences and necessities in creating a product oriented company, a consulting company, and a high tech start-up company.

In a product oriented company, it is important to follow the market's progression. Achieving success is often facilitated by being a single player in the market. Protecting intellectual property is a must, and having a good accountant that can take care of unnecessary taxes for a start-up company is also helpful.



Prof. Wang seemed to discourage creating a consulting company. As you are selling your skills, once the impact of your knowledge comes to an end, your clients will let go of you.

A high tech start-up company needs “an idea that is worth a billion.” It involves a lot of risk and requires forming a solid team experienced in marketing, management, finance, human resources, and technical aspects. These people should all be very optimistic and meticulous. Again, protecting one's idea (e.g. by transferring it to a patent) is essential.

To obtain capital, one can try angel investment, strategic investment or venture capitalists. Prof. Wang mentioned that with a venture capitalist, if you lose out on the first chance you will have a very small chance to obtain more investments.

To wrap up, Prof. Wang emphasized the importance of a good business plan, good backup plans, and the willingness to sacrifice a lot as an entrepreneur.

“Genomics: A new Paradigm in Life Sciences Research”

- *Christian Burks, Ontario Genomics Institute*

by *Wein Chien*

Dr. Burks began talking about the eventual impact of Genomics to the general public and to the scientific community. He started the presentation by a simple listing of his education and career path that lead him to becoming President of the Ontario Genomics Institute. It is interesting to notice that he began his Bachelor's degree in the Great Books Program from St. John's College. He then applied for graduate work in physics and earned his PhD in Molecular Biophysics. What an uncommon path! Later, he joined many laboratories such as Los Alamos National Lab, Exelixis, and Affinium prior to starting his own biotech business in the Ontario Genomics Institute.

The focus of the scientific company is to provide a better understanding of human health, push technological developments, have an impact on agriculture and bring a better economics to society. Dr. Burks talked about the financial issues the center must face. Most of the funding comes from the Ontario Government, Genome Canada and public donations.

The company needs scientists and engineers of all sorts. Engineers with knowledge in biomedical instrumentation and robotic vision, as well as chemical engineers, are all welcome.

The applications of genomic research can be found in human medicine, agriculture, food science, veterinary medicine, natural resources management and criminal law.

“Google: The Inner Workings”

- *Joanne McKinley, Google*

by *Alberto Mann*

Ms. McKinley, a software engineer from Google, gave a presentation that focused more than anything on the process behind Google's search engine. She did give some insights into the Google working place, such as the fact that it is a very relaxed environment and that employees are encouraged to work on individual, personal projects. They are even given time during working hours during which they can focus on such projects.

Another insight into some of Google's facilities was that they tend to use lots of inexpensive PCs in their systems rather than spend a lot of money on cutting-edge hardware. Their belief is that they can use unreliable hardware and make up for it with very reliable software that can recover quickly.

Unfortunately, Ms. McKinley did not reveal much information about some of Google's newer and more attractive services, such as Google Maps or Google Talk, neither did she go into what type of services we can expect from Google in the near future.

“Turning Technology into a Business”

- *Jacqui Murphy, Tech Capital Partners*

by *Kelvin M. Cao*

Jacqui Murphy, Vice President of Tech Capital Partners, developed and managed an influential marketing team that was instrumental in building the company and creating exposure for it. She currently helps provide financial support and marketing services to clients from technology companies.

Her first words to us were: “My name is Jacqui Murphy. I am a venture capitalist. If you have a good idea, I can provide you money and service. Let’s make each other millionaires.” She continued, “Great devices are invented in the lab, great products are created in the market.”

Ms. Murphy mentioned how a good product must solve customers’ uncertainty. A tech product is difficult to understand, so one should identify with the customer’s perception.

There are many questions that one should be able to answer before approaching a venture capitalist. Who is the customer? Is it too early? Is the market too competitive? What challenges will one face in getting this product to the market? What is the consumer’s interest in the company and its product, and how has he or she heard about it?

Ms. Murphy also gave us some tips in finding the first customer. One should know and build a relationship with the prospective customer. Also, one should assume that every potential customer loves you until they finally turn you down.

The presentation did not focus as much on the creation of the start-up company (as in the case of Prof. Wang’s seminar), but more on turning the start-up company into a big business.

“Past, Present, and Future of Graphics”

- *Mark Kilgard, nVidia*

by *Andy Yen*

Mr. Kilgard reviewed the past and present of graphic cards, and gave students a peek into its future. His demonstration revealed the capability of the latest nVIDIA GeForce 7800 GTX512 series graphics card. By showing us some sampled real-time rendered visual displays, he demonstrated how nVIDIA has made progress in this area by focusing on some details that produce big differences on what people can see on their monitor. He also presented a glimpse into the future of the graphics industry, which will bring added performance and additional parallelism capability.

“Future of Alternative Energies”

- *Mike McWilliam, University of Waterloo*

by *Andy Yen*

Mike McWilliam is the Senior Director of the Solar Technology Education Project (STEP) of the University of Waterloo. His seminar provided a view into the future of energy and reasons to look into other alternatives in producing energy. He made use of the Hubert curve to show how oil resources will not last forever. He also talked about how the impact of pollution is more visible now with climate changes, increase in natural catastrophes and increase in health problems.

Mr. McWilliam introduced the common alternative sources of energy available to us: solar power, wind, tidal, hydroelectric, biomass, and geothermal. He also went through the history of STEP, the establishment of several green projects in the University of Waterloo –such as the installation of photovoltaic panels in several campus buildings– and mentioned some future green projects awaiting adoption.

“Circuits Without Clocks: What Makes Them Tick?”

- *Dr. Jo Edergen, SUN Microsystems*

by *Wein Chien*

Most digital systems we encounter are synchronous, for the simple reason that it simplifies a lot of technical difficulties. However, power consumption, the complexity of circuits and switching speed are becoming increasingly crucial issues. There is research showing potential using asynchronous designs.

The biggest problem in synchronous design is that systems must wait for the slowest component to finish its own task before starting a new one. The timing notion must be equal for each operation. This creates a limit on the shortest operating speed. Dr. Jo Edergen tried to explain through a skit (performed by randomly chosen members of the audience) how components performing their own task at their own pace, and consequently raising a flag (i.e. the asynchronous signal) as soon as they finish, could be feasible. The skit consisted of students passing different colors of plates to show the analogy of asynchronous computing and human food processing.

The advance of asynchronous systems could lead to more complicated design but it could provide parallel computing and solve some conventional circuit issues. Dr. Edergen finished on a funny note by showing us a T-shirt saying "Clocks are for wimps."

“The 6.5 Things You Need to Know to be an All Around Success”

- *James Perly, James Perly Consulting Inc.*

by *Dan Ni*

Mr. Perly is a consultant and holds a Bachelor's degree in Psychology. He began by saying, "there are things that you know that you know; there are things that you know that you don't know; and there are things you don't know that you don't know."

I felt he was missing "there are things you don't know that you know." Nevertheless, he gave students some good advice such as "never sign away your rights" and "...the key of networking is always ask what I can do for other people." He mentioned a book called Getting Things Done by David Allen and summarized the book into three points:

- Always think about what is the next step that has to be done;
- Be very organized;
- Form good habits.

I personally think the first point is important because sometimes a task is long and requires a lot of hard work. You don't even want to think about it, but by focusing only on the next step, it at least helps you get started. Things might not be as complicated as they seemed when you start doing it. Usually the hardest part is getting started.

“Communication Solutions that Leverage the Intelligent Network”

- *Matthew Lok, Nortel Networks*

by *Yan Zhao and Dan Ni*

Matthew Lok is a Research Partnership Program Manager at Nortel. He presented some of the new capabilities of Nortel's intelligent converged network, built on the pillars of development of multimedia experience, freedom, and security. A hospital scenario illustrated the goals and capabilities of this next generation network: Medical staff can share information with greater mobility as the intelligent network automatically routes incoming communications through TV screens, tablets and other devices to nearby locations (office, surgery room, lounge, etc.) by tracking the staff's locations.

Several delegates questioned the feasibility of such a project in terms of security (e.g. how much personal space can a doctor have?) and noise interference. This seminar gave an interesting preview of future communication systems and reignited consumer concerns about personal privacy.

3. TechTour and TechShops

“Telus Mobility TechTour”

by *Yan Zhao*

Delegates who visited the Telus Mobility Technology Development Lab were given the opportunity to interact with several engineers working in wireless telecommunications and to tour the state-of-the-art wireless application research center.

Following a brief overview of the various services provided by Telus Mobility and the research/development/testing process of its wireless products, guides lead delegates through the RF Testing Lab, where new products are tested inside copper screen rooms, and the noisy Mobile Switching Center, which houses the electronics performing the telephony switching functions of the system. This TechTour gave insight into the type of daily activities one might perform at a wireless telecommunications research environment.

“ATI Techshop”

by *Yan Zhao*

The ATI Techshop gave delegates a crash course in computer graphics. In particular, Senior ISV Engineer Guennadi Rigue detailed the process of creating digital images – from vectored triangles to raster pixels– and introduced RenderMonkey, a programmer and artist friendly shader development environment from ATI.

Delegates were given the chance to experiment with various real-time shader effects using preprogrammed effects and user-defined modules. This hands-on seminar gave a glimpse into some of the key technologies driving the graphics industry.

“Apple Techshop: Dynamic Programming for the Mac”

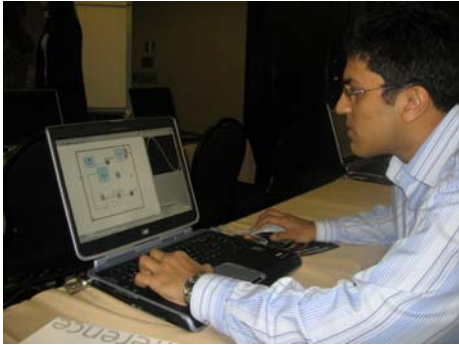
by *Wein Chien*

Students were provided with iBooks to use during this TechShop. The event began with announcements of the newest products and advancements from Apple. Some of the more exciting news came from the fields of cinema screens and film editing tools; not to mention the increasing popularity of the iPods. Also worth noting was that Apple has switched to using the Intel Dual Core chips.

For most part of the TechShop, we were shown how to create a simple web browser using Mac OS X Tiger's new XCode2. The step by step and user friendly software development is great! The purpose was also to show the cross-compilation possibility in the new hardware and the operating system. Developing Mac programs for both PowerPC or Intel platforms is possible with just a few clicks. I personally own an iBook and found this TechShop really useful, because I hardly have time to read books and get to know how to write software using XCode.

“National Instruments Techshop: Using LabView to Design and Learn”

by *Andy Yen*



Presented by Minh Tran from National Instruments, this workshop taught people how to use LabVIEW. In a step by step tutorial, the main functionality of the simulation software was demonstrated. Indeed, this relatively simple and user-friendly software allows someone to build a computational program without programming knowledge. Its visual interface makes the program easy to work on. Furthermore, its hardware interfacing can allow easy data acquisition and data manipulation which can be very useful in a research laboratory.

4. TechExpo

by *Alberto Mann*

CUTC's TechExpo was remarkably similar to our very own TechFair. Many companies set up attractive stands, several of these displaying some of the companies' products and services. Students are then able to interact with company representatives and



ask information about the company and its products. Students are also able to ask about recruitment possibilities and may hand their CVs to the representatives. CUTC's TechExpo was a lot more appealing than McGill's TechFair, however, considering that there were many more attractive tech-companies present! One thing worth saying was that delegates were able to try Windows Vista in computers set up by Microsoft representatives.

McGill delegates Mustansir and Alberto, President and VP External of ExCESS respectively, took advantage of this great opportunity to network and establish relationships with some of these important companies. We handed out our business cards, the ExCESS sponsorship package, and gave the representatives a brief overview of our council's goals and activities.

5. ThinkThank

The CUTC conference guide describes the ThinkTank as "...an event that allows leaders from industry and academic institutions to come together with delegates to discuss important economical, environmental and societal issues. This event is an opportunity for delegates and leaders to brainstorm and discuss ideas, opinions and criticisms that deal with certain contemporary issues pertaining to technology. The focus is on initiating discussion, producing potential solutions to pressing problems, and allowing our delegates to make new connections..."

At the ThinkTank, McGill delegates sat in groups with students from other delegations to discuss topics led by a professor or company representative. The four main topics discussed during the evening were:

- How will the increasingly aggressive weather anomalies affect the future of technology?
- Bridging the information and economic gap in society
- Impact of technology on alleviating Canada-specific issues
- What does it take for Canadian companies to achieve world-wide success?

The students were able to exchange views and ideas during these discussions in a stimulating environment. Some of the conclusions reached included:

- A consensus on using technology wisely in our education system so as to foster creativity, rather than inhibit it
- An agreement on the benefits of the Internet, through means such as weblogs, in making your ideas known to the public, regardless of where you live or what your situation is
- Hardware and software that is considered outdated in our community may not be so in developing areas. An effective program that distributes such equipment to rural communities (even at a global level) would contribute to development and would also reduce the costs of getting rid of such 'waste' for corporations and organizations.

McGill Delegates' Comments

"I was impressed by the popularity of Waterloo students with the company employers. I was able to chat with several Waterloo students and learned about their challenging co-op programs. One of them told me they had to do six co-op semesters, yet still manage to graduate in five years. This may partially explain their popularity to employers: Waterloo students gain much more experience in real industry than students from many other universities.

McGill is known to be one of the best universities in Canada and attracts the best students from Canada and the rest of the world; however, this conference made me realize how competitive some other university students actually are and the need for us and McGill to work even harder to keep the lead."

- *Zhe Chen*

Zhe in dialogue with keynote speaker Bradley Horowitz.



"CUTC was the first conference I had attended and in one line it was an amazing experience. The conference was very well organized. The organizers had made sure that all the participants were kept busy throughout the day."

- *Ipsita Madan*



Mina, Kelvin, Shen and Andy eagerly anticipating their next seminar.

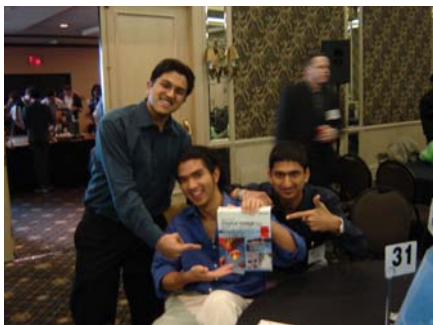
"It was a great opportunity to see the direction in which major companies are headed in the next 5-10 years. Seeing students from across Canada that shared the same interest and enthusiasm was a great environment to be immersed in.

I probably learned the most through the interaction with my peers, by learning about their goals and different views of situations. It gave me a different perspective that has widened my sense of understanding. I also got a taste of the competitive nature of the real world which in turn has driven me to be the best at what I do."

- *Mina Alanoly*

"...they have invested more than \$20 million in their lab. There was something which I found very interesting about that place...they had a raised floor where electricity and air conditioning comes from underneath. :)"

- *Seemab Zareen*



McGill delegates proudly showing some software won during a seminar.



Mustansir, Mina and Wissam listening to a keynote speech and preparing for the day's events.

Acknowledgements

The delegation's general feeling from the conference was one of excitement and satisfaction at participating in an event of such magnitude and importance. All 15 of us felt that we could take something back which will affect the academic and career decisions we make.

We noticed that internet services, entrepreneurship, and sociological aspects of technology seemed to be the principal themes of the conference. The giants of Information Technology are focusing more on web applications and the shift is towards a greater interaction between hardware and embedded software. We were also slightly disappointed that, unlike last year, the conference this year barely had a competitive swing to it. This did not give us an opportunity to showcase our talent and knowledge to the extent that we would have desired. Another aspect the conference could work on for next year would be a greater technical touch to the keynote speakers. The keynotes this year were more inclined to promote their company and may have drifted from the essence of the conference – exhibition and critique of technologies.

We hope that McGill University continues its tradition of sending even larger and impressive delegations to CUTC in the years to come. This conference is one of the few means of exposure to undergraduate students in Electrical, Computer, and Software engineering and it is an opportunity which must be grasped by all students interested and enthusiastic about their field of study.

ExCESS would not have been able to send the delegation of 15 students to CUTC without the help of our sponsors. I would like to thank the Faculty of Engineering, the Department of Electrical and Computer Engineering, and the Principal's office for their extremely generous donations. We hope that you continue supporting our events to assist in the all-round education of undergraduates at McGill.

- *Alberto Mann*

McGill University Ambassador to CUTC

Thank You!

