

STC NEWS/NOUVELLES

VOLUME XXIII, No 2, November, 2004

BULLETIN OFFICIEL DE LA SOCIÉTÉ DE TOXICOLOGIE DU CANADA
OFFICIAL NEWSLETTER OF THE SOCIETY OF TOXICOLOGY OF CANADA

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VOLUME XXIII, NUMBER 2

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A recent column which appears regularly in most daily newspapers, extolled the virtues of using coenzyme Q10 as a means of preventing and indeed protecting against cardiovascular disease has resulted in many patients questioning their prescriptions for the statins and other drugs. In fact some patients have discontinued their statins as well as other agents. This observation caused me to reflect on a number of personal experiences in answering questions from my friends regarding advances in science. Allow me to give a few examples. The headline reads “Gene discovered for (it can be any disease) CURE in five years.” Imagine the impact of this statement on a member of society who has a member of their family suffering from this disease which might have a rather grim prognosis. Thus over a beer in the curling club I am asked to interpret this statement. I receive looks of shock when I explain that translation of fundamental discoveries takes years if not decades. Ok. I did not have to say I will not see it in my lifetime and to add that I intend to live for several more decades. Another example: A press release from a University, it could be my own, states that a group of local researchers have developed a drug that may delay the onset of cognitive deficits in Alzheimer’s disease. What the article fails to mention is that the drug worked in mice, has yet to undergo any form of toxicity testing and that there are years of studies before the drug reaches the clinical trial stage, if ever. These serve as examples that we as scientists should inform the public of advances in science but we must be honest. In the new millennium and certainly more than ever before, the general public are hungry for news about medicine and all things related to the welfare of humans. The public does deserve information but the information must be balanced and in context of the immediate and potential impact on society. Then why do we as scientists allow facts given to the public to be distorted? There

are probably many explanations. I will give just a few of my own thoughts.

Science may be afraid that if there are not significant advances that appear at least superficially to be ground breaking, the public will stop supporting science. Clearly we need the support of the public to help lobby government and of course donate to organizations that fund research. Do we really believe that the public is that naïve that if scientists gave them the entire story of a discovery that they would stop supporting good science. I think our benefactors deserve better.

Another reason that scientists allow distortion of a discovery is that as a group, scientists are not the most humble group I have encountered. Most of us do like the limelight. We are competitive animals, if we were not, we would not survive in today’s scientific and academic climate. Our superiors are delighted with positive publicity and by happy circumstance does not hurt our careers either. Thus we as scientists benefit from sensationalized headlines. Thus we condone dissemination of tainted information. The third reason we allow the dissemination of incorrect or inappropriate information is that we do not stop to consider the impact of our statements nor we do not stop to consider that the information we are giving cannot be supported by the existing strength or weight of the data. Should there be a derailment of a train car carrying toxic substances we will find scientists on two sides of the problem. One group states that everyone is in danger while the other camp deemphasizes the danger. No wonder the public is confused and does not trust scientists.

A fourth reason that we often mislead the public or give misinformation is that science is wrong. After Ben Johnson was stripped of his gold medal at the Soeul Olympics, I was asked to participate in a panel discussion on the effects of anabolic steroids on performance. I was familiar

with the potential toxicities and the dogma in pharmacology texts and to be sure of my information I searched medline. The bulk of the studies conducted prior to 1988, suggested that anabolic steroids had little or no effect on athletic performance. My comments in the panel discussion reflected the current Medical literature. One of the panel members, a former world class athlete, looked at me in disbelief and in retrospect probably wondered what planet I had recently vacated. Little did I realize that all the studies I read were flawed. Subsequently properly conducted studies have demonstrated the positive effect of anabolic steroids on athletic performance, especially in the trained athlete. I will never forget the awful feeling, as I removed

both feet from my mouth, that my usual sources of information had let me down.

What is the solution? There is a need to be honest with the public. More importantly there is a need for scientists to educate the general public about the way science works. If we do not know it is best to state that. If we give an informed opinion we should also state that it is indeed an opinion. It may be based on experience but it is an opinion. If the comments are based on accepted facts that should be stated as well.

Some years ago the MRC, now CIHR, distributed a document on public relations for the scientist. Perhaps it is time to update that booklet with an emphasis on educating the public on how science actually works

WHAT'S NEW? MESSAGE FROM THE PRESIDENT BARBARA HALES

Time has passed very quickly since our last Newsletter and Spring (April 2004) Board meeting. Those of us who were able to participate in the International Congress of Toxicology (ICTX) in Tampere, Finland in July very much enjoyed the meeting. The science was great – high caliber talks in a wide variety of areas, much opportunity for interaction with colleagues from many countries, and great social events. The Finns were wonderful hosts and shared with us their experiences in organizing the meeting. The importance of developing a program with something for everyone was brought home by the Clinical Toxicology Societies who wished to have had more input. At the Annual General Meeting in Finland, I was elected to be a member of the IUTOX Executive Committee for the next three years. I hope that my membership on the Executive Committee will be helpful in coordinating communication between the IUTOX Executive, STC and the ICTXI Organizing Committee.

STC's Scientific Programme committee, under the leadership of Dino Manca, has done a superb job in putting together a great programme for our 2004 Annual Symposium. What could be more relevant today than "Relationships Between Health and the Environment: The Role of Toxicology"! We are very excited by the excellence and the breadth of the speakers and hope that we will see all of you at the Symposium. A new initiative for trainees is "Career Night"; it will be held during the symposium on Sunday night, preceding the regular symposium. When we see the amount of "grey" hair around us in toxicology in Canada, we realize that one of our most important missions may be to attract and retain the next generation. We hope that this is only the first of many undertakings towards this objective, and should like to thank our newest Councilor, Lena King, for organizing this session.

As we approach the end of 2004 we are entering a very busy period for STC and the ICTXI Organizing Committee. We hope that many of you will get involved, both with regular Society business and especially with the planning and execution of the International meeting!

REPORT FROM ICTXI - Doug Arnold

The biggest buzz during ICT X was the weather - which consisted of showers, more showers and very little sunshine. The natives claimed the weather was atypical and after spending some vacation time in Finland, it would appear that they were right. It seems Scandinavia didn't have much of a summer this year as my wife and I were often greeted with a comment as to how our arrival day in their city coincided with their first day of summer! Unless Montréal is in the throes of a hurricane during ICT XI, it should be a leg up on ICT X in the weather department.

The City of Tampere is a lovely little city and, like many European cities, it is easy to play tourist and walk to many of the attractions. Tampere Hall was nicely situated in quite a large green space. On one side of the Hall was a park with some artistic exhibits in keeping with a city park, and most evenings there was an aerobic class doing their various exercises. To the rear of the Hall was a pond with jets of water continuously sent into the air. The pond also served as a small bird refuge and there was an area which housed several peacocks, pea hens and assorted wild birds and undomesticated poultry species. In short, a nice gathering place for youth and seniors alike. There were a good number of both during my visit to the park during one of the brief sunny periods.

The meeting itself was well-organized from an administrative point of view and the staff were very friendly and helpful - save for one security guard who seemed to have taken his instructions too much to heart, but that is a story for another day. The size of the Tampere meeting facilities resulted in the meeting rooms being in the main building while the posters were located in the hallway of the main building and the enclosed/covered walkway leading to a smaller building that housed the exhibitors. This layout tended to limit traffic in the exhibition area to the opening reception, when wine and food were served, and during the coffee breaks.

Traffic to our exhibition booth, located on a "balcony"/mezzanine overlooking the main exhibition area, was primarily limited to the coffee breaks.

We shared the balcony with booths from other Toxicology Societies that were advertising meetings they were hosting (EUROTOX), or hoped to host (i.e. Spanish Association of Toxicology [SAT]- ICT XII) and IUTOX's RAAS booth. Prior to arriving in Tampere, we had understood that both the SAT and the Chinese SOT would be submitting bids to host ICT XII; however, the Chinese SOT could not get government support for their bid and were forced to withdraw. If only the timing of our bid had been so lucky as to have the opposition drop out at the last minute!

Special thanks to Louise Dallaire, from Tourisme Montréal, Jean Lillie and Diane Cloutier for the excellent job they did in helping us artistically-challenged types in setting up a smart looking booth. A special thanks also goes to those who donated draw prizes for people who provided us with their contact information: free hotel rooms during ICT XI from Tourisme Montréal (draw winners: Dr. Monica Lind - Stockholm, Sweden; Dr. Zhu Maoxiang - Beijing, China) and from David Josephy, copies of his new *Molecular Toxicology, 2nd Edition* (draw winners: Mr. Oliver Burk, Stuttgart, Germany; Assistant Prof. Diana Apostolova, Sofia, Bulgaria). We should have some pictures of the STC/ICT XI booth and some other ICT X activities for the STC Annual General Meeting.

Dr. Savolainen, President of ICT X, was a very gracious host and managed to fit in a rather extensive morning meeting with the members of the ICT XI Executive Committee who were in attendance. He discussed many of the travails he experienced before and during the meeting, everything from the efforts he went to in an attempt to attract attendees to Tampere through having scientists show up at the registration desk claiming poverty and asking to

be admitted free. Based upon Dr. Savolainen's comments, we will be prepared for many things at ICT XI but we will also need to be prepared for the unexpected as best we can! In addition, Dr. Eric Dybbing, the Past President of IUTOX, met with us and provided us with some very good insights about hosting an ICT meeting.

Len and Barbara met with the Clinical Toxicologists who wish to have a greater role and representation at upcoming ICT meetings. Len and Gaston also met with the American College of Toxicologists who would like to sponsor or co-sponsor a symposium at ICT XI to enhance their profile within the international toxicology community.

I cannot assess the overall scientific quality of the meeting since I only attended one

keynote address and one symposium but these sessions were well-attended and most people stayed for the duration of the presentations. I would be remiss if I did not report that Len did an excellent job, as usual, during the five minutes that he was given during the Closing Ceremony. He praised the ICT X organizers for the excellent job they had done and invited attendees to the wonderful city of Montréal and ICT XI.

In closing, it was a great learning experience for those members of the ICT XI Executive who were in attendance. We are already planning how we can improve upon various aspects of ICT X so that ICT XI will be the best ICT yet!



International Congress of Toxicology Congrès international de toxicologie

July 15-20 juillet 2007 Montréal, Canada

Toxicology: Discovery Serving Society

La toxicologie : La découverte au service de la société



THE VIEW FROM MY CANOE – Don Ecobichon

Autumn is the time to begin cleaning up the bird feeders for winter use and proofing the flower gardens against the deer who look on Betty's plants as a salad bar. Our "rodents" come in a large size and, despite the hours of enjoyment provided to us and the grandchildren, they are a big pain. "Our" buck and two yearling does (whom we knew as twins grazing and playing in the field opposite our home with their mother the year before) had distinctive personalities, the smallest doe being quite approachable, the other two standing further back watching closely to see if you really were going to put out some corn for them. That was my vain attempt to keep them from raiding the bird seed platforms. They would even stand in the field watching to see if the birds came, the equation being bird activity equals seed

availability. The routine was to feed the deer first and, when they left, fill up the platform feeders with sunflower seeds. By mid-afternoon, the deer would return much to the disgust of our winter birds and the squirrels and finish off the snacks. However, looking back at last winter's escapades, what a wonderful thrill it was to have them around.

I did not get much use out of the canoe this summer, given the rainy weather and rather poor fishing at times but, once again, it was pleasant to have two ospreys in trees close by and visits from three loons, all curious about what I was doing and accepting of any sunfish I threw their way. The geese will be moving southward soon, another of nature's delights. All this makes living in the country worthwhile!

In the July 17th issue of THE ECONOMIST, there was an interesting article regarding a guinea pig (cuy) breeding program being conducted in Peru to provide a bigger guinea pig for the table, thereby improving the protein diet of the indigenous people. Peruvians “go through” 22 million guinea pigs a year. They are a common sight around homes in Peru and northern Chile. The National Agrarian Research Institute has developed a super-cuy, weighing up to three kilos (10 lbs). What an experimental animal that would be! According to the Agriculture Ministry, guinea pig meat, tasting somewhat like rabbit, has more protein and less fat than chicken or pork. One of these large animals will easily feed a family of four. Are gourmet restaurants next?

With the construction of the Princess Diana’s memorial fountain and watercourse in London’s Hyde Park, some unforeseen problems arose – various microorganisms contributed by children, dogs and pigeons plus algae known as slime molds. A number of people slipped and fell, injuries resulting. It has now been closed to have the stone surface roughened and, possibly, to treat the water with chemicals, the latter contributing to the possible pollution of the Serpentine nearby. No one seems to want to take the blame but would not one think that someone would have anticipated these problems? Diana never liked the bureaucratic bungling that has been characteristic of governments.

Well, the Olympics are over, all except the recriminations, despair, finger-pointing and dodging responsibility. Despite the penurious medal collection acquired by Canada, some of the events (swimming, track and field, kyaks, 4- and 8-sculls) were so close in time(s) (a few one hundredths of seconds) that being the fourth, fifth or sixth fastest athlete in the event could not be considered a shabby performance. Dick Pound’s WADA caught a lot more drug-users than we heard about from Brian Williams on CBC – the positive testing athletes were conspicuous by their absence, just an empty lane

in the race. There was a good discussion of drugs and the Olympics in the August 7th issue of THE ECONOMIST.

Singapore has weathered the downside of high tech computer chips and other electronics by re-inventing itself as a haven for pharmaceutical manufacturing and biomedicine. In a short, succinct article in the August 14th ECONOMIST, the re-bound is discussed, one man, Philip Yeo, being largely responsible. He is the head of A*Star, a governmental agency in charge of co-ordinating the advance into biomedicine. I was unaware that most of the world’s leading drug firms make products in Singapore for global consumption – second quarter exports being 51% higher than that of a year earlier. Yeo wants to have Singapore as a centre of biomedicine innovation, moving from manu-facturing drugs to inventing and testing them. The government is investing nearly \$2 billion to make Singapore a global centre of excellence in several fields – stem cell research, regenerative medicine and cancer. A state-of-the-art campus, called Biopolis, will contain five public research institutes (genomics, stem cells, nanotech materials, etc.), together with facilities for big drug firms and biotech research. To assist in this change, the curriculae from childrens’ early education to university is being changed to promote the study of life sciences rather than fulfilling the aspirations of present-day students to be engineers. We have all seen the bombshells in the popular scientific literature about people, even whole laboratories, moving to Singapore from all over the world, attracted by the city-state, the pleasant environment and the funds to do research as one would want to do it. If you snooze, you lose and Singapore is not going to do that. Remember, Singapore is a small country, with no raw materials and no markets, but they have a highly educated population of young people, their main asset.

The following is an interesting tidbit that came to Betty via e-mail from our daughter-in-law’ mother. Hope you like it.

Noah and the New Ark

In the year 2004, The Lord came unto Noah, who was now living in Canada, and said, “Once again, the earth has become wicked and over-populated and I see the end of all flesh before me. Build another Ark and save two of every living thing along with a few good humans.” He gave Noah the blueprints, saying, “You have six months to build the Ark before I will start the unending rain for 40 days and 40 nights.”

Six month later, the Lord looked down and saw Noah weeping in his yard ... but no Ark. “Noah”, he roared, “I’m about to start the rain! Where is the Ark?”

“Forgive me, Lord,” begged Noah. “But things have changed, I needed a building permit. I’ve been arguing with the inspector about the need for a sprinkler system. My neighbors claim that I’ve violated the neighbourhood zoning laws by building the Ark in my yard and exceeding the height limitations. We had to go to the Development Appeal Board for a decision.

Then Transport Canada and the Departments of Highways and Hydro demanded a bond be posted for the future costs of moving power, trolley and other overhead obstructions, to clear the passage for the Ark’s move to the sea. I argued that the sea would be coming to us, but they would hear nothing of it.

Getting the wood was another problem. There’s a ban on cutting local trees in order to save the spotted owl. I tried to convince the environmentalists that I needed the wood to save the owls. But no go!

When I started gathering the animals, I was sued by an animal rights group. They insisted that I was confining wild animals against their will. As well, they argued the accommodation was too restrictive and it was cruel and inhumane to put so many animals in a confined space.

Then Environment Canada ruled that I couldn’t build the Ark until they’d conducted an environmental impact study on your proposed flood.

I’m still trying to resolve a complaint with the Human Rights Commission on how many minorities I’m supposed to hire for my building crew. Also, the trades unions say I can’t use my sons. They insist I have to hire only Union workers with Ark building experience.

To make matters worse, the Canada Customs and Revenue Agency seized all my assets, claiming I’m trying to leave the country illegally with endangered species.

“So, forgive me, Lord, but it would take at least ten years for me to finish this Ark.”

Suddenly the skies cleared, the sun began to shine, and a rainbow stretched across the sky. Noah looked up in wonder and asked, “You mean you’re not going to destroy the world?”

“No, said the Lord, the government beat me to it.”

BOOK REVIEW - Don Ecobichon

“Napoleon’s Buttons. How 17 Molecules Changed History” by P. LeCouteur and J. Burson. Jeremy P. Tarcher/Putnam, New York., 2003, pp. 375. \$45 CD.

The intriguing title led me to this book, the initial “thesis” being that Napoleon’s defeat had as much to do with the fact that tin, used for the buttons on the uniforms of the Grand Armee, changes its properties at extremely low temperatures and disintegrates into a gray powder. Of course, the soldiers faced starvation, disease and brutal cold, not to mention the pesky Russians. This is all discussed in the introductory chapter along with some interesting molecular chemistry on the pheromones secreted by queen honey bees and workers, these molecules (10 carbon straight chain acids) differ only in the position of a hydroxyl group (carbon #9, or #10).

Subsequent chapters deal with: peppers (capsaicin), nutmeg (isoeugenol, myristicin), cloves (eugenol) and ginger (zingiberone); ascorbic acid and scurvy; sugar, plantations and slaves; cellulose and gun cotton; explosives; silk and nylon; phenol and Bakelite; rubber and isoprene; synthetic dyes; drugs (ASA, sulfonamides, penicillins, steroids, cocaine, atropine, scopolamine, ergot alkaloids, LSD-25); opiates, nicotine, caffeine; olive oil chemistry; salt; chlorocarbon compounds (Freons, mustard gas, phosgene and, yes, PCBs); and lastly, antimalarials (quinine, chloroquine).

Each chapter deals succinctly with the history of the particular molecule, some basic chemistry and applications to the preparation of synthetic compounds and is filled with a lot of interesting snippets of information: e.g. (1) around two-thirds of African slaves in the New World laboured on sugar plantations; (2) per capita sugar consumption in England in 1700 was 4 lb., by 1780 it was 12 lb., and in the 1790s it was 16 lb., this once-expensive, luxury commodity becoming a staple food with ever-increasing per capita use to the present day. There is a lot of “gold” to be mined in this book, useful information for the classroom and just for general background knowledge. Well worth putting on your bookshelf.

BHOPAL 20 YEARS LATER

Michael Bourque, Vice president, Public Affairs
Canadian Chemical Producers Association.

On December 3, 1984, gas leaked from a tank of methyl isocyanate (MIC) at a plant in Bhopal, India, owned and operated by Union Carbide India Limited (UCIL).

The state government of Madhya Pradesh reported that approximately 3,800 persons died, 40 persons experienced permanent total disability, and 2,680 persons experienced permanent partial disability.

This was a defining moment for the chemical industry. At the same time, other serious environmental disasters around the world increased public fears about chemicals and their by-products. These fears gave rise to an aggressive and politically

effective activist movement directed against the chemical industry.

Disasters like Bhopal, Love Canal and Torre Canyon became synonymous with a huge industry that appeared careless and arrogant. The chemical industry seemed more concerned about profit and secrecy than about its employees, neighbours and customers.

While the chemical companies began to consider the problem, public outrage was increasing. Even groups of people who traditionally accepted the chemical industry and its products felt their concerns were being ignored.

Almost everything associated with chemicals was being questioned. Suspicions grew about research and development; not only about *how*, but also about *what* was being concocted in the laboratories and produced in the plants. The health and safety of chemical industry employees became an issue. Communities voiced concerns on several fronts: How safe were the transportation systems carrying chemicals through their neighbourhoods? What criteria governed the disposal of chemicals or the location of plants in their areas?

Clearly, the industry faced serious challenges. In 1985 the Canadian Chemical Producers' Association approached its membership with a radical concept called "Responsible Care".

As industry stakeholders examined this new approach, it soon became clear that Responsible Care was very different than anything they had seen before. In company boardrooms, eyebrows were raised as people realized that Responsible Care was, in fact, an ethic.

An ethic is a moral code of conduct. Simply stated, it means doing the right thing. Formally defined, ethical behaviour is conforming to accepted standards of professional conduct. Responsible Care is a unique application of these definitions.

The Responsible Care ethic and six guiding principles are brought to life by the six codes of practice. The codes govern the way a member company operates within its community. The codes contain over 150 requirements that control each step in a chemical's life cycle: research and development, transportation, manufacturing and disposal. Compliance is independently monitored and verified.

Accountability is at the heart of the Responsible Care ethic. Companies who commit to Responsible Care agree to have their operational practices scrutinized against the six codes. The companies also agree to have the results of this scrutiny made public.

Since its beginning in Canada in the mid 1980s, the chemical industries in 47 countries have adopted Responsible Care.

We now have data showing that the environment has suffered less damage by the chemical industry. There has been a net decline in the number of serious accidents involving chemicals. The chemical industry has reduced air and water pollution: harmful emissions and effluents are showing significant and steady declines. Employee health and safety have also been improved. We are not perfect, but Responsible Care has made our industry better, and has made us accountable to our stakeholders and our communities.

However, there is still a long way to go. We must be prepared to discuss the risk and benefits of certain products, and to address health questions with meaningful answers.

Canadians are increasingly concerned with the danger of products to human health. More than manufacturing practices or transportation accidents, when you ask Canadians what their concerns are with respect to chemicals, they cite the long term health effects of products and substances. Our Responsible Care ethic drives us to understand those products and compounds, and to invest in research to ensure that they are safe. It must also drive us to discuss scientific issues with interested Canadians. It is our job to create informed consumers, and to help people understand risks in a way that will allow them to develop good judgment.

As we approach the 20th anniversary of Bhopal, we must remember the commitment we have made as an industry to go beyond what's required in matters of health, safety and the environment. For the future, the most significant outcome may be Responsible Care's role in cultivating informed consumers with good judgment. In other words, Responsible Care consumers.

For more information visit the CCPa website at www.ccpa.ca

OBITUARIES:

Dr. Kundan S. Khera (May 12, 1922 to April 1, 2003)

Rudi Mueller

Born in 1922 in the village of Kot Khera, in the province of Punjab, India Kundan obtained his B.Sc. degree from Khalsa College in Amritsar. He earned a D.V.M., and a M.V.Sc. degree from the College of Veterinary Medicine, in Hissar, India. Facing many obstacles in his homeland he took advantage of a scholarship from the université de Sorbonne, Paris, France, where he earned a doctorate of science degree (D.Sc.) in June 1958. On the return to his *alma mater*, he was hired as Professor of Pathology (1960-62) at the College of Veterinary Medicine, Hissar, India. Always a fighter and eager to learn more he applied for and received a postdoctoral fellowship at Baylor University, Houston, Texas. Seeing the opportunities for professionals in North America, he moved to Canada and joined the Health Protection Branch (HPB, today called HPFB: Health Products and Food Branch) as a pathologist in 1964.

During that period one of the worst drug induced human tragedies was unfolding: thousands of malformed babies were born to mothers taking Thalidomide. Teratology was of foremost importance. Dr. Khera's started his work at HPB in the field of reproductive and developmental toxicity. For over 28 years he pioneered new methodologies for determining the safety of drugs and chemicals with regard to reproductive and developmental toxicology. In his research he addressed health concerns related to a great variety of chemicals such as sodium glutamate, sodium cyclamate, MSG, Agent Orange, methyl mercury in fish, Amaranth, vomitoxin, caffeine, ethylene urea (fungicide), and many common pesticides.

Fascinated by teratology, Dr. Khera engaged in intense studies of maternal toxicity. His experiments showed that such a distortion of maternal homeostasis on its own was producing adverse effects on embryos regardless of the specific xenobiotics involved. This controversial issue occupied most of his time for over two decades. Through designing key experiments in rats and mice, he went on to demonstrate that distortion of maternal homeostasis played a pivotal role in producing fetal malformations. This influenced regulatory agencies worldwide to make changes to the tests required for new chemicals. Many organizations and agencies such as the FDA, WHO, the International Life Sciences Institute, etc. sought his valued advice. He made significant contributions to editorial boards of major scientific journals. Respected by his peers, he received the Arnold J. Lehman Award from the Society of Toxicology (SOT) in 1988. Dr. Khera gained international recognition through his hard work that was a continuation of his struggles that started in early life ("A Life of Struggles," Publish America, 2003). He left India for lack of opportunity for advancement and became an internationally recognized toxicologist in Canada, his adopted Homeland. Never denying his roots, he nurtured them through his love for Indian music and poetry.

Dr. Robert Dugal (1942 – 2003) – Gordon Krip

We have only recently learned of the untimely passing of our esteemed and dear colleague Robert Dugal. Robert joined the Society administration in those early days by providing relatively scarce computer resources. He also served a term as Secretary and collaborated in much of the development of the Society in those early formative years of STC. Robert was a proud early recipient of the Society's prestigious Henderson Award for young investigators. This was awarded in recognition of his important research and early development of technologies for detecting illegal substances in athletes.

After graduating in pharmacy, Robert went on to study at the University of Wisconsin and returned to the Université de Montréal where he obtained his Ph.D. in Pharmacology. Among the highlights of Robert's career, is his remarkable contribution to Montréal's recognition as an international leader in methods of analysis for detecting illegal drug use in sports. Under his direction, the laboratories of the INRS – Santé were mandated to carry out "anti-doping" controls during Montreal's Olympic Games in 1976 and those of Lake Placid in 1980. Robert's last positions were as Vice-President of Policy, Planning, Research at *Canada's Research-Based Pharmaceutical Companies* (Rx&D) and Executive Director of the Rx&D Health Research Foundation. Intellectual rigour characterized the academic and professional work of Robert Dugal. He passed away on November 21, 2003 in Ottawa.

The Robert-Dugal Graduate Scholarship in Pharmaceutical Sciences was awarded for the first time during a private reception held in Montréal on October 18, 2004. Dedicated to the memory of Dr. Robert Dugal, who graduated in Pharmacy from the Université de Montréal, this scholarship is offered jointly by the Rx&D Health Research Foundation and the Faculté de pharmacie of the Université de Montréal. The scholarship is for students enrolled in the graduate program in pharmaceutical sciences at the Faculté de pharmacie.

Nous avons appris tout dernièrement la mort prématurée de Robert Dugal, un collègue que nous avons estimé et fort apprécié. Robert a joint la Société alors qu'elle était à ses débuts dans le milieu scientifique. Il nous a aidé avec l'administration de la Société en nous fournissant les ressources informatiques rares à l'époque. En tant que secrétaire pendant un terme, il a collaboré au développement de la Société dans ses premières années formatives. Robert a reçu avec fierté le prestigieux prix Henderson de la Société pour jeunes investigateurs. Ce prix lui a été décerné en reconnaissance pour l'importance de sa recherche et le développement de technologies pour dépister les substances illégales chez les athlètes.

Notons, qu'après l'obtention de son diplôme en 1965, Dr Dugal a poursuivi sa formation en recherche à l'Université du Wisconsin, puis à l'Université de Montréal où il a obtenu son Ph.D. en pharmacologie. Parmi les faits marquants de la carrière de Dr Dugal, soulignons sa contribution remarquable au rayonnement de Montréal sur le plan international alors qu'il dirigeait, de 1973 à 1990, les laboratoires de l'I.N.R.S. – Santé voué, entre autres, au contrôle du dopage. Sous sa direction, ces laboratoires ont été mandatés pour le contrôle antidopage des Jeux olympiques de Montréal en 1976 et de Lake Placid en 1980. Décédé le 21 novembre 2003 à Ottawa, Dr Dugal a terminé sa carrière à titre de vice-président, planification, politiques et recherche de *Les compagnies de recherche pharmaceutique du Canada* (Rx&D) et directeur général de la Fondation pour la recherche en santé de Rx&D.

Le 18 octobre dernier s'est tenue la première remise de la Bourse Robert-Dugal, offerte conjointement par la Fondation pour la recherche en santé de Rx&D et la Faculté de pharmacie de l'Université de Montréal. Cette bourse, créée en hommage au Dr Robert Dugal, pharmacien diplômé de la Faculté, est destinée aux étudiants du programme de doctorat en sciences pharmaceutiques à la Faculté de pharmacie.

DREAMS – Anonymous



The first day of school our professor introduced himself and challenged us to get to know someone we didn't already know.

I stood up to look around when a gentle hand touched my shoulder. I turned around to find a wrinkled, little old lady beaming up at me with a smile that lit up her entire being.

She said, "Hi handsome. My name is Rose. I'm eighty-seven years old. Can I give you a hug?" I laughed and enthusiastically responded, "of course you may" and she gave me a giant squeeze.

Why are you in college at such a young, innocent age?" I asked. She jokingly replied, "I'm here to meet a rich husband, get married and have a couple of kids..."

"No seriously," I asked. I was curious what may have motivated her to be taking on this challenge at her age. "I always dreamed of having a college education and now I'm getting one!" she told me.

After class we walked to the student union building and shared a chocolate milkshake. We became instant friends.

Every day for the next three months we would leave class together and talk non-stop. I was always mesmerized listening to this "time machine" as she shared her wisdom and experience with me.

Over the course of the year, Rose became a campus icon and she easily made friends wherever she went. She loved to dress up and she reveled in the attention bestowed upon her from the other students.

She was living it up. At the end of the semester we invited Rose to speak at our football banquet.

I'll never forget what she taught us. She was introduced and stepped up to the podium. As she began to deliver her prepared speech she dropped her three by five cards on the floor.

Frustrated and a little embarrassed she leaned into the microphone and simply said, "I'm sorry I'm so jittery. I gave up beer for Lent and this Whiskey is killing me! I'll never get my speech back in order so let me just tell you what I know."

As we laughed she cleared her throat and began, "We do not stop playing because we are old; we grow old because we stop playing. There are only four secrets to staying young, being happy and achieving success. You have to laugh and find humor every day. You've got to have a dream. When you lose your dreams, you die. We have so many people walking around who are dead and don't even know it! There is a huge difference between growing older and growing up. If you are nineteen years old and lie in bed for one full year and don't do one productive thing, you will turn twenty years old. If I am eighty-seven years old and stay in bed for a year and never do anything I will turn eighty-eight. Anybody can grow older. That doesn't take any talent or ability. The idea is to grow up by always finding the opportunity in change. Have no regrets. The elderly usually don't have regrets for what we did, but rather for things we did not do. The only people who fear death are those with regrets."

She concluded her speech by courageously singing "The Rose." She challenged each of us to study the lyrics and live them out in our daily lives.

At the year's end Rose finished the college degree she had begun all those years ago. One week after graduation Rose died peacefully in her sleep. Over two thousand college students attended her funeral in tribute to the wonderful woman who taught by example that it's never too late to be all you can possibly be.

Editor's Note: The above article was sent to me on my 65th Birthday. I thought I would share it.

EDUCATION CORNER – Bill Racz

Last summer a colleague from another university asked me the following question: If an undergraduate program was to offer laboratories in **TOXICOLOGY**, what are the key concepts that should be covered and what would the laboratories entail. I made one or two suggestions and then stated that I would consult with other toxicologists. As I am, after several months, still waiting for their response, I decided that I would seek input from the members of STC. Anyone with a suggestion or view should email the editor at the address on the front cover. A summary of the responses will be available in a future edition of the newsletter.

STC ANNUAL SYMPOSIUM 2004 – Bill Racz / Gordon Krip

Appended to the Newsletter are the program and registration forms for the 37th Annual STC Symposium: “Relationships Between Health and the Environment: The Role of Toxicology”. This is a timely and exciting program; we encourage everyone to attend.



STC Student pre-symposia mixer Sunday, December 5, 2004

The STC recognizes that students are a vital part and represents the future of our society. The transition from student to professional life is not always straightforward and choice of a career path often involves an element of chance and serendipity.

This year STC is organizing a student mixer on Sunday evening starting at 7:00 PM at the Delta Hotel Centre-Ville (room to be announced) for an informal exchange of the path more seasoned students of toxicology have taken over the years. The event is sponsored by the INRS-Institute Armand Frappier Toxicology Program. Several toxicologists from the private, academic and government sectors will briefly describe their career paths in toxicology.

This will be over pizza and beer to allow the students to find out more about what they can expect and what strengths are important in different fields of toxicology. The board would like to have as many students as possible to attend this evening of networking. This is the first time STC has organized this type of event.

In order to assist with our planning please e-mail your intention to participate as follows:
lena.king@sympatico.ca.

Lena King, Ph.D.
Councillor, STC

STC - Soirée pré-colloque pour les étudiants Dimanche le 5 décembre, 2004

Pour la STC, les étudiants forment un élément essentiel et représentent le futur de la société. Passer de la vie scolaire à professionnelle n'est pas toujours facile et le choix d'une carrière implique souvent un élément de chance et d'heureux hasard. Cette année, la STC organise une soirée pour les étudiants qui aura lieu dimanche le 5 décembre à 19h à l'hôtel Delta Centre-Ville (pièce à confirmer). Cette soirée sera l'occasion pour les étudiants en toxicologie les plus avancés dans leur cheminement de partager leurs expériences. Cette soirée est parrainée par le Programme de toxicologie de l'Institut Armand Frappier- INRS. Plusieurs toxicologistes des secteur privé, universitaire et gouvernemental décriront brièvement leur cheminement de carrière.

Pizza et bière seront au rendez-vous pour permettre aux étudiants de découvrir ce qui les attends de même que les qualités requises dans les différents domaines de la toxicologie. Le comité directeur aimerait voir autant d'étudiants que possible participer à cette soirée de réseautage. Ce genre d'événement est une première pour la Société. Pour nous aider à l'organiser, veuillez s'il vous plaît, nous envoyer un courriel indiquant votre intention de participer à l'adresse suivante:

lena.king@sympatico.ca.

Lena King, Ph.D.
Conseillère, STC

**APPEL DE PROPOSITIONS
POUR LA RÉUNION ANNUELLE 2005 DE LA STC
Michel Charbonneau, Vice-Président**

Le Comité du programme est responsable du contenu des sessions scientifiques de la réunion annuelle. Selon la pratique courante, les trois membres du comité identifient des thèmes possibles, les développent, et en discutent avec le Conseil de la STC; le vice-président de la STC agit comme liaison avec le comité. *Le Conseil de la STC désire promouvoir la participation des membres dans l'élaboration du programme de la réunion annuelle.* Les membres bénéficieront de cette opportunité de pouvoir suggérer/promouvoir des champs disciplinaires spécifiques qui, par ailleurs, aideront le Comité du programme à sélectionner les thèmes et les sujets pour la réunion. De façon globale, une plus grande participation des membres augmentera le dynamisme de notre Société et s'assurera que la réunion annuelle est un forum scientifique orienté vers les besoins changeant de ses membres. Pour atteindre cet objectif, VOTRE participation est requise.

Le Conseil de la STC vous invite à soumettre des « sujets et conférenciers » que vous aimeriez voir à la réunion annuelle de 2005. Il est aussi possible de suggérer une courte série de « sujets-conférenciers » reliés qui pourraient entrer dans le cadre d'une sous-section du programme (sorte de mini-symposium qui pourrait cadrer dans un bloc (partie d'un matin ou d'un après-midi)). Vos propositions doivent être soumises à Louise Winn (winnl@biology.queensu.ca), Présidente du Comité du programme 2005 avant le **17 décembre 2004**. Dans le but de construire un programme cohérent et intégré, le Comité du programme sélectionnera les propositions les plus pertinentes. Les suggestions qui ne seront pas retenues pour le programme 2005 seront discutées avec les proposeurs pour explorer la possibilité d'une inclusion au programme de l'année suivante. Les membres sont tout spécialement encouragés à préparer des propositions qui seront soumises à titre de groupe.

**CALL FOR PROPOSALS FOR THE 2005 STC ANNUAL MEETING
Michel Charbonneau, Vice-President**

The Program Committee is responsible for the content of the scientific sessions at the Annual Meeting. In the current practice, the three members of this Committee raise possible themes, develop them, and receive input from the STC Board ; the Vice-President of STC acts as a liaison with the Board. *The STC Board wants to promote the participation of the membership at large in developing the programs of the Annual Meeting.* The membership will benefit from this opportunity to suggest/promote specific scientific areas of interest to them, and will help the Program Committee select themes and topics for the meeting. Overall, a greater participation of the membership will make our Society more dynamic and will ensure that the Annual Meeting is a scientific forum oriented towards the evolving needs of its members. To achieve this goal YOUR participation is required.

The STC Board therefore invites you to submit "topics and speakers" that you would like to

see at the 2005 Annual Meeting. It is also possible to suggest a small series of related "topics-speakers" that could fit into a segment of the program (sort of mini-symposium that can fit into a block (part of a morning or an afternoon)). Your proposals should be submitted to Louise Winn (winnl@biology.queensu.ca), Chair of the 2005 Program Committee before **December 17 2004**. In order to build a coherent and integrated program, the Program Committee will be responsible for the selection of an appropriate program. Suggestions that will not be included in the 2005 program will be discussed with the submitters to explore possibilities for inclusion in the 2006 program. Members are specifically encouraged to submit proposals as a group.

Conferences and Meetings

2004

Dec. 6 – 7 Society of Toxicology of Canada 37th Annual Symposium
Relationships Between Health and the Environment: The Role of Toxicology

2005

Mar. 6 – 10 Society of Toxicology 44th Annual Meeting
New Orleans

July 6 – 8 Joint meeting of the British and Canadian Pharmacological Societies
Cambridge, England

June 22 – 25 Canadian Federation of Biological Societies Annual Meeting
University of Guelph, Guelph, Ontario, Canada

2007

July 14-21 11th International Congress of Toxicology, ICT-XI
Montréal, Québec, Canada

Dear STC Symposium Participants:

If you have not yet completed your travel arrangements to attend our Annual Symposium in Montreal on 6th and 7th December please note that due to other events at the hotel it is already fully booked for bedrooms.

If you need assistance getting reasonable accommodation near the Delta Centre-Ville please contact Ron Gasco (an associate of Louise Dupras) at 1-800-263-5494 or ron@voyagestourex.com

If you require Metro/subway transportation to get back and forth to the Delta Centre-Ville at 777 University Street it is connected inside at the **Place Victoria** Metro station on the **Orange** Line.

Regards,

Cher Participant,

Pour ceux qui n'ont pas encore fait leur réservations pour la réunion annuel à Montreal à l'hôtel Delta Centre Ville, soyez avisé que l'hôtel est complet.

Veillez contacter Ron Gasco (un associé de Louise Dupras) à 1-800-263-5494 ou ron@voyagestourex.com qui vous assistera de trouver un autre hôtel dans les alentours pour un prix raisonable.

Si vous allez vous servir du métro pour allez a l' hotel Delta Centre Ville à 777 rue université. soyez avise que l' hôtel se trouve sur la ligne **Orange** et la station s'appelle **Place Victoria**.

Salutations,