

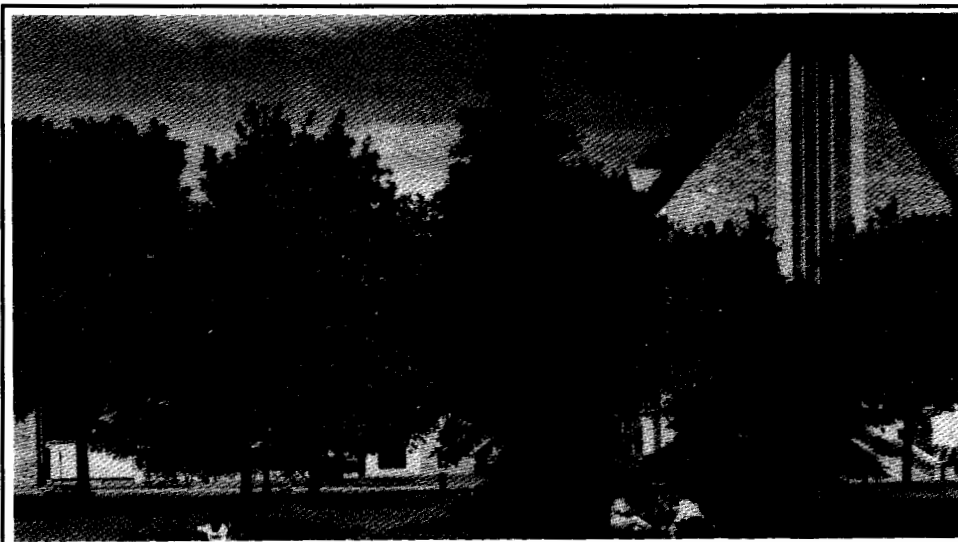
C₃ News

Newsletter of College Chemistry Canada / La Chimie Collégiale au Canada

Quebec Hosts College Chemists in '91 and '92

More by luck than by design, College Chemistry Canada is doing its fair share to shed light on the constitutional debate by holding consecutive conferences in La Belle Province. In June this year, the St. Lawrence campus of Champlain Regional College hosted a splendid conference entitled "Chemistry and the Environmental Challenge" in Quebec City. Reports on the activities of this conference are contained within this edition of the newsletter. Congratulations and thanks to Pierre Zubrzycki for organizing a splendid meeting.

In 1992, we will return to Quebec for "Communicating Chemistry", a conference hosted by Vanier College, in Montreal. Joe Schwartz is the Conference Coordinator, and Ariel Fenster is Program Coordinator. Joe Schwarcz writes, "The theme of the Conference is 'Communicating Chemistry'. This of course can be interpreted in many ways because of course all teaching is 'communication'. The thrust, however, at least as I envision it, will be on communicating the importance of chemistry in daily life. I am especially looking for contributions dealing with communicating chemistry outside the classroom. As usual though, general papers will also be accepted. There will also be a special session dealing with 'improper' communication. This will focus on cheating in the classroom as well as scientific fraud. One of the highlights of this session will be a fascinating talk by Professor David Harpp of McGill who has devised a computer program to detect cheaters. Contributed papers in this area are also welcome." The social events planned include the annual banquet to be held at the McGill Faculty Club.



17th Annual College Chemistry Canada Conference

Communicating Chemistry

June 4 and 5, 1992

Vanier College, Montreal, Quebec

In this issue...

<i>Quebec Conference Highlights</i>	2
<i>C₃ Award Winner: Shahid Jalil</i>	3
<i>President's Notebook</i>	3
<i>Chemistry and Environment</i>	4, 5
<i>Centennial College Environmental Program</i>	6
<i>Bill Blann on the Plains of Abraham</i>	7

The Champlain College/Quebec Conference: Program Highlights

For those who missed it, here is a teasing account of a well-organized and very interesting program, both in terms of the chemistry, and (as one would expect in Quebec) the social life.

The opening plenary session featured Dr. Jean Moreau of Laval University. His talk "Chemistry and environment - Problems and Benefits" is reproduced in full later in this newsletter. It provided a stimulating beginning to the conference.

C3 programs have always been noted for their breadth. The remainder of the morning's program on June 13th dealt with "Language Difficulties in Environmental Law" (given by lawyer Armand Rousseau), and "Emergency Intervention in Toxic Spills" (given by Dr. David Cosak of EnviroMobile). Dr. Cosak's talk introduced us to the successor of "bucket chemistry", which is cement-truck chemistry, wherein on-site deactivation of plastic foam precursors was done in a cement-truck over a period of 20 days!

Highlights of the Thursday afternoon program included Joe Schwartz's (Vanier College) review of the chemical basis of Alzheimer's disease, in particular the role, if any, played by aluminium. He surveyed the major sources of the metal in everyday foods and drugs and set aside some of the major myths surrounding these sources. In conclusion, Dr. Schwartz indicated that the mystery of Alzheimer's disease has yet to be unravelled.

Dr. Bernard Reidl (University of Laval) concluded an excellent day of chemistry with review of the processes used in recycling plastics. Plastics comprise about 12% by volume of solid wastes in North America, and the key to effective recycling lies very much at the sources, where plastics should be sorted from other wastes. The plastics recycling industry is growing rapidly, and by 1994, 0.4 million tons of plastics will be recycled annually.

Reports on the Banquet, held at the Chateau Frontenac on the Thursday evening are uniformly very positive. The food was wonderful, the entertainment (Drs. Schwartz and Fenster) was hilarious, and the company was great. Close packing of spheres

was ably demonstrated by nappy chemists who crammed into a van to get back to Ste-Foy that night.

Another full day of excellent papers faced delegates on Friday, June 14th. Eastern Connecticut University's Max Ferguson opened with his presentation on "Tire-to-Energy Plants", followed by Louis Phillippe Roy (Hydro-Quebec) who reviewed PCB chemistry - its destruction, treatment and storage. Allan Gilchrist (Capilano College) gave an illuminating analysis of Canada's contribution to chemical research, and Shahid Jalil (John Abbott College) concurrently gave an update on his well-known desk-top chemistry system, as applied to Environmental Chemistry.

Ariel Fenster, (Vanier College) closed the morning session with his review of environmental poisons, which led up nicely after lunch to the multi-presenter paper on a new, multi-disciplinary environmental program at Centennial College. More details on this program can be found elsewhere in this edition of C3 News. Environmental etiquette begins at home, and Gordon Hambly described the Microscale Organic Chemistry laboratories at John Abbott College. The conference was theme carried through the end of the day by McGill's Bill Marshall (Trace Element Speciation), University of Laval's Claude Camire (Acid Rain) and University of Quebec's Leroy Pasternak (Environmental Analysis and the Teaching of Atomic Absorption Spectroscopy). During the afternoon, faculty from the CEGEP de Limoilou conducted workshops on the integration of environmental issues into the chemistry curriculum.

So there you have it. A quick review of a splendid program, ably organized by Pierre Zubrzycki of Champlain Regional College (St. Lawrence Campus). Delegates also savoured the other delights of Quebec city night life and cuisine, and took advantage of the several trips organized for the Saturday.

Special appreciation must be expressed to the francophone hosts and presenters who graciously took account of their predominantly anglophone audience.



C3 News

Volume 16, No. 3, Fall 1991

Published quarterly by
College Chemistry Canada Inc.

President: Gary Wilson

Editor: Alan Davis

Contributing Writer:
Bob Perkins

Mailing Address:
Open University
7671 Alderbridge Way
Richmond, BC
V6X 1Z9

Tel: 604-660-5256

Fax: 604-660-2166

E-Mail: aland@ola.bc.ca

Articles of any length will be gladly accepted. Please send typewritten copy to the Editor at the above address or send by fax. Copy can also be sent on a floppy disk, IBM format, using WordPerfect, WordStar, Microsoft Word, or any wordprocessor producing ASCII output.

© 1991 College Chemistry Canada Inc.
ISSN 0843-4956

Layout and design by Bob Browne
Printing by the Douglas College Print Shop.

1991 C3 Award Winner: Shahid Jalil

Shahid Jalil of John Abbott College is the recipient of this year's Chemistry Canada Award. As such, he is recognized to have made a substantial contribution to chemical education at the college level and to have contributed to the goals of C3. Shahid received the award at the 18th conference at Champlain College, St. Foy campus, in Quebec City.

Shahid is a master teacher. He fits the description of those who are given the task of teaching Introductory Chemistry because they are the best. His students remind his college of this fact on many occasions, when they write their final exams, when they thank their teachers, and when they talk to others about them; to the chagrin of administrators, his

reputation skews course enrolments at registration.

As a co-author of the chemistry text used for John Abbott's introductory course, Shahid has made a significant impact on the way that chemistry is taught at the college. His approach requires laboratory work to be an integral part of each lesson. While his and Barbara DeLorenzi's set of modules have been used by others at a number of colleges to teach chemistry using a traditional laboratory format, his incorporation of "Desk Top Experiments" is used to reinforce chemical principles as they are taught. His courses offer "wet labs" on a micro scale and they can be taught virtually anywhere.

Beyond the intro course, Shahid has extended his techniques to others. It is perhaps significant that he received this award at a conference with the theme "Chemistry and the Environmental Challenge". His course on environmental chemistry is taken by science stu-

dents, by commerce students, by arts students, by all students. It is perhaps the first chemistry course designed for non-science students to include an honest-to-goodness laboratory program. And it works. Laboratory work is completed in the classroom, in the lab and in the field. His course has certainly helped erase "chemiphobia" in his students, and they learn sound scientific principles in his classes (and in the lab).

For the past number of summers, Shahid has rewarded top students with employment via federal "Challenge" grants. He has volunteered his time to supervise these students to complete chemical analyses of environmental variables. Thus, the local community has had access to analyses of soils and ground water. On more than one occasion the detection of biological contamination has prompted the rehabilitation of private drinking water sources.

Shahid's work for C3 is known to all of its members. He was one of the group to inspire its formation and was its treasurer for the majority of its existence. C3 finally became solvent with Shahid's help. No one has yet to make a tally of conference presenters over the years; Shahid is likely at the top of the list. To add to his list of contributions, Shahid piloted the incorporation of C3 through the shoals of the federal Department of Consumer and Corporate Affairs.

Congratulations Shahid, and thanks!

President's Notebook

Now, didn't I say you'd have a good time in Quebec, or what? The Eighteenth Annual College Chemistry Canada conference was a great success. It had something to do with the quality of the presentations, with the hospitality of Champlain College, and with the charm of Quebec City.

A delegate from Saskatchewan commented over lunch on the last day of presentations, "This is fantastic. Every speaker has been great so far." He had to add the "so far" because that is part of the scientific method eh? The "so far" extended to encompass the remainder of the conference I can assure you. A returning university presenter to C3 conference agreed, "I'm always pleased to come to the C3 conferences. The papers are excellent. The atmosphere is great."

The fact that the St. Foy campus of Champlain College has a small Chemistry Department was not obvious. Pierre Zubrzycki must be congratulated for coordinating the efforts of a sizable number of the college's staff. In addition to help from his own department members, faculty members from Biology, English, Mathematics and Psychology, support staff and administrators, assisted to welcome us to the college and to the conference. Future conference organizers from smaller colleges can look to Champlain as a model. Thanks people!

As to the charms of Quebec City, each of us has our special stories to tell. While I could delight you with my own, I won't.

Work is under way for the nineteenth conference to be held in Montreal. You will find a few words about it elsewhere in this issue of C3 News. It may be sufficient to say that next year's conference will be orchestrated by the team of "Schwartz and Fenster". That's good enough to get me to come. It's not often that one gets to attend a composition of the maestros themselves.

Have a good year. And be careful out there.

Gary Wilson
John Abbott College

C3 Award Nominations

Nominations for the 1992 C3 Award are now open. The C3 Award recognizes the outstanding contribution by an individual to the promotion and teaching of chemistry at the 2-year college level. Nominations must be accompanied by two letters of recommendation, outlining the achievements of the nominee, and must be received by the President of C3 by January 31, 1992.

Chemistry and Environment - Problems and Benefits

by Jean R. Moreau Ph.D. F.R.S.A.
Universite Laval, Ste-Foy, PQ

1. The partnership of chemistry and industry

Industrial chemistry has played a great beneficial role in raising the standard of living of our economically advanced societies. Indeed the roof over our heads, the clothes on our backs, the cars we drive, the food we eat, the books and papers we read, the videocassettes we watch, the antibiotics we need have all be prepared or improved through the partnership of chemistry and industry. We have taken the academic understanding of chemistry and chemical processes and applied them in wondrous ways to achieve what a certain firm advertises as "Better living through Chemistry".

But, as with so many other conjunctions of the human race, some people now wonder as to whether this partnership was made in heaven or in hell. Nuclear weapons and wastes, C.F.C. and ozone layers, toxic spills, acid rain, polluted rivers and oceans, etc. show that chemistry has not always been kind in its service to society. This poses problems of human wisdom. In fact, few people would agree that the world would be better off without the chemical industry. As the world population grows, how can we afford to feed, clothe, house, cure the new citizens, especially in the poorly developed regions of this planet, without further applications and advances of chemical science and technology? As a specific example, one may cite new clothing materials, made of plastic polymers being inexpensive, light and good thermal insulators. The treatment of water supply against pathogens, by means of chlorine or ozone, constitutes a more general example of such a benefit. How can we satisfy those needs without further disturbing the ecology? Among various means, chemistry may help to achieve a better control of conditions, a wiser use of the available knowledge, and to increase it by oriented research. Perhaps, the most promising of the challenges facing us in this area resides in designing processes characterized by 100% containment. Everything that goes in must be accounted for in what

comes out. The chemical engineers have used this approach called material balance to follow the fate of substances of technical or economic importance. This procedure must now be extended to almost all the factors involved, including even rather minute quantities of substances having a potential influence on the quality of environment. One could easily raise objections to the cost of such a detailed approach for analysis and correction.

Indeed, to achieve such a desirable goal one has to devote to this activity precise knowledge, time and effective communication. Some firms have admitted in private, if not in public, evident technical and economic advantages from such a thorough study of some of their processes. This matter of knowledge and communication presents a special intellectual challenge in the field of environment where one must be a specialist and at the same time some kind of a generalist, because of the tremendous scope of the environmental problems.

A precise and accurate knowledge is required in a given area, without neglecting the impact of the application of this knowledge on other areas of the enterprise, of the industry, of the region with respect to the quality of environment and other important considerations. In other words, a misled cure might even be worse than the initial problem. The multiple features of environment quality seriously involve the teaching and practice of chemistry and biochemistry.

2. The role of chemistry in the environment

(a) General considerations

In a changing world where technological development is an essential tool of the economic activity, the management of this development presents many faces, challenges and dangers in the pursuit of the desired objectives. Chemistry enjoys a special position in such a context with regards to the technical aspects of the activities as well as on their impacts on the human quality of life, in particular in environment protection. Consequently, the chemist should be involved in the

conception, design, setting-up and evaluation of new equipment or processes, as much as in the control of industrial operations and of their influence on environment. In this activity, chemistry would be promoted from a profession to the service of - to one of partner of -. Only then, should the chemist or the engineer be globally blamed for the pitfalls of industry by society.

With respect to the quality of environment, this involvement becomes a necessity when one realizes that, even in the recent past, important factors were not considered in the assessment of various industrial innovations. This may be attributed to the lack of information then available, with regards to the presence, the measurement, the dangers of the factors or reactions involved. As examples let us consider nitrosamines, halomethanes, dioxins, PCBs etc. In other cases the application of potentially available knowledge leaves much to be desired: For example, the contamination of water with pesticides, agricultural fertilizers, organic materials, animal intestinal residues. Some of these contaminants may also include disease-producing compounds and pathogenic microorganisms. One of the various reasons for such a situation resides in the absence or avoidance of the right knowledgeable person at the right time. In many instances, a better understanding by the entrepreneurs of the chemical reactions involved might or should have provided a better design of the operations with regards to pollution control. The general conditions might also have been improved at the same time. many businessmen state that pollution is quite often the result of poor yields and bad control in production.

b) The measurement of factors involved in the quality of environment

Many environmental risks have been rather recently discovered, detected or measured by way of innovations in analytical methods. Such in the case for polycyclic hydrocarbons, nitrosamines. In general, the methods are based on chemical, biochemical or biological reactions. Even the biological reactions often rely on chemical techniques.

Some of these biological reactions are lengthy and very costly. The bioassays are variable, often not reproducible and difficult to interpret and lack specificity as well.

Even the classical B.O.D.5 to measure oxygen deprivation of water and wastewater is not sufficiently practical because it takes 5 days. Moreover, a 20°C incubation, as recommended, might not reflect some climatic conditions. The naturally present microbial flora upon which the test depends might not grow well at 20°C.

Chemical or biochemical tests are often used to replace the B.O.D.5 test. Some, like the chemical oxygen demand (C.O.D.) and the total organic carbon (T.O.C.), are relatively quick to perform and can be used to replace B.O.D.5 and thus supply feed-back information soon enough for correction. This is satisfactory when there is an established correlation between the tests used as proxies and B.O.D.5, because this is the variable which is the real cause for concern in depriving the aquatic animals of oxygen. In the case of chemical effluents a standard relationship cannot be assumed and must be established from situation to situation.

It is imperious to stress here that the measurement results involved will often be presented to regulatory agencies and, consequently, should be expressed in terms of the official methods or proven to be equivalent.

These results might often be involved in court litigation; consequently it would be wise to have them checked, periodically, by an external laboratory.

We have to stress the importance of setting up quantitative standards which are normally attainable and measurable, in the practical world of processes under control. This advice goes back to the writing of Aristotle in the 4th century B.C.

"It is the mark of the instructed mind to rest easy with the level of precision which the decision maker requires and not to try an exactness which is unnecessary for the problem".

This citation does not imply that the chemist should always be satisfied with the present methods of analysis. They are often difficult, not always completely reliable, often too empirical, slow, costly, etc.

Even the official methods of international or American origins, might not always apply correctly to Canadian conditions, especially,

in bioassays. The challenge to develop new and improved methods of assay is a never-ending process. The participation of well-trained chemists with the proper outlook, in regulatory agencies, might be quite valuable to society, not only in setting up and measuring quality criteria, but also and mainly in evaluating and interpreting the methods, the results, the context etc.

A practical example where chemical measurements play an important role in pollution lies in the analysis of soil composition, in order to prevent overtreatment with fertilizers because their excesses often end-up in rivers by way of run-off.

(c) Contribution to the design and development of new or improved methods for protecting the quality of the environment.

Usually, these activities are mainly under the realm of engineers. However, the chemist may and must play an essential role in the interdisciplinary approach required to face the nature and the scope of environmental problems. Pollution can be defined as an undesirable change in the physical, chemical or biological characteristics of the air, water or land that can affect the health, survival or activities of humans or other living organisms. The role of chemistry is evident in the situation where chemical reactions, with undesirable or dangerous side-effects, hazardous wastes etc. are involved inside the systems and in the interactions of these systems, as witnessed with acid rain, carbon dioxide buildup. Industrial processes, by themselves, present quite a challenge with regards to dangerous characteristics in which chemistry and toxicology play essential roles. A dictionary entitled "Dangerous Properties of Industrial Materials" edited by N.I. Sax covers more than 3,000 pages, with descriptions of thousands of various materials with their chemical, dangerous or toxic characteristics.

Let us illustrate an impact of the use of a simple chemical principle in order to prevent damage to the environment. The presence of high levels of bivalent cations such as calcium, magnesium, iron in the water used in various industrial processes or pieces of equipment may be detrimental in many respects. An usual way of correcting this problem consists in the addition of a polyphosphate salt as a se-

questering agent to that water. The phosphorus thus added has been reported to favour eutrophication in ponds, lakes receiving the effluents. The excessive growth of algae associated with eutrophication would finally hinder photo synthesis, deplete oxygen destroy fishing and cause bad odours.

One way of avoiding this situation would be to replace the polyphosphate with the sodium salt of citric acid, a sequestrating agent found in nature (citrus fruits), which is easily biodegradable and free from phosphorus. More complex cases may be brought forward as in the formation of free radicals favouring the oxidation of lipids in foods which have been associated with the incidence of atherosclerosis in consumers of those lipids.

Chemistry and biochemistry may help to eliminate or upgrade polluting materials in various ways. For example, sugar cane residues (refuse) might create a considerable oxygen demand in water where they be rejected or carried by way of run-off. There is a well-known industrial way of converting, by means of fermentation, these sugars into a very useful product such as citric acid. A similar process, under different conditions, would convert them into ethanol for combustion purposes or into a biomass useful for animal feeding.

(d) Providing the concerned public and professionals with correct information and the scientific personnel with a sound grasp of the fundamental knowledge involved.

Especially, in periods of crisis and controversy, it would be desirable to obtain an objective opinion in the right perspective, based upon the probability assured by scientific information and principles. This should result from a proper blend of academic education, professional experience and intellectual ability for synthesis. The academic education will derive from people like you who understand and teach the fundamental aspects of chemistry. It would be dangerous to forfeit this approach in favour of fashionable trends, even as serious as environment protection. Colleges and universities in Britain plan to review, at the demand of the chemical in-

continued on page 6

Chemistry and Environment

(continued from page 5)

dustry, their curriculum in chemistry, in order to strengthen the core subjects. The best way of linking these two goals (mastery and application of knowledge) seems to reside in a special effort of illustrating the fundamental principles and reactions with anecdotes, practical examples, laboratory exercises, etc. and imply the students in these activities. According to serious investigations carried out in England, for the past 10 years, by prestigious organizations, this seemed to be the most efficient way of learning and teaching. The famous British historian H. Toynbee and the famous Japanese philosopher Ikeda agree that a well educated person should be concerned by the problems of society and devote some effort to their solution. Moreover, they state that intellectual interests should be blended with more prosaic activities in order to maintain a good mental equilibrium.

The coupling of environmental problems with fundamental chemistry seems to supply an ideal situation in that regard.

For practical illustrations, one might look into topics dealing with toxicology and industrial hygiene, flammability of materials, vapor releases, atmospheric gases, explosions, handling or storing of hazardous materials, etc. The scope of environmental problems and the expanse of chemistry are both so considerable that the teaching of the interrelated subjects should be carried out in an organized fashion, in order to insure a lasting and efficient effect towards competence.

3. Conclusions

The chemical industry, chemistry and chemists have been blamed for many horrors affecting the quality of environment. This perception may not be completely factual but it is prevalent and psychologically imprinted in the public and in many leaders of opinion. We have no choice but to correct the present undesirable situation and to lead in brightening the positive side of the coin in the industry-chemistry partnership. Out professional prestige and the quality of life on this earth are at stake.

The Centennial College Environmental Protection Technician Program.

At the Champlain College conference in June, Graham Sparrow and Maryclare Lambden presented a paper describing a new program in the School of Engineering Technology. Some highlights of their presentation follow:

The protection of our environment affects us all. It is a high priority subject for many government agencies, businesses and industries.

In order to address and resolve related environmental issues in a professional manner, there is now an urgent demand for technical specialists who are also trained as generalists.

Centennial College's two-year Environmental Protection Technician program takes a multidisciplinary approach in examining and controlling the substances which are introduced to our air, land and water. Students will learn how to assemble, calibrate and maintain laboratory and monitoring equipment; how to obtain scientific data from experiments or industrial processes, interpret and compare them to standard specifications and legal requirements, and perform calculations and statistical analysis.

Graduates will find challenging careers in almost any field related to environmental protection, whether in the private or the public sector.

The program offers:

- an understanding of the disciplines related to environmental protection, such as chemical and civil engineering, and the complex relationship between them
- hands-on training in industry-standard labs with state-of-the-art instruments and equipment.
- technical expertise on physical, chemical and microbiological quality assurance testing procedures, whether on representative samples of raw materials, or on finished industrial products.
- a thorough knowledge of how to analyze and monitor our resources.

- study visits to water and pollution control plants, waste management and disposal industries, and waste producing operations.

Program Outline

Year 1: Semester 1

Biological Systems
Civil Engineering
General Chemistry
Mathematics
Workplace Protection and Industrial Safety
English

Year 1: Semester 2

Applied Microbiology
Chemistry of Pollutants
Elements of Physical Principles
lab Instrumentation
mathematics
English

Year 2: Semester 3

Biochemical Analysis
Communication for Technology
Ecology
Environmental Engineering Techniques
Environmental Project
Problem Solving using Micro-computers

Year 2: Semester 4

Analytical Chemistry
Environmental Legislation and Regulations
Environmental Project
Environmental Sampling and Data Management
Pollution Prevention and Control
Water Quality Control

Sample Course Descriptions

Environmental Sampling And Data Management

Students learn how to sample, label, and store solid, air and water samples, as well as

statistical techniques used in the handling of data and in the sampling process.

Chemistry Of Pollutants

Students receive an overview of the source, effects and controls of organic and inorganic pollutants found in air, water and soil. Smog, acid rain, heavy metals, fertilizers, pesticides, oil spills, trace organics, biomass, ozone, carbon and other non-metal oxides will be covered.

Environmental Engineering Techniques

Students learn techniques of inspection and investigation in waste management, plants and projects. Topics include production and interpretation of plan and profile drawings; quantity estimating; identification of soil types and their characteristics; plus basic field surveying.

For more information, contact

Graham Sparrow
Centennial College
P.O. Box 631, Station A
Scarborough, Ontario
M1K 5E9

Bill Blann on the Plains of Abraham.

Bill Blann
Keyano College

Frankly, I don't remember much about the Fun Run at the 1991 C3 Conference.

I do remember the lovely sights and smells of the parkland in the early morning as we sort of ambled along in the wake of runners up ahead. It was almost enough to inspire a little more effort - some primeval urge hearkening back at least to ancient high school days of belting down through the graveyard and along the front to Clover Point, or out along the breakwater at high gale, or through logging-slashed hillsides on visits to Shawnigan Lake - but ah! (deep breath) - almost enough was good enough for me.

And the hired guns were out getting their morning exercise, and no doubt loving every minute of their run. The park is, after all, a military memorial, with assorted implements of destruction tidily parked here and there. And you can certainly tell who won - there is a nice little monument tastefully indicating where noble Montcalm fell in the defence of God, King and Country against the evil cochons anglais, and an enormous obelisk marking the spot where that other fellow did

the gentlemanly thing and also fell for God, King and Country.

But it's all grown over green again since then, showing how mother nature as usual gets the last laugh eventually, and this time soon enough for us to laugh with her. The green rolling hills belie the usual image of a plain, and soften even the industrial view of the river to a pleasant sight. The air is fresh before the morning rush, and the city is held at bay, out of sight beyond the distant fence - not that Quebec will ever live down to the ugly city image, but traffic is nice to be without. A very pretty park, well worth a wander round to take the air.

Then there's the social thing about the morning: Sacre Rouge! - other folks too are crazy enough to get up this early, even after the night before! We did occasionally meet the other group, who did the likes of circumnavigating the track and looping out afield to give us time to catch them up. And that did help it look right in the photographs of all the group ablazing up the final stretch together. And the home team outclassed us all in their choice of princely prizes - marvellously crafted wooden toys Quebecois, tops for who came first, or last, or wore a silly hat (in case it rained, quoth he). You too can win a prize at these events: too fast for last? Not fast enough for first? Just wear appropriate millinery and you'll be the best dressed - you don't even need to be as pretty as this year's winner.

After that how can we not look forward to next time in Montreal! (What's that? Parc Mont Royal? You mean it's back to running through graveyards again?)

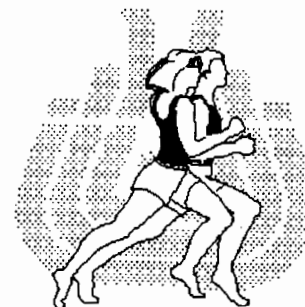
...A Word from the Secretary

Sept 20, 1991

Greetings from the Secretary! Many thanks to those of you who have sent in your membership dues for 1991/92. If you can't remember whether you paid or not, check the mailing label on this issue. The date which appears is the date when your current membership expires. If no date appears, you haven't sent in your \$20 for the past couple of years and should rectify that immediately by sending me a cheque. Institutional memberships are also welcome (\$50 a year).

Life at our College (Kwantlen) continues the pattern seen in previous semesters, long lineups and upset students being turned away for lack of sections. Our new campus in Surrey was filled to capacity when it opened last fall, we expect the same thing to take place when the new Richmond campus opens in Sept 92 and the new Langley campus in Sept 93. With the increased immigration from the Pacific Rim, more of our students require ESL classes in addition to their regular complement of courses. It is a very busy and rewarding time to be in the college system here in BC.

Bob Perkins



College Chemistry Canada Inc. Executive and Board of Directors 1991-92

Executive:

President

Gary Wilson
John Abbott College
P.O. Box 2000
Ste. Anne de Bellevue,
PQ, H9X 3L9

President Elect

Bob Browne
Douglas College
P.O. Box 2503
New Westminster, BC
V3L 5B2

Secretary

Bob Perkins
Kwantlen College
P.O. Box 9030
Surrey, B.C.
V3T 5H8

Treasurer

Phyllis Lake
Mount Royal College
4825 Richard Road S.W.
Calgary, AB, T3E 6K6

Editor

Alan Davis
Open University
7671 Alderbridge Way
Richmond, B.C.
V6X 1Z9

Conference Coordinator

Joe Schwartz
Vanier College
821 Boul. Ste. Croix
St. Laurent, P.Q.
H4L 3X9

Program Coordinator

Ariel Fenster
Vanier College
821 Boul. Ste. Croix
St. Laurent, P.Q.
H4L 3X9

CIC Liaison

Dick Kroeger
Algonquin College
200 Lees Ave
Ottawa, ON, K1S 0C5

2YC₃ Liaison

Shahid Jalil
John Abbott College
P.O. Box 2000
Ste. Anne de Bellevue
PQ, H9X 3L9

CSCT Liaison

Joel McCutcheon
Red Deer College
P.O. Box 5005
Red Deer, AB, T4N 5N5

Directors:

Atlantic Provinces

Martha Ann Woodworth
Cupids, NF, A0A 2B0

Quebec

Shahid Jalil
John Abbott College
P.O. Box 2000
Ste. Anne de Bellevue
PQ, H9X 3L9

Ontario

Dan Morrison
Algonquin College
200 Lees Avenue
Ottawa, ON, K1S 0C5

MB, SK, AB and NT

Bill Blann
Keyano College
8115 Franklin Ave
Fort McMurray, AB, T9H 2H7

Brad Pavelich
Medicine Hat College
299 College Drive SE
Medicine Hat, AB, T1A 3Y6

BC, YT

Bob Browne
Alan Davis

C3 News

Alan Davis, Editor
Open University
7671 Alderbridge Way
Richmond, B.C.
V6X 1Z9

