

38th College Chemistry Canada Conference 38^{ième} Conférence de Chimie Collégiale Canada

Dawson College June 1-3, 2011

Teaching Chemistry in the Information Age







Welcome to the 38th Annual College Chemistry Canada Conference

It is with great pleasure that I, on behalf of our Chemistry Department, welcome you to Montreal and Dawson College for the 38th annual College Chemistry Canada Conference. It is both an honour and a privilege to host this event in 2011, the International Year of Chemistry. It is with both great anticipation and excitement that I await to hear the presentations. This year's program includes an interesting array of topics, ranging from chemistry in the movies to the use of online media and computer-assisted teaching. I am convinced that every attendee will gain some insight into new teaching methodologies used by their colleagues and that our students will ultimately benefit from these fruitful discussions.

The conference begins on Wednesday evening with a Wine & Cheese welcome reception. Along with receiving a welcome package, attendees will have the opportunity to meet with a few publishers during the reception. Publishers have been invited to display/promote their textbooks and any online chemistry-related systems during the evening. The conference presentations will commence after a small breakfast, consisting of coffee, orange juice, bagels, and Montreal bagels, on Thursday morning. The general themes of the Thursday presentations are 2011: International Year of Chemistry "Building on an Historic Legacy" and Computer-based Teaching Aids. The themes of the Friday presentations are Chemipedia? - Searching for Chemical Information and Lab Experiments/Demos and Other Topics. Friday evening a social banquet will be held a short distance away from Dawson College at Bitoque, a restaurant/art gallery that serves up Portuguese delights. Finally, on Saturday morning, for those who are still in Montreal, the Dawson Chemistry Department will be doing a short presentation on the current lab renovations we are currently undertaking, followed by a tour of our facilities. In the afternoon, a guided walking tour of Old Montreal has been organized.

I encourage you to walk our halls and our green spaces outside during this quiet time of year. Our century-old building once hosted a nunnery, home to the Mother House of the Congrégation de Notre-Dame. Much of the building was renovated in the late 80's, but for the most part, the exterior remains the same. If you get a chance, visit the library to see for yourselves how a majestic chapel designed by Architect Jean-Omer Marchand has been converted for student use.

Finally, thank you for participating in this year's conference. It is because of you, and your involvement that College Chemistry Canada can provide its members with a rich environment for professional development. We hope you enjoy your stay with us at Dawson and get to appreciate a little of Montreal's summer-lifestyle.

Sincerely,

Brian Seivewright

B. S.

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Sponsors & Thanks

We would like to extend our sincere thanks and acknowledge Dawson College and their staff for making this conference possible.

Dawson College Chemistry Department
Dawson College Plant & Facilities
Dawson College Campus Recreation

We would also like to acknowledge the help of those in the Chemistry Department who have helped organize and are helping during the conference. In no particular order:

David Adley
Gabi Rahil
Silja Makinen
Stephanie Harrison
Steven Holden
Yoon-Seo Uh

We also thank Sarah De Guzman from Dawson College Plant & Facilities for her indispensable help, James Bailey, our C3 web-master, for updating the website with the conference information, and Brenda Addison-Jones, our C3 treasurer, for processing all the cheques.

C3 2011 Conference Schedule

Wednesday June 1st	
4:00pm to 6:00pm	C ₃ Executive Meeting (Room 5B.16)
6:00pm to 9:30pm	Registration and Welcome Wine & Cheese (Room 5B.16)
	Presentation of the C3 Host College Student Scholarship

Thursday June 2 nd	
8:00am to 8:45am	Complimentary Continental Breakfast & Coffee (Room 4D.2) Conference Registration (Outside Room 4C.1)
8:45am to 9:00am	Welcome & Opening Remarks (Room 4C.1)
9:00am to 9:40am	David Stone What we know about student learning: barriers and catalysts in chemical education
9:45am to 10:10am	Geoff Rayner-Canham, Marelene Rayner-Canham Women in Chemistry: The Past
10:15am to 10:30am	Morning Refreshment Break (Room 4D.2)
10:30am to 10:55am	Sudhir B. Abhyakar Teaching Chemistry for the Sustainable Future
11:00am to 11:25am	Yann Brouillette Chemistry and Superheroes
11:30am to 11:55am	Marten Lettinga CSI Murder Mystery
12:00pm to 1:25pm	Lunch Break
1:30pm to 1:55pm	Gianna Aleman Using Concepts in Chemistry to Deliver the General Chemistry First-year Curriculum
2:00pm to 2:25pm	David Adley Incorporating the tablet PC into our pedagogy.
2:30pm to 2:55pm	Roberta Silerova Clicker Questions in a Chemistry Context: The Good, the Bad, and the Ugly
3:00pm to 3:25pm	Afternoon Refreshment Break (Room 4D.2)
3:30pm to 3:55pm	Jimmy Lowe, Rosamaria Fong What happens in chemistry stays on

4:00pm to 4:25pm	Tamara Kunz, Derek P. Gates, Jaclyn J. Stewart, Michael O. Wolf
	A Chapter of Chemistry with Demonstrations
4:30pm to 5:30pm	C ₃ AGM (Room 4C.1)

Friday June 3 rd	
7:15am	Fun Run (Meet outside Dawson College, corner Atwater & Sherbrooke)
8:30am to 9:25am	Complimentary Continental Breakfast & Coffee (Room 4D.2)
9:30am to 10:10am	Ariel Fenster (Room 4C.1) Joy of teachingchemistry
10:15am to 10:40am	Christopher Lovallo The Bohr Model at (Almost) 100: Is It Relevant in the 21st Century?
10:45am to 11:10am	Morning Refreshment Break (Room 4D.2)
11:15am to 11:40am	Stephanie Harrison, Silja Mäkinen Motivate your students with problem-based learning!
11:45am to 12:00pm	Fun run T-shirts & trophy ceremony
12:00pm to 1:25pm	Lunch
1:30pm to 1:55pm	Anka Lekhi Oral Quizzes in the Laboratory
2:00pm to 2:25pm	Bob Perkins Is There Life After Retirement?
2:30pm to 3:10pm	Afternoon Refreshment Break (Room 4D.2)
3:15pm to 3:40pm	Geoff Rayner-Canham, Marelene Rayner-Canham Women in Chemistry: The Future
3:45pm to 4:10pm	Marten Lettinga Tie-Dyeing as a Promotional Event
4:15pm to 4:30pm	Closing Remarks
6:00pm	Group Departure from Dawson College Blvd. de Maisonneuve entrance for Banquet.
6:30pm	Banquet at Bitoque, (3706 Notre-Dame Ouest)

Saturday June 4 th	
10:00am to 11:30am	A brief talk about our current lab renovations along with a tour of the Dawson College Chemistry Facilities. (Start room 4C.1)
2:00pm to 4:00pm	Guided walking tour of Old Montreal. Please RSVP during the conference if attending this tour.

2011 C3 Annual General Meeting Agenda

Thursday, May 14, 2010 4:30pm to 5:30pm Dawson College, Montreal Room 4C.1

Proposed Agenda

- 1. Approval of Agenda
- 2. Approve of Minutes from 2010 AGM (Thompson Rivers University, Kamloops)
- 3. Reports from C₃ Board
- 4. Elections
 - a. Secretary
 - b. Editor
 - c. President-Elect
 - d. Regional Directors
 - d.i. Atlantic
 - d.ii. Ouebec
 - d.iii. Ontario
 - d.iv. Prairies
 - d.v. BC/Yukon
- 5. Finances
 - a. 2011-2012 Budget
 - b. Approve Auditor
 - c. Approve membership dues
- 6. 2012 Conference Presentation
- 7. Other Business
- 8. Adjournment

38th College Chemistry Canada Conference Teaching Chemistry in the Information Age C3 Annual General Meeting 2010 Minutes

Friday May 14, 2010

Meeting called to order at 4:34 pm, 37 people in attendance

I. Approval of Agenda

- moved by Bill Blann - carried

II. Approve minutes of 2009 AGM

- moved by Bill Blann, seconded by Brad Pavelich - carried

III. Reports from the C3 Board

- Written Treasurer's report submitted to members, other reports oral. All submitted reports available online at the College Chemistry website (including Directors' reports).
- President's oral report Lawton mentioned need to rebuild membership in Eastern Canada, Also he addressed membership at Universities not just Colleges reflected in the new sub-title of C3: Serving Chemistry Educators in Colleges, Universities and Technical Institutes across Canada.
- No Secretary's Report, Editor's Report available online.
- Web-Master's oral report Bob Browne re-iterated move off the Douglas College Server onto the GoDaddy hosting site.
- Motion to accept all Reports (Jacky McGuire/Ian McMaster), carried

IV. Elections

- a. Treasurer Nominate Brenda Addison-Jones (Bob Browne/Jacky McGuire)
 - -Brenda accepted declared by acclamation
- b. Web-Master Nominate Jim Bailey (Eric Krogh/Steve McNeil)
 - Jim accepted declared by acclamation
- c. Secretary (1 year replacement) vacant, hopefully filled before May 16, 2010
- d. Regional Directors

Atlantic – Bill Blann

Quebec – vacant, to be appointed at a later date

Ontario – Margot Wassenaar-Faber

Prairies – Lamine Diop

BC/Yukon – Nominate Bruno Cinel (Sharon Brewer/Norman Reed)

- Bruno accepted, declared by acclamation
- Motion to accept Regional Directors (Bob Browne/Ian McMaster), carried

V. Finances

- a. 2010/2011 Budget as per handout
 - motion to adopt budget (Bob Browne/Jacky McGuire), carried
- b. Approve Auditor
 - motion to stay with K & L Accounting (Jacky McGuire/Bill Blann), carried
- c. Approve membership dues
 - motion to keep annual dues at \$20 (Bill Blann/Steve McNeil), carried

VI. 2011 Conference Presentation

- PowerPoint presentation from Dawson College, Montreal, prepared by Brian Seivewright. Suggested Theme: Chemistry in the Digital Age. Approved dates: June 1-3, 2011. Option to stay for the CIC/CSC Conference in Montreal which starts on June 5, 2011. Peter Mahaffy reminded everyone that 2011 is the Year of Chemistry, so the Media should be invited.

VII. Other Business - none

VIII. Adjournment – moved to adjourn (Jim Lowe/Bruno Cinel), carried

Minutes submitted by: Marten Lettinga

Abstracts

Thursday June 2nd 9:00 am

What we know about student learning: barriers and catalysts in chemical education

Plenary Speaker

David Stone, University of Toronto

dstone@chem.utoronto.ca

There is very little to no correlation between how a student performs in high school compared first year university or college chemistry, a phenomenon that has been acknowledged and investigated for almost 100 years! Drawing on this extensive literature, and illustrated from the author's own research, this talk will outline some of the principle barriers to mastering chemistry. Attention will be focused on three specific areas: a student's intellectual development, approach to studying, and naive or alternative conceptions. All three can be strongly influenced by the way we teach; a proper understanding of these issues is therefore essential background to any discussion of teaching methods or the use of technology in the classroom.

Thursday June 2nd 9:45 am

Title: Women in Chemistry: The Past

Geoff Rayner-Canham, Grenfell Campus, Memorial University

grcanham@hotmail.com

Marelene Rayner-Canham

Name some important women chemists of the past? Can you do that? - Apart from Marie Curie, of course. What about Agnes Pockles? Maud Menten? And the 'golden age' for women scientists in the 1920s. These and many more will be discussed in the context of favoured fields of chemistry for women.

Thursday June 2nd 10:30 am

Teaching Chemistry for the Sustainable Future

Sudhir B. Abhyakar, Grenfell Campus, Memorial University of Newfoundland <u>sudhir@swgc.mun.ca</u> A sustainable future depends upon sustainable development and sustainable development cannot be achieved without teaching green or sustainable chemistry. It is important to teach the principles, practices, and applications of green chemistry to the students of today to better prepare them to face the challenges of tomorrow as we move towards achieving a broader goal of sustainability.

This presentation will highlight various approaches in which this can be accomplished.

Thursday June 2nd 11:00 am

Chemistry and Superheroes

Yann Brouillette, Dawson College

ybrouillette@dawsoncollege.qc.ca

Chemistry has been structuring our world as long as superheroes have been fascinating our imagination. Some science inspired stories, and some sagas stimulated science. Together they have evolved as science-fiction, but let's have a peek at science in fiction.

This presentation takes an in-depth look at how certain super powers, mystical machines and heroic stunts described in superheroes' universe can actually be possible, and in what extent they can be explained from a chemical standpoint. A fun and critical look at rational explanations to describe out-of-the-ordinary events impersonated by characters seen in movies, TV shows, books, newspapers and comic books will be explored.

From Superman's Krypton to the Fantastic Four's abilities, much chemistry can be extracted from extraordinary phenomenon. Consequently, by discerning magic from scientific, a comic book fan can be a chemistry enthusiast.

Thursday June 2nd 11:30 am

CSI Murder Mystery

Marten Lettinga, Thompson Rivers University - Williams Lake Campus

mlettinga@tru.ca

Various disciplines (English, Psychology, Biology, Nursing, Anthropology and Chemistry) and volunteer actors worked together to create an exciting CSI experience for the community. Based on a fictional story set in mid 1800s central BC, teams set out to identify the suspect and the cause of death by gathering clues from the various disciplines. Was it Fowler's solution or an overdose of laudanum that did the victim in or something else altogether?

Thursday June 2nd 1:30 pm

Using Concepts in Chemistry to Deliver the General Chemistry First-Year Curriculum

Gianna Aleman, Dalhousie University

Gianna.Aleman@dal.ca

Concepts in Chemistry is a student-oriented approach to students' learning of first-year general chemistry, with the parallel goals of enhanced student engagement and improved instructor experiences. The Concepts in Chemistry integrated program consists of a lecture/text-book that students write in during class, and comprehensive online video tutorials and assessment opportunities. Students write their notes in the lecture/text-book, so retain all their material in one place ready for later study. Instructors are provided with all necessary materials for the delivery of the class (e.g., turn-key yet flexible lecture slides that match the lecture/text-book, solved problems, online video tutorials, student management system for online components, TabletPC and complete program support from Concepts in Chemistry staff).

In this presentation I will describe my experiences using Concepts in Chemistry to teach first-year chemistry. Having previously taught second-year physical chemistry courses, I will compare my experiences as an instructor of the two classes. I will discuss the effectiveness of the Concepts in Chemistry program, as well as the ease of delivery and my sense of student learning.

Thursday June 2nd 2:00 pm

Incorporating the Tablet PC into our Pedagogy

David Adley, Dawson College

<u>dadley@dawsoncollege.qc.ca</u>

Application of an inexpensive portable tablet device to teaching/learning is presented. I will discuss note taking and archival methodologies applied directly to the teaching of chemistry. Functionality of the device both on and off-line will be explored. I will demonstrate ways in creating a digital collaborative working environment that keeps students motivated and interested. Finally I will briefly discuss the application of this too towards distance-learning/teaching.

Thursday June 2nd 2:30 pm

Clicker Questions in a Chemistry Context: The Good, the Bad, and the Ugly.

Roberta Silerova, John Abbott College

roberta.silerova@johnabbott.qc.ca

"Clickers" have been used in a first year CEGEP Chemistry course to initiate Peer Instruction in a classroom setting, the goals being to improve student understanding of the course material and to enhance student engagement. The degree of success has been assessed qualitatively based on student performance at the end of the semester. The talk will focus on what constitutes an effective question for this application of the clickers. The importance of adjusting the lecture material will be discussed, as will the effects of different student behaviour. Results from two different groups of students will be examined (honours and regular stream). Qualitative student feedback will be presented.

Thursday June 2nd 3:30 pm

What happens in chemistry stays on...

Jimmy Lowe, British Columbia Institute of Technology

ilowe@bcit.ca

Rosamaria Fong

What happens in chemistry stays on...myBCIT, YouTube, Facebook, Twitter etc... In this presentation, I will discuss how my colleague and I use electronic information and media to promote and teach chemistry content to our students.

Thursday June 2nd 4:00 pm

A Chapter of Chemistry with Demonstrations

Tamara Kunz, University of British Columbia

tkunz@chem.ubc.ca

Derek P. Gates, Jaclyn J. Stewart, Michael O. Wolf

In these days of instant information, keeping the attention of your students during class can be a challenge. In order to compete with instant media sources it is important to make the information presented in the classroom dynamic, interesting and relatable. Demonstrations are a great way to accomplish this. In this presentation, you will see how demonstrations are being used to illustrate concepts from an innovative new workbook being used at the University of British Columbia. The Chemistry Integrated Resource Package (ChIRP) was written in house and has been developed to help enhance the learning experience in first year chemistry. The course notes, exercises, and problems are presented in a meaningful sequence within the workbook to promote interaction during class. In this presentation, I aim to teach an entire chapter from ChIRP with representative demos.

Friday June 3rd 9:30 am

The Joy of ... Teaching Chemistry

Plenary Speaker

Ariel Fenster, McGill University

ariel.fenster@mcgill.ca

In today's society, the teaching of chemistry can be a challenge. Our students are already bombarded with a flow of information from a variety of sources via the most advanced technologies. This is information that often needs only a minimum of attention and reflection and is characteristic of our students' multi-tasking way of life. To respond to this challenge, we have developed an approach at McGill that makes chemistry both accessible and relevant to today's students. We use similar tools the students are familiar with, such as web access through our COOL (COurses OnLine) lecture recording system. Our lectures are highly visual with pictures and animations. It is quite easy to apply relevant chemistry to topics of societal concerns from global warming to environmental toxins. Also, relevance can be highlighted by describing chemicals that make the news such as bisphenol A or propofol, the drug that killed Michael Jackson. We also aim at captivating our students by exposing them some unusual connections e.g. the relationship of human sweat and the love life of pigs or between chocolate and marijuana, the introduction of magic to highlight chemical principles is another way that characterizes our approach to teaching. When the magic is exposed, the science is revealed. We live in a society where chemistry, for many, has become a dirty word. This is why as part of our teaching we give our students the tools to sort out facts from fiction. We want them to understand that the real dangers in life are not always where they are thought to be. Essentially we aim to convey to our students the joy of chemistry through our joy of teaching it.

Friday June 3rd 10:15 am

The Bohr Model at (Almost) 100: Is It Relevant in the 21st Century?

Christopher Lovallo, Mount Royal University

clovallo@mtroyal.ca

The Bohr model of the hydrogen atom occupies a special place in the history of the atomic theory. It was the first quantum model of the atom, and the first that gave a firm theoretical explanation of Balmer and Rydberg\'s mathematical formula for the hydrogen atom spectrum. It thus has a hallowed place in our textbooks - in the Quantum Mechanics chapter instead of languishing in the early chapters of review material no one reads. Unfortunately, we know that the Bohr model is at best incomplete, and at worst can lead students to a fundamental misunderstanding of electron dynamics in an atom. Why is the Bohr model special? Does it deserve this special treatment, or can (and should) we teach our courses without it?

Friday June 3rd 11:15 am

Motivate your students with problem-based learning!

Stephanie Harrison, Dawson College

sharrison@dawsoncollege.qc.ca

Silja Mäkinen

Do your students ever fall asleep in your lecture? Have you ever wanted a more creative and active way to present your course material? Problem-based learning is a way to engage the students by using the power of discussion to learn from one another. It helps the students develop a deeper understanding of the topics. In this talk we will cover some examples of active learning problems that we have used in our analytical and general chemistry courses.

Friday June 3rd 1:30 pm

Oral Quizzes in the Laboratory

Anka Lekhi, University of British Columbia

anka@chem.ubc.ca

Have you ever wondered if students are actually thinking about the chemistry that is occurring during a laboratory experiment? Students notice the appearance of color or the formation of a precipitate but do they know why those changes are happening? Can they make the connection with what they observe on a macroscopic level with what is going on microscopically?

These were questions I had while I was teaching a second-year analytical laboratory which holds about 50 students per laboratory session and I wanted the answers to be "yes!" To this end, I introduced an oral questioning period for all experiments in the course where each student spent about 5 minutes with their Teaching Assistant. In this interactive session, I will discuss how the oral questioning period was set-up, the impact it had on the students and we will look at other strategies we, as educators, can use to answer "yes!" to the first three questions.

Friday June 3rd 2:00 pm

Is There Life After Retirement?

Bob Perkins, retired from Kwantlen Polytechnic University

bperkins5@gmail.com

If you are approaching retirement with apprehension because you are afraid that you will miss the joys of interacting with your students - fear not - there are plenty of potential teaching/tutoring avenues to explore. I will describe some of the instructional/community service paths that I have taken over the past 30 months since my so-called "retirement".

Friday June 3rd 3:15 pm

Title: Women in Chemistry: The Future

Geoff Rayner-Canham, Grenfell Campus, Memorial University

grcanham@hotmail.com

Marelene Rayner-Canham

So, now into the 21st century, why isn't there gender-parity in chemistry? There are many causes for 'leaks from the pipeline.' The imposter syndrome, the dual-career couple problem, the 'vacation babies' phenomenon, and many more problems which still cause gender inequality.

Friday June 3rd 3:45 pm

Tie-Dyeing as a Promotional Event

Marten Lettinga, Thompson Rivers University - Williams Lake Campus

mlettinga@tru.ca

This after-school just-in-time event was run in my Chemistry lab for highschool students to tie-dye their own clothing items for a "Hippy-Trippy" Dance . My first year Chemistry students and other university students also participated. As a follow-up, my own students were assigned a library project on fabric dyes.

Conference Participants

Name Affiliation

Amanda Musgrove Richer

Angela Crane

University of British Columbia
University of British Columbia
University of British Columbia

Anna Wong Vanier College
Ariel Fenster McGill University

Arlana Anderson Northern Institute of Technology

Barrie Benton Vanier College

Bill Blann Keyano College (Retired)

Bob Perkins Retired

Brenda Addison-Jones Douglas College

Cameron Hopkins College of New Caledonia
Christopher Lovallo Mount Royal University
D'Anne O'Callaghan Cape Breton University

Daniel Baril
Dawson College
David Adley
David Stone
Dietmar Kennepohl
François Gauvin

Cupe Dieton Chrystaly
Dawson College
University of Toronto
Athabasca University
University of Manitoba

Gabi Rahil Dawson College

Geoff Rayner-Canham Memorial University Grenfell Campus

Gianna Aleman Dalhousie University

Ian McMaster College of the North Atlantic

Isabelle Dionne Dawson College Jaleel Ali Dawson College

James Bailey University of British Columbia Okanagan Jimmy Lowe British Columbia Institute of Technology

John EngUniversity of LethbridgeJudy MacInnisCape Breton UniversityKara CrosinaCollege of New CaledoniaKaren FossCape Breton University

Laura Buchynski Lakeland College

Laura Lucan Northern Institute of Technology

Lucie Clark Saskatchewan Institute of Applied Science and Technology

Lyndia Susag College of New Caledonia
Marten Lettinga Thompson Rivers University

Michal Goren John Abbott College Monica Mehna Vanier College Murray Bronet John Abbott College Nicolas Duxin Dawson College

Nyron Jaleel Northern Institute of Technology

Omar Behar Dawson College Paul Barg Medicine Hat College

Paul Piunno University of Toronto Mississauga

Ravi Kundra Vanier College
Rejean Forand Vanier College
Roberta Silerova John Abbott College
Rodney Squire Dawson College
Roger Machaalani Dawson College
Sean Hughes John Abbott College

Shelley Sheppard College of the North Atlantic

Shirley Barlow Saskatchewan Institute of Applied Science and Technology

Shirley Wacowich-Sgarbi Langara College Silja Makinen Dawson College Stephanie Harrison Dawson College Steven Holden Dawson College

Sudhir Abhyankar Grenfell Campus, Memorial University of Newfoundland

Suzanne Black John Abbott College

Tamara Kunz University of British Columbia

Tania Peres John Abbott College Thi Ngoc Thanh Vu Vanier College

Vickie Russel Northern Institute of Technology

Yann Brouillette Dawson College Yoon-Seo Uh Dawson College

Dawson Map

The Dawson College building is separated into several different wings. Room numbers are defined as follows: The registration Wine & Cheese on June 1st is in room **5B.16**. This denotes room **16** on the **fifth** floor in the **B** wing.

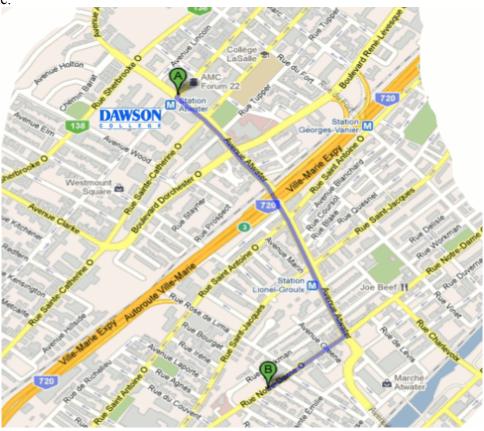


Directions to Bitoque (Banquet)

Address: 3706, Notre-Dame Ouest. Montréal

The walk to Bitoque from Dawson College takes approximately 20 minutes. A group will be departing from the Blvd. de Maisonneuve entrance of Dawson College at 6:00pm on Friday evening. For those who want to minimize the walking distance, the Metro (subway) system will take you 2/3 of the way there. Get onto the Metro at the Atwater/Dawson station making sure to get onto the train heading towards **Angrignon**. Get off at the first stop (**Station Lionel-Groulx**) and walk the remainder of the

way to Bitoque.

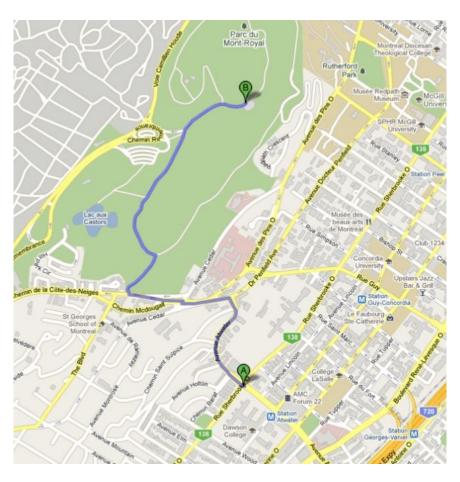


Fun Run

Friday, June 2nd 7:15am

The fun run will start from Dawson College and climb up Mount Royal to the summit chalet. The trek up is 2.4 km long and runners are warned that the ascent is quite pronounced. For this reason we ask that everyone pace themselves. The climb may be painful, but on a clear day, the view at the top of the Montreal landscape is well worth the struggle. I've included a map of the run.

Also note that the Dawson recreational facilities have allowed us to use the **showers and lockers**. Therefore runners can come early in the morning, drop off their clothes in a locker (locks are not provided, please bring your own.), do the fun run, return to Dawson for a quick shower and change for the conference. The Dawson recreational facilities are located in the basement of the H wing. 1H.5.



Notes

Notes