

STC

NEWS/NOUVELLES

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FROM THE EDITOR'S DESK

Michael Prior



PLUS ÇA CHANGE, PLUS C'EST LA MÊME CHOSE¹ - Michael Prior

It has been a busy summer. My wife and I overdosed for nine days on weaving at the biennial conference of the Handweavers Guild of America, held in Vancouver this August - only the second time in Canada. Then back home to welcome house guests, and the delightful task of introducing Bob McDonald of CBC's "*Quirks and Quarks*" at the Festival of the Written Arts in Sechelt, BC.

Bob McDonald is a champion of science, a good communicator, and a lot of fun to talk with. In the penultimate chapter of his book² he shares the contradiction of "*visiting research hospitals to interview scientists fighting on the front lines in the war on cancer*" whilst each evening he visited another hospital where his best friend was dying. He found this a hard lesson in reality, where the "*cheery optimism of scientists experimenting in laboratories*" was a long way from the "*cures that are able to help people with the disease today.*" The gap between research and cure was too wide to help his friend, who died of a brain tumour. Later in this issue, read David Josephy's account of a much narrower gap between research and cure. Again a very personal story, this one about David's sister-in-law.

After attending the Gibsons Landing Fibre Festival and entering a tapestry for a memorial show for "9-11" at the local Art Centre, we belatedly went to Tofino, on the west coast of Vancouver Island, for some recreation and refreshment. For Muriel and

I, there is something mystical about being by the ocean. The sound of the surf, the spray, luxurious growth in the rainforest, beach-combing, early morning mist, and the predictable regularity of the tides, which are influenced, of course, by the moon. The moon led to the founding of the Lunar Society on Sunday, December 31, 1775. When did they meet? Their dinner meetings were held on the Sunday or Monday closest to the Full Moon, of course! The reason for proximity to the Full Moon was rather prosaic, it made travel easier before the days before street lighting. This small group of 14 members included Erasmus Darwin, Samuel Galton, Joseph Priestley, Jonathan Stokes, James Watt, and Josiah Wedgwood. The group specialized in the application of science and technology to industry³.

Walking along Long Beach, I was struck by how little change in the environment was visible over a short time period, despite all that tidal and wave and wind energy. Rather like reading about current toxicological concerns. Seems to be little change over the years. It is still the usual suspects: heavy metals, pesticides, industrials, and carcinogens⁴. There is the occasional variant, such as corrosion in the hulls of 39 Russian nuclear submarines. According to Viktor Akhunov, head of the department of ecology and decommissioning at Miniatom, this poses "*the greatest danger*" to the environment and security of the region⁵.

This summer I have been working closely with many fibre and non-fibre artists, all creative and capable people. Just like research scientists really. For both have creative thought processes, original ideas, are productive, formative, and develop new techniques to turn their abstract ideas into something tangible and testable. Indeed, there are similarities between organizing a group of artists preparing for a major exhibition and managing a group of research scientists:

- Funding is always tight.
- There is a need to establish an environment that encourages creativity and risk taking.
- People should have support as they wrestle with difficult techniques and grieve non-starting ideas.

And then it all comes together. The scientific experiment is successful in testing the hypothesis and has scientific credibility. The art piece is finished and has artistic integrity. Both scientist and artist have pushed their personal boundaries, and those of their disciplines, to create something novel, something new. Building on what had gone before, yet offering a new insight, a new perspective.

Scientific and artistic creativity implies debate and testing. We take it for granted that ideas and concepts will be challenged by our peers, and by others. For opposing views imply debate and testing of those ideas and concepts. Returning from our short holiday, and back to the daily news and events, one is struck by how the artistic and scientific worlds differs from the political. In the later, an opposing view may be perceived as opposition to authority, in Canada and elsewhere. Without getting into the ongoing debate about terrorism and freedoms, let us stop off in Alberta.

The President of the Society of Medical Officers of Health, Dr David Swann, whilst speaking on behalf of the Society, publicly endorsed ratification of the Kyoto accord. According to the Canadian Press, because he made this statement, he was fired from his regular position as a medical officer of health with the Palliser Health Authority in southern Alberta. "*I certainly in no way intended to embarrass my board. I was simply doing what I thought was my job and acting on behalf of the Society of Medical Officers.*" His concern was the effects of the burning of fossil fuels on human health⁶. In scientific terms this may be a minor matter, scientists often disagree on the interpretation of data - though this is not a minor matter for the Swann family. Unfortunately, censorship is not unknown to scientists. Dare one mention Copernicus, Galileo, Darwin, tectonic plate theory, prions, and almost any scientist who proposes a novel theory or goes against the expected or required results? Subsequent to this episode, Alberta Health revealed it would be willing to consider giving medical health officers more protection from political interference if they want it⁷. In a joint press release with the Palliser Health Region, Dr Swann said he will pursue other opportunities and not accept an offer to return to his job⁸.

The *potential* for censorship is a concern in any situation of special interest funding, e.g. by the pharmaceutical or tobacco industries. So too there is concern for the *potential* for scientific misconduct, regardless of funding source. The Bell-shaped curve is a familiar construct. One that has taken on a new meaning recently. On September 25, 2002, Bell Laboratories released a report on the activities of Dr Jan Hendrik Schön, one of their physicists. A major scientific fraud was confirmed⁹. Briefly, Dr Schön looked at semiconductors and superconductivity. He was caught because he used identical (though differently labelled) graphs to illustrate papers in these different fields. From this, one might learn that scientists are human too, with good and bad traits. Further, that experiment and theory rarely, if ever, match exactly. In hindsight; Dr Schön's results were (almost) too good to be true.

The more things change, the more they are the same.¹

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FROM THE DESK OF THE PRESIDENT

Sheldon H. Roth



The STC Board of Directors fall meeting is usually held in Montreal, Quebec. This year, however, it was decided to hold the meeting in Toronto to facilitate travel for some individuals and possibly to reduce expenses. The recent meeting was held at the Pfizer Laboratories in Mississauga, Ontario on Sunday, September 29th, 2002. Most of the members were able to attend in person; two were connected via conference call. Many thanks to Len Lillie for making all the arrangements and generously providing the facilities and lunch. The agenda for this meeting consisted of three pages, and there was some concern that there would not be sufficient time to complete all the items. However, we were able to finish the meeting in good time for everyone to make their return flights, etc.

One of the most important items on the agenda at this meeting was the completion of details for the Annual Symposium.

Congratulations to the Program Committee, Gordon Kirby (Chair), William (Bill) Casley and Dino Manca for generating a most exciting program. Thanks also to Barbara Hales who keeps the Board well informed. Personally, I am very excited about this year's program, and urge everyone to attend and also to advertise it widely. The presentations will be most informative and timely. Please download the poster from the website and display it on your bulletin boards. The new venue, Delta Centre-Ville, will be more suitable for a larger audience and allow everyone to participate in a relaxed and comfortable environment. Having a new venue required extra responsibilities for our Executive Director Gordon Krip, assisted by Heather Durham and Barbara Hales. Please refer to the program information in this issue of the Newsletter, and go to the [STC website](#) and register **NOW**.

The achievements and accomplishments of the STC will be presented in detail at the Annual General Meeting. However I am pleased to report that many of the Committees have been busy over the year with science policy, membership, lobbying, fund raising, and ICT XI (2007) arrangements. As you are aware, the STC will be hosting the XI International Congress of Toxicology, July 14-21, 2007, in Montreal. The Organizing Committee for the ICT XI (2007) has been very active under the leadership of Len Lillie, Vice-President of the Congress. I am happy to report that the President of the Congress is Dr. Gabriel Plaa. Len will be attending as many Board meetings as possible to keep us informed of the progress of the Organizing Committee. Phase one is well underway.

This year STC has taken an active role in CFBS advocacy meetings. The Science Policy Committee is being chaired by Roger Keefe. I want to thank Colin Rousseaux for attending a meeting in May 2002 on behalf of the society. We will continue to send representatives to as many meetings as possible and maintain an active role and interest in science policy. We now have a STC LOGO! Congratulations to Patricia Solbeck of the University of Guelph for providing the winning entry to the LOGO contest (runner up was Reimar Gaertner). You will see that Patricia's logo has been incorporated into this year's poster advertising the Annual Symposium and also on the program and registration form. The logo is currently being further developed by a graphic artist for letterhead, etc.

An electronic directory (membership list) is being generated. This will be available to all active members, and also assist us in keeping up to date with contact information, dues. We hope to have this completed before the Annual Meeting. We are also in the process of drafting a one-page brochure for the Society that will be useful for promotion and fund-raising.

As stated in my previous message, the Board is committed to enhancing awareness of the STC and attracting new members. However, we need the help of all members to achieve these objectives. Please encourage all your colleagues in toxicology (or related sciences) to be members of our national society. Application procedures have been simplified and can be easily obtained from the [STC website](#).

The registration fees for the Annual Symposium are not sufficient to cover all the expenses for the meeting. Sufficient

funding is particularly important to maintain reasonable registration fees for all members as well as subsidized fees for students and PDFs. The registration fee is still very reasonable considering that it includes light continental breakfasts, lunches, refreshment breaks, programs, and also covers the expenses for speakers. You will notice that the registration fees for the 35th Annual Symposium have been increased slightly. This was necessary since expenses have increased and external funding is more difficult to obtain. We will require more external funding to maintain an affordable registration fee therefore I encourage everyone to help us. Please provide input and suggestions for potential sponsors and/or donors. We are also in need of volunteers who can help with fund-raising and advertising. Please respond.

I ask every member to take a more active role in the activities of the Society. The Board welcomes everyone to volunteer for committees, provide ideas for new activities, or express their concerns. Please feel free to contact any member of the Board or directly to [me](#), or by phone at (403) 220-6002. Please help make our Society even greater.

I hope to see as many members as possible at the Annual Symposium. It will be an exciting and informative event and also provides an opportunity to gain new knowledge and visit with 'old' friends. Please encourage our next generation of toxicologists, the students and PDFs, to attend and present a poster. Students can apply for assistance if required.

See you in December in Montreal.

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A BREAKTHROUGH DRUG FOR A RARE CANCER

DAVID JOSEPHY

1. A grim diagnosis.

In late October 2000, I read a disturbing e-mail message from my brother Michael. His wife Elsie had been feeling unwell and Dr. Tencio, who examined her at the Clinica Catolica (they live in Costa Rica with their three children), noticed that she was "*a bit jaundiced*". Much more worrying news soon followed. Ultrasound revealed lesions on her liver and then a CAT scan showed a growth near the pancreas. It was probably pancreatic cancer and she was scheduled for

immediate surgery.

I'm not a doctor but I have years of experience in molecular bioscience and cancer research. I gave what advice I could. I sent a long e-mail letter; I tried to be reassuring, pointing out (as was clearly true) that Elsie had none of the known risk factors for pancreatic cancer. She was in her 40s and the disease is rare in individuals so young; she had never smoked. We desperately hoped that the doctors were mistaken.

Nov. 8. In the operating room, the surgeon recognized immediately that this was not a pancreatic tumour. He removed a 100 gram mass from the stomach wall; its proximity to the pancreas accounted for the radiologist's confusion. But there were multiple metastases in the liver, and the surgeon could do nothing about these, other than to take pathology specimens. The surgeon suggested a "stromal tumor" or "leiomyosarcoma". Many years before, Elsie had had a benign growth, a "leiomyoblastoma", removed from her stomach wall; this might have returned, in a more aggressive state. But the diagnosis was still uncertain.

My first e-mail went to a physician-scientist in Montreal whom I've known for many years, a well-respected clinical oncologist. "*Listen*", he replied, "*it's important to get the pathology - if this is intestinal stromal cell sarcoma - because this weekend, as it turns out, I heard some confidential but remarkably exciting data about therapy for this quite rare tumour type.*" How important this suggestion would soon prove to be!

Next, I heard from a sarcoma specialist who told me that "*leiomyosarcoma of the stomach is ... now called gastrointestinal stromal tumour (GIST). ... The most important first step for your sister-in-law is to have the tumour reviewed by a pathology lab able to make the determination of its origin.*"

2. *The pathology of GIST*

I spent hours studying MedLine. I learned that GIST, only recently named, is a rare sarcoma which apparently arises from the "interstitial cells of Cajal", the pacemaker cells which regulate motility along the digestive tract. For that reason, the tumour can appear anywhere along that tract, but most commonly adjacent to the stomach. (The disease is unrelated to much more common "stomach cancers", which are carcinomas derived from epithelial cells). The incidence of GIST is probably only a handful of cases per million persons per year.

On Nov. 14, another sarcoma specialist told me more about the new therapy. It was a drug called STI-571. Dr. George Demetri of Dana-Farber Cancer Center in Boston was in charge of its clinical evaluation.

Just two years earlier, Japanese researchers had identified a characteristic mutation found in many of these tumours (Hirota et al., Gain-of-function mutations of c-kit in human gastrointestinal stromal tumors, *Science* 279:577-580, 1998). The mutations affected an oncogene called c-kit (first identified on a feline tumour virus). c-Kit protein is a tyrosine kinase, the receptor for a growth signal called "steel factor" or "stem-cell factor". In the tumour cells, the receptor is highly expressed and constitutively active. It soon became clear that c-kit mutations are the hallmark of GIST; immunostaining for c-Kit was recognized as decisive for diagnosis. GIST, which had not been fully distinguished from other soft-tissue sarcomas, was now clearly understood as a unique disease.

I asked my brother to send me the full pathology report on my sister-in-law's tumour. It arrived on Nov. 15. The translation from Spanish was not difficult. "*De acuerdo a la historia de reseccion previa de un tumor del estroma gastrointestinal, el tumor actual corresponde probablemente a metastasis de dicha lesion. La clasificacion definitiva en uno u otro grupo requiere tinciones de inmunoperoxidasa. ... Diagnostico: Tumor del estroma gastrointestinal, maligno, metastasico a peritoneo e higado.*"

So Dr. Piza, the pathologist, thought that it was indeed a GIST and this diagnosis seemed to fit. Although a very rare tumour, the literature indicated that it typically occurs in middle-age, affecting women and men about equally. For a definitive diagnosis, the tumour sections would have to be stained for analysis of c-kit expression, but that antibody test was not available in Costa Rica. I told my brother that he should talk to the pathologist and ask for some of the original slides. A few days later, Michael told me how surprised Dr. Piza was to be dealing with a living person, for a change; in any event, he was happy to turn over some specimens to the patient.

One of the best pathology consulting services is at Sloan-Kettering Cancer Center in New York City. Their web page says that "*The Center's 20 pathologists see a greater percentage of unusual tumor specimens in a week than most pathologists see in a year.*" On Friday afternoon, Dec. 8, I faxed my request for assistance to one of the sarcoma specialists at Sloan-Kettering. I had just arrived at my office, early on Monday morning, when the phone rang: Dr. Huvos was calling from New York. Sure, he said, send me the samples, just as soon as possible. The specimens were relayed to New York and we waited to hear the verdict.

Elsie was now convalescing at home and regaining her strength. The shock of the diagnosis and surgery had abated a little, and, with the diagnosis confirmed, we now had to think about options for therapy. The literature was sparse and in a few respects contradictory, but it was uniformly discouraging. No-one had any good ideas about treatment strategies and the survival rates were grim. There were some reports on chemotherapy with conventional cytotoxic drugs, but the results were very poor. (In fact, it seemed to me that the few cases which had responded might just have been faulty diagnoses.) Radiotherapy was not a good option even for localized GIST, let alone for disseminated disease.

With urgency, we searched for more information about STI-571. Reading recent research papers and scouring for reports on the Internet, an extraordinary and hopeful story was revealed. It all started with studies of a form of leukemia.

3. A new kind of chemotherapy

Most cancers (perhaps all) have their origin in activating mutations of oncogenes or inactivation of tumour suppressor genes. Decades of study of the molecular biology of cancer had uncovered many of these genes, but the discoveries had not yet had much impact on therapy. Cancer researchers had often held out the vision of a new kind of chemotherapy. Rather than killing dividing cells almost indiscriminately, this targeted therapy would attack the specific enzymes that turned a normal cell into a tumour. But the vision has been very hard to realize; the obstacles were easy to see. Even when a critical gene was identified, could any drug specifically inactivate the corresponding protein, without unacceptable side effects on normal tissues? Many tumours are genetically unstable and have not one, but many (perhaps thousands) of mutated genes. What benefit could be gained from attacking just one or two of them?

Cells from certain tumours have characteristic cytogenetic abnormalities. One of the classic examples is the so-called "Philadelphia chromosome" of chronic myelogenous leukemia (CML). This chromosome rearrangement causes the constitutive activation of an oncogene called *abl*. Scientists at Novartis in Switzerland had discovered a selective *abl* inhibitor of the *abl* tyrosine kinase (Buchdunger et al. Inhibition of the Abl protein-tyrosine kinase in vitro and in vivo by a 2-phenylaminopyrimidine derivative, *Cancer Res* 56: 100?104, 1996). Back in 2000, this drug was still known only by the serial number STI-571 (STI for "signal transduction inhibitor"). Now it carries the trade name Glivec (Gleevec in the USA) and the generic name imatinib. In the first clinical trials against CML, the drug was spectacularly successful. The numbers of Philadelphia chromosome-positive cells in the blood dropped dramatically and stayed down.

Much later, I would hear Dr. Dan Vasella, the chief executive officer of Novartis, describe his reaction upon hearing the results of the first clinical trials with STI-571. *"Dr. Reinhart showed me the [data] with chronic myeloid leukaemia ... I looked at it and I thought, "That's not possible!", because everyone responded! So I called him up and I said, "This must be a lab error or something" [and he said] "No! I double-checked!" And I knew, when he said "I double-checked" - then, I knew, this was real. And so, I said to him, "We must move ahead very quickly", and he said "We can't. We don't have drug substance ... We cannot produce ..." And I said, "Well, we will produce!" ... And, in fact, in Ireland, our production people worked 24 hours, seven days a week, and nobody complained ... because some colleagues from Clinical Development ... explained what this was all about. ..."*

Dr. Vasella had taken the bold decision to scale up drug production immediately, to provide enough drug for the expanding CML trials. The company invested \$100 million in a new production facility in Ireland.

The astonishing success of glivec against CML, a depressingly hopeless cancer, was reported at the American Society of Hematology's annual meeting in San Francisco at the beginning of December 2001. The news wires carried a story about the breakthrough: "*Cancer drug produces dramatic results - leukemia reduced in tested patients. -- An experimental pill has produced dramatic results and few side effects in treating people stricken with a deadly form of leukemia. Doctors ... say the pill, Glivec, could give new hope to victims of chronic myelogenous leukemia After six months of therapy with Glivec, preliminary findings showed that half of 290 patients tested were improving. ...*"

4. *The clinical trial*

After the identification of c-kit mutations in GIST, it was soon discovered that glivec was also a good inhibitor of the c-Kit enzyme (Buchdunger et al., Abl protein-tyrosine kinase inhibitor STI-571 inhibits in vitro signal transduction mediated by c-kit and platelet-derived growth factor receptors, J. Pharmacol. Exp. Ther. 295: 139-145, 2000). In early 2000, the first trials of STI-571 in GIST patients began. It was the circulating news of the exciting early results of these trials that had reached me in November.

I was co-chairing a symposium on the Chemistry of Carcinogenesis at the big PacifiChem conference in Hawaii in early December. On the flight to the meeting, I read the Supreme Court's decision awarding the presidency to George Bush Jr. I spent ten days traveling around Kauai and the Big Island. The weather, the volcanic vistas, and the spectacular Hawaiian birdlife were beautiful, but I was as much focused on locating Internet cafes and checking the latest messages from my brother. Sloan-Kettering reported on Dec. 18. The Costa Rican pathologist had been correct. "*I find a malignant gastrointestinal stromal tumor. The c-KIT (CD-117) stain is highly positive. Andrew G. Huvos, M.D.*"

We stood at a crossroad. The oncologist in Costa Rica was recommending an immediate course of standard chemotherapy with alkylating agents. I knew what that would mean, and that it was unlikely to be effective. At the same time, it was clear that the clinical trial with the Novartis drug was expanding rapidly. And so, as the year was ending, Elsie had to make a difficult decision: start conventional chemotherapy, as her doctor recommended, or try to get onto the STI571 trial. But how and where? We needed information and the internet proved crucial.

The patients enrolled in the STI-571 trials had already become organized over the Internet. With the assistance of Gilles Frydman's remarkable "Association of Cancer Online Resources" (www.acor.org), a listserv discussion group, The LifeRaft Group (www.liferaftgroup.org), was formed. ACOR is an umbrella organization which hosts many cancer-related listserv discussion groups; as of the time of writing, it is carrying almost 2,000,000 e-mail messages weekly! The GIST/STI571 e-mail discussion forum (which is restricted to patients and caregivers) allows patients from around the world to discuss the progress of the clinical trials, drug side effects, diagnostics, clinical measurements, and other medical issues, as well as providing practical

advice and emotional support. In Dec. 2000, the LifeRaft Group was just getting started and its main mission was to disseminate information about the STI-571 trials. Mr. Norman Scherzer, a retired public health administrator in New York, has been the chief architect of the LifeRaft Group organization.

Michael discovered this invaluable resource. Just before Christmas, we learned that NCI USA was sponsoring a clinical trial that would enrol most of the newly-diagnosed metastatic GIST patients in the USA, randomizing them between lower and higher doses of glivec (no-one would receive placebo, since the effectiveness of the drug was already considered proven). We were advised to contact a sarcoma specialist at Columbia-Presbyterian Hospital in Manhattan, which was about to open up an arm of the NCI trial. (Canadian sites were expected to follow in short order, but there was no point waiting.) Michael phoned the hospital and spoke to Dr. Keohan. She answered right away and said "Just get on the plane and come here as soon as you can". Michael and Elsie flew to New York in early January, 2001. She was randomized to the higher dose, 800 mg daily, and given her first bottle of yellow glivec pills. The parameters of the clinical trial required her to stay in New York for two months of weekly check-up visits. After that the schedule dropped to monthly and then three-monthly appointments.

There is no need for hospitalization, just occasional check-ups to monitor possible hepatic or hematological side-effects. Almost all of the patients experience some edema, giving the face a slightly puffed-up appearance, and a variety of other side effects have also been observed.

The first case report of the treatment of GIST with glivec appeared on April 5, 2001 (Joensuu et al., Effect of the tyrosine kinase inhibitor STI571 in a patient with a metastatic gastrointestinal stromal tumor, N. Engl. J. Med. 344: 1052-1056, 2001). The most spectacular illustration in the article was a pair of "before and after" PET scans. On the left, multiple metastases are seen in the liver and upper abdomen; on the right, after four weeks of treatment, the lesions have disappeared. Those dramatic pictures were flashed across the major TV network news programs.

The next month, glivec pills were featured on the cover of Time magazine (May 28, 2001). *"There is new ammunition in their war against cancer. These are the bullets. Revolutionary new pills like Glivec combat cancer by targeting only the diseased cells. Is this the breakthrough we've been waiting for?"*

I don't often look at Time, but I've kept my copy of that issue. The Business section shows an artist's rendering of the soaring new headquarters of Enron Corporation (*"What's fueling the high-rise fever is simple: excess cash. Enron's first quarter revenues were up 281% ... Deregulation and new marketing strategies are sparking Houston's renaissance."*)

As of August 2002, Elsie is still taking Glivec daily, she is still stable, and she is much healthier than Enron. The drug is saving more and more lives every day (Schwartz, A molecular star in the wars against cancer, N. Engl. J. Med. 347: 462-463,

2002). In the next newsletter, I'll tell you about the May 2002 meeting in Massachusetts which transformed the Life Raft from a list of e-mail addresses into a gathering of people with faces, histories, and new hope.

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THE ASPIRATION HAZARD OF PETROLEUM PRODUCTS - WHAT'S NEW?

Carol Drury, Co-ordinator, Toxicology and Product Stewardship, Shell Canada Limited

Aspiration can be defined as the entry of liquid (or, less commonly, solid) materials through the oral or nasal cavity into the trachea and lower respiratory structures (1). This review will focus only on the entry of liquids, particularly petroleum products.

Aspiration can be the result of a person drinking the liquid (such as lamp oil) and having it *"go down the wrong way"* or swallowing it and then vomiting it back up. Aspiration may also occur if a product, such as a hydraulic oil, is being sprayed into the air as a fine aerosol around operating equipment. For many years it has been recognized that the entry of small liquid drops deep into the lung can result in a type of pneumonia which can be fatal. The CONCAWE report (2) on "Petroleum Products - First Aid Emergency and Medical Advice", published in 1997, indicated that low viscosity (less than 7 mm²/s) materials were of primary concern. A more recent review of the literature and compilation of data (1) has suggested that surface tension also plays a role and that there are two types of effects, chemical pneumonia and lipid pneumonia.

Aspirated light hydrocarbons impair the lung fluid surfactant function, leading to alveolar instability, early distal airway closure and ventilation/perfusion mismatches with subsequent hypoxemia (2). This can lead to a variety of complications including chemical pneumonitis, pulmonary edema, emphysema and ultimately death in severe cases. This is an acute reaction, more relevant to the consumer and the home environment.

Lipoid pneumonia may result from the inhalation of mineral oil mists. The presence of lipid droplets in the lung may elicit an immune reaction and, over a long period of repeated exposure, result in benign lung fibrosis. This is more likely to be a result of chronic overexposure, more relevant to the workplace (3).

One result of the increased awareness of the potential aspiration hazard is that First Aid trainers now recommend NOT to induce vomiting for any substance except under the direction of medical personnel (4).

The Consumer Product Safety Bureau of Health Canada has introduced criteria-based classification for aspiration hazard under the new Consumer Chemicals and Containers Regulations, 2001 (5), which came into effect on October 1, 2001. The criteria include " a viscosity of 14 mm²/s or less at 40°C ".

Under the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS), classification criteria are currently being developed for aspiration hazard. Health Canada representatives are members of the OECD Task Force on Harmonization of Classification and Labelling who are working on these criteria.

In Germany, there has been increased concern over the number of infants who have swallowed coloured lamp oils and subsequently died from the effects of aspiration. These lamp oils are generally light petroleum distillates or paraffinic oils. As a result, the Federal Institute for Health Protection of Consumers and Veterinary Medicine (BgVV) has promoted increased awareness, including the introduction of a new EU risk phrase, R-65 "Harmful: May cause lung damage if swallowed" and trade restrictions on some lamp oils (6). Products in Europe require the R-65 statement if they have 10% or more of a hydrocarbon and a viscosity less than 7 mm²/s

There is still some question as to whether other properties such as surface tension or volatility are determinants for aspiration hazard. The EU has used surface tension as a negative criterion "*need not be classified if they have a mean surface tension greater than 33 mN/m at 25°C*"(7). Volatility or boiling point has been suggested as a factor which requires expert judgement (1) - e.g. perhaps methanol does not present an aspiration hazard because it vaporizes rapidly and is released - but there has not been any direct correlation established.

Listed below is a summary of some physical properties and the related assessment of hazard for some common products.

Product	Viscosity, mm ² /s (cSt) at 40 C	Surface Tension, mN/m at 40 C	Aspiration Hazard
Gasoline	<1	20	Acute exposure
Kerosene	1.2 to 3.0	24	Acute exposure
Lamp oil	1.1	22 to 24	Acute exposure
Diesel fuel	1.5 to 4	26	Acute exposure
White mineral oil	7.4	28.3 at 25 C	Negative test results

Metal-working fluid	32	Unknown	Chronic exposure
10W-30 engine oil	67	29	Chronic exposure
Gasoline Antifreeze	0.8 at 20 C	22.5 at 20 C	No evidence - contains methanol
Radiator Coolant	8	Unknown	No evidence - contains ethylene glycol

In summary, although there is still discussion about the specific viscosity value to be used, it is agreed that light hydrocarbons, including fuels, heating oils and solvents, present an acute aspiration hazard with potentially serious complications including death. High viscosity hydrocarbons only present a hazard through long-term exposure to high airborne concentrations.

Acknowledgement: I would like to thank Lisa Wardell, Consumer Product Safety Bureau, Health Canada for providing some of the reference documents and the updated status regarding the GHS.

References

1. Craan, A.G. "Aspiration hazard and consumer products: a review", International Journal for Consumer Safety, vol. 3, no. 3, 1996, pp153-164.
2. CONCAWE, "Petroleum Products - First Aid Emergency and Medical Advice", report no. 1/97, 1997, available from [their web site](#)
3. CONCAWE, "Health Aspects of Worker Exposure to Oil Mists", report no. 86/69, 1986, available from [their web site](#)
4. First Aid Training Manual, 2001
5. Consumer Chemicals and Containers Regulations, 2001, Canada Gazette, Part 2, vol. 137, issue 17, August, 2001
6. Hahn, A., "Health Impairment by Lamp Oil Ingestion", Federal Institute for Health Protection of Consumers and Veterinary Medicine (BgVV), 2001
7. EU (2001) Directive 2001/59/EC (28th ATP of the Dangerous Substances Directive)

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LETTER FROM IUTOX - ASTRAZENECA FELLOWSHIPS

Dear Member Societies,

IUTOX is pleased to announce that we will again be awarding AstraZeneca fellowships to attend the Annual SOT, USA meeting to be held in March 2003 in Salt Lake City, UTAH. The fellowships are available to senior scientists from a country where toxicology is under-represented, and who either have an active research program, or are currently active in the practice of toxicology. Details of the awards can be found on [our IUTOX web site](#).

All submissions must be received no later than November 30, 2002. Awardees will be notified by January 5, 2003.

Meryl H. Karol, Ph.D.

Secretary-General, IUTOX

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SOCIETY OF TOXICOLOGY OF CANADA

35th ANNUAL SYMPOSIUM - 35^{EME} COLLOQUE ANNUEL

DE LA SOCIÉTÉ DE TOXICOLOGIE DU CANADA

December 5 & 6, 2002

Delta Centre-Ville, Montréal, Québec

Theme: TOXICOLOGY OF SENSITIVE POPULATIONS

THURSDAY, 5th DECEMBER

Session one: risk factors associated with toxicities in sensitive populations

9:00 a.m. Chairperson / Président de session: Gordon Kirby, *University of Guelph*

Introduction

Gender

9:30 a.m. Steven Narod, *University of Toronto*

Oral contraceptives and insulin-like growth factor-1: implications for pre-menopausal breast cancer risk.

10:00 a.m. Coffee break

10:30 a.m. Bill Nelson, *The Johns Hopkins University School of Medicine*

GSTP1 methylation and prostate cancer susceptibility.

Age

11:00 a.m. Daniel Sinnett, *Université de Montréal*

Polymorphisms in carcinogen metabolizing genes and the susceptibility to childhood leukemia

Racial and Ethnic Groups

11:30 a.m. Pierre Ayotte, *Université Laval*

Organochlorines, mercury & lead exposure in Inuit populations

12:00 a.m. Discussion and Chairperson's concluding remarks

12:05 a.m. Poster Session

12:30 p.m. Lunch

1:30 p.m. Poster session

Session two: mechanisms of susceptibility in sensitive populations

Chairperson / Président de session: Allan Okey, University of Toronto

2:00 p.m. Rachel Tyndale, *University of Toronto*

Gene defects and drug dependence: CYP2A6 polymorphism and nicotine dependence.

2:30 p.m. Jan Hoeijmakers, *Erasmus University*

DNA repair mechanisms, cancer susceptibility and aging: Evidence from mouse models

3:00 p.m. Coffee break

3:30 p.m. Jack Uetrecht, *University of Toronto*

Immunology and idiosyncratic drug reactions.

4:00 p.m. Discussion and Chairperson's concluding remarks

FRIDAY, 6th DECEMBER

Session three: monitoring of sensitive populations for toxicity

Chairperson / Président de session: Jeff Kawamoto, Boehringer-Ingelheim Canada

8:55 a.m. Introduction

9:00 a.m. Chris Bradfield, *University of Wisconsin Medical School*

So Many Poisons, So Little Time

9:30 a.m. James Selkirk, *National Institute for Environmental Health Sciences (NIEHS)*

Toxicogenomics at The National Institute of Environmental Health Sciences.

10:00 a.m. Coffee

10:30 a.m. Paul Schulte, *National Institute for Occupational Safety and Health (NIOSH)*

Screening for genetic "predisposition" to occupational health hazards: Ethical issues.

11:00 a.m. Discussion and Chairperson's concluding remarks

11:15 a.m. Jack Bend, (EM)University of Western Ontario

CHIR Initiative to Develop a National Research Agenda on the Environment and Health

11:35 p.m. Poster Session

12:15 p.m. Lunch

Session four: current and future approaches for regulation of health risks in sensitive populations

Chairperson / Président de session: Bill Casley Health Canada / Santé Canada

1:25 p.m. Introduction

1:30 p.m. Dale Hattis, *Clark University*

Assessing Interindividual Variability in Susceptibility to Environmental Health Risk

2:00 p.m. Bette Meek, *Health Canada*

Addressing Variability in Risk Assessment: Recent Developments

2:30 p.m. Collette Strnad, *Health Canada*

Emerging regulatory philosophies for "At Risk" populations. The Assessment of

QT Interval Prolongation Potentials

3:00 p.m. Discuss and Chairperson's concluding remarks

3:15 p.m. Conference Conclusion

This information was correct at the time of going to press.

For further information please contact Dr. Gordon Kirby,

Chair of the Scientific Program Committee,

Tel: 519-824-4120, Fax: 519-767-1450

**TO REGISTER VISIT THE [STC ANNUAL SYMPOSIUM/COLLOQUE ANNUEL web site](#)
WHERE YOU WILL ALSO FIND INFORMATION ON AIR TRAVEL AND HOTEL ACCOMODATION.**

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THE VIEW FROM MY CANOE

Don Ecobichon



These paragraphs come at the end of one of the busiest and driest summers on record, at least from my perspective. Early June was spent in getting ready for a marathon teaching seminar course in Southeast Asia from mid-June to mid-July. Two weeks of teaching in Bangkok, with a pesticide conference thrown in, and then on to two weeks visiting Myanmar, Cambodia and Laos. One cannot access these countries by air from points within any one of them, so it meant returning to Bangkok, recharging the battery, and then off in another direction the next day. A month is too long in the hot, humid tropics at the beginning of the monsoon season even though it was extremely interesting to see and talk to the scientists about "down-on-the-ground" problems. I return for two weeks in mid-September to Bangkok for a course.

Stephen Jay Gould died over the weekend of May 18th-20th. As one editorial put it "...One miracle of reading is that it can allow you to develop a great affection for the mind of someone you've never met". That is certainly the case. Best known for books such as "The Flamingo's Smile" among others, he wrote some 300 consecutive monthly columns for NATURAL HISTORY, more than 20 books and nearly 1000 scientific papers, all showing his encyclopedic knowledge of biology, palaeontology, and his interest in evolution and people. Already, I miss his thought-provoking essays in NATURAL HISTORY. There is an excellent example, a reprint of a 1984 essay entitled "Carrie Buck's Daughter" in the July Issue of NATURAL HISTORY. An individual of his calibre comes along only once in a while.

I am sure that, like me, you have noticed these people who seem incomplete unless carrying or sucking on a bottle of

water - from pure springs, of course. Where and when did this fad start? It had something to do with the myth that you had to drink 8 glasses of water a day. According to TIME, there is no scientific evidence to back up this tale, eight glasses being unnecessary and even excessive, increasing potential exposure to pollutants and possibly causing health problems. You need extra water in hot weather conditions, something that I can vouch for from experience in the tropics, but only under unusual circumstances.

With some global warming occurring, ambient summer temperatures being higher further away from the equator, we are being plagued with "new" diseases - western equine encephalitis (around for some years now), St. Lawrence encephalitis, West Nile virus, fungal infections, etc. We have been told that these organisms could not over-winter in their vectors - mosquitos. However, that appears to be false. You only have to live around the Rideau Canal system to realize that in the early 1800s, some 500 of the builders died of "*swamp fever*", a form of malaria indigenous to eastern Canada. The temperate climate malaria, *Plasmodium vivax*, used a particular strain of mosquito - *Anopheles quadrimaculatus* and most likely overwintered either in the mosquito or in a nice warm human host.

Speaking of which, you will remember the neurological disorder coming out of Guam, seemingly a variant of amyotrophic lateral sclerosis (ALS) among the Chamorro people living there and thought to be related to eating toxin-contaminated flour prepared from cycad fruit during times of food shortages during and after WWII. The candidate toxin was thought to be a water soluble molecule. However, recent information has revealed that the Chamorro people loved to eat fruit bats (flying foxes) which appear to subsist on cycad seeds. There was a decline in the disease when the bats were hunted almost to extinction. Oliver Sachs has been involved in new investigations, and there is a suggestion that it is not a water-soluble toxicant that is involved (the bats would not store this) but another, lipid-soluble, as yet unknown, neurotoxin that is biomagnified in the bats. To create chaos in the hypothesis, some ALS patients have never eaten flying foxes (SCIENCE 296,241/02).

An interesting short paper in SCIENCE (297,811/02) described the effects of caloric restriction on the slowing of aging and maintenance of health and function in male rhesus monkeys, something that toxicologists know about if they used rats in any chronic studies. The biomarker used was the serum level of dehydroepiandrosterone (DHEAS), the rate of decrease being slower with caloric restriction, the monkeys maintaining more "youthful" levels of adrenal hormone. It was suggested that male humans are equally affected.

The focus on stem cell research remains in the news. President Bush claimed that there were some 60 human embryonic cell lines available to researchers, obviously data that he had obtained from the NIH. However, a study reported in SCIENCE (297,923/02) suggested that US scientists could only find four strains readily. There were lots of strains "listed" around the world in various research institutes, but few were deliverable. A recent article on Singapore in THE ECONOMIST (Aug. 24th) discussed the government's search for a "new" industry and it has decided on stem cell research - providing \$1.7 billion US to

promote research, attract international life-sciences firms and to finance the local biotechnology businesses. They have already set up two new university faculties and five new research centres and are recruiting big names in the field, e.g. Alan Colman (cloned Dolly the sheep), Yoshiaki Ito, from the University of Kyoto complete with his research team and others. The government has made it easy to carry out stem cell research, legally and financially. It is the old story - if you can't do it here, you can do it somewhere else.

Still lots of news concerning genetically engineered crops. A recent study, done in Australia where farmers began planting varieties of canola with resistance to acetolactate synthase-inhibiting herbicides in 2000, revealed that the herbicide-resistant trait spread via pollen to 63% of nearby conventional fields, some as far as three kilometers away from the source (SCIENCE 296,2314/02). The good news was that the percentage of resistance among seed samples ranged only up to 0.2%, the average per field being 0.07% with the vast majority of fields containing less than 0.03% resistant seeds. These results were lower than had been predicted from other studies. The study points out that once transgenes are introduced, they cannot be completely controlled. However, while "*zero tolerance*" is the aim of the anti-GM crowd, it is not going to work.

In the most recent TOXICOLOGICAL SCIENCES (68,267-269/02), there is a nice profile and tribute to John M. Barnes, a pre-eminent British toxicologist. For those who do not know who he was, he was the first director of the Toxicology Research Unit of the British Medical Research Council, publisher of nearly 120 papers, concerning original research, reviews and the safe use of chemicals and the hazard they present to man. He was also involved in the early days of the organophosphorus ester insecticides in collaboration with Norman Aldridge. He died in 1975, much lauded by his colleagues around the world. Worth reading!

We have our refurbished 17-foot, cedar strip canoe in the water and are doing some paddling around the nearby lakes. Being proportionally wider, it is more comfortable for Max, our labrador, with less risk of his tipping it over. I have not, however, had much time for fishing. Who says that retirement brings lots of free time!

[Note from David Josephy. Only once was I privileged to hear Stephen Jay Gould speak - in Guelph, last February, when he received an honorary doctorate. Later that day, he spoke to an overflowing audience, extemporaneously, for an hour, with hardly a pause. He lectured from a seat, so one could tell that he was physically weak, but he made no mention of his illness.]

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BOOK REVIEW

Don Ecobichon

"La Diva Nicotina. The Story of How Tobacco Seduced the World." Iain Gately. Simon and Shuster. ISBN 0-7432-0812-9. Can\$37.00, pp.404.

After a long wait, I finally received a copy of the book - well worth it. This is a social history of tobacco through the centuries rather than an anti-smoking tirade one might anticipate. There are a lot of interesting, basic facts in the 19 chapters and, fortunately, there is a relatively good index to help in finding specific points again. Two chapters deal with research and cancer litigations.

The history and origins of tobacco are discussed and surprisingly, while it was considered a New World plant, it was well known (and used) in many cultures around the world - Africa, China, Japan and through the Amerindian tribes in North and Central America (Mexico, Caribbean Islands, etc.). The Iroquois in Canada had tobacco when Cartier arrived and he wrote about how it was grown, cured and used. From Central America, the conquistadors brought back seeds that found their way into gardens as beautiful flowers long before the reputed medicinal properties were explored by Jean Nicot (1559).

The growing of tobacco came to prominence in the North American colony of Virginia where John Rolfe (who married Pocahontas) learned to grow and to breed a flavoursome strain of *Nicotiana tabacum* to be known as Orinoco (later Virginia) from seeds brought from Trinidad. This crop literally saved the dying colony. In 1616, John Rolfe took the first crop of Virginia Tobacco to England. By 1618, 20,000 pounds were exported while in 1640 and 1700, 1.5 million and 38 million pounds were shipped, respectively, becoming a highly sought trade item. The down-side was that, being a labour-intensive crop, tobacco was the instrument by which slavery was introduced into Virginia, slaves being obtained from the Dutch who had taken over the Portugese slave trade in West Africa - slaves for tobacco.

There are chapters on world trade (historical), on seductive advertising, the appeal to the public through collusion with movie stars, and the development of a multi-billion dollar industry that is still going strong today, having moved off-shore to third-world, developing countries. It is a good read, a lot of facts that I did not know about, a book that could go on your Christmas wish list.

NEWS FROM OTTAWA / NOUVELLES D'OTTAWA

Renaud Vincent



Health Canada Research Forum.

For the past two years, Health Canada investigators have held a half-day research forum at the annual meeting of the Canadian Federation of Biological Societies. The events focussed on basic and applied research in health sciences and toxicology conducted by Health Canada scientists.

Participants were mainly from the National Capital Region. The forum consisted in 5-6 oral presentations which had been selected from among 50-80 abstract submissions for poster presentations. From memory, these were the very rare opportunities ever been offered to Health Canada scientists to discuss, scientist to scientist, the issues of the day and recent developments in research. This year, the *Health Canada Research Forum - From Science to Policy* is going national with a full two-day scientific event, sponsored by the Office of the Chief Scientist, which will be held on 18-19 November 2002 at the Marriott Hotel in Ottawa. Well over 200 abstracts have been submitted by scientists from all regions of Canada, representing all health sciences disciplines and describing scientific activities at the levels of laboratory and clinical research, epidemiology, policy analysis, regulatory and evaluative sciences within the department. So far, close to 500 registrants and guests are expected to converge to Ottawa to share new data, scientific and policy insights, and to discuss the national implications of their work. The 2002 Forum is organized around the three main themes of Genomics and Health, Children's Health, and Contaminants in Food, Water and

Air. International experts have been invited to speak at plenary sessions on these three themes. Fifteen concurrent platform sessions will also be held over the two days on the various aspects of research in these areas. In addition, all 200+ abstracts submitted will be presented in poster form to allow maximum interaction between participants. The format this year is geared at generating the widest participation possible from everyone involved in scientific activities at Health Canada, whether as knowledge generators, knowledge crunchers, or knowledge users. The first objective is to bring investigators and analysts together for a long overdue interaction... But another important objective is to radiate nationally the quality of the intramural science done at Health Canada. Guests from the Canadian Institutes of Health Research and from various stake holder organizations will be able to obtain first hand information on science and policy at Health Canada, directly from the mouth of those involved in doing the work. The abstracts of the scientific communications and the proceedings of the Forum will be published in both official languages and will be available at large on request.

Forum de recherche de Santé Canada.

Au cours des deux dernières années, les scientifiques de Santé Canada se sont rencontrés au cours de demi-journées de recherche dans le cadre de la réunion annuelle de la Fédération canadienne des sociétés de biologie. Le sujet principal était la recherche fondamentale et appliquée dans les sciences de la santé et toxicologie effectuée par les chercheurs de Santé Canada, et regroupait des participants principalement de la région de la capitale nationale. Le Forum consistait en cinq ou six présentations orales sélectionnées à partir de 50-80 résumés soumis pour présentation sous forme d'affiche. De mémoire, ces forums ont été les deux seules occasions pour les chercheurs de Santé Canada de discuter, de scientifique à scientifique, des questions de l'heure et des développements récents en recherche. Cette année, le *Forum de recherche de Santé Canada - de la science aux politiques* prend une envergure nationale avec un programme scientifique de deux journées complètes, parainné par le Bureau du chef scientifique de Santé Canada. Le Forum aura lieu le 18-19 novembre 2002 à l'hôtel Marriott d'Ottawa. Plus de 200 résumés ont été soumis par les scientifiques de Santé Canada, de toutes les régions du pays, représentant toutes les disciplines des sciences de la santé et décrivant des travaux de recherche en laboratoire ou recherche clinique, épidémiologie, analyse des politiques, sciences de l'évaluation et de la réglementation etc. À ce jour, près de 500 participants inscrits et invités sont attendus à Ottawa pour partager leurs résultats récents, leurs opinions sur la science et les politiques, et pour discuter des impacts nationaux de leurs travaux. Le Forum 2002 est organisé autour des trois thèmes principaux Génomique et santé, Santé de l'enfant, et Contaminants des aliments, de l'eau, et de l'air. Des experts internationaux sont invités à parler lors de sessions plénières sur ces trois thèmes. Quinze sessions scientifiques orales seront aussi tenues concurremment sur ces trois thèmes. Enfin, tous les 200+ résumés seront présentés sous forme d'affiche de façon à maximiser l'interaction entre participants. Le format cette année vise à permettre la plus large participation possible de tous ceux impliqués dans des activités scientifiques à Santé Canada, que ce soit les générateurs, les analystes, ou les utilisateurs de nouvelles connaissances. L'objectif premier est de rapprocher les chercheurs et les analystes pour une interaction qui est maintenant due depuis fort longtemps... Mais un objectif important est aussi d'irradier au niveau national la qualité de la science intramurale en cours à Santé Canada. Des invités des Instituts canadiens de recherche en santé et de plusieurs groupes d'intérêts pourront prendre connaissance de la recherche scientifique et du développement des politiques de la

bouche même de ceux qui en sont les premiers artisans. Les résumés des communications scientifiques et les comptes-rendus du Forum seront publiés dans les deux langues officielles et seront disponibles sur demande.

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USEFUL DEFINITIONS AND CONVERSION FACTORS

- Time between slipping on a banana peel and hitting the sidewalk = 1 bananasecond
 - Time it takes to sail 220 yards at 1 nautical mile per hour = Knot-furlong
 - 365.25 days of drinking low-calorie beer = 1 lite year
 - 1,000 aches = 1 kilohertz
 - Shortest distance between two jokes = a straight line
 - 10 rations = 1 decaration
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THE 5th CONGRESS OF TOXICOLOGY IN DEVELOPING COUNTRIES (5CTDC) November 10-13, Guilin, China

Professor Changqing YE (President, CST), Professor Erik Dybing (President , IUTOX), Co-Chairpersons, 5CTDC

The Chinese Society of Toxicology (CST) and the International Union of Toxicology (IUTOX) cordially invites fellow scientists in various fields of toxicology and related sciences to attend the 5th Congress of Toxicology in Developing Countries (5CTDC), to be held November 10-13, 2003 in Guilin, China. The main objective of this Congress is to provide a forum for discussing the toxicological problems facing the developing countries in the future, and exchanging views with toxicologists

from all over the world, especially the developing countries and regions.

The congress constitutes an important milestone for toxicology in developing countries after the first was arranged in Buenos Aires, Argentina in 1987, the second in New Delhi, India in 1991, the third in Cairo, Egypt in 1995 and the fourth in Antalya, Turkey in 1999. We are looking forward to meeting you at Guilin, China in November of 2003.

This Congress is organized by the Chinese Society of Toxicology (CST) and International Union of Toxicology (IUTOX). For details contact the Congress Scientific Secretary: Pingkun Zhou, Beijing Institute of Radiation Medicine, 27 Taiping Road, Beijing 100850, China. [E-mail](#), Fax: +86-10-68183899. Or go to the [Congress web site](#)

SYMPOSIA TOPICS

- Arsenic Contamination of Drinking Water in Developing Countries
- Occupational Health Challenges in Developing Countries
- Pesticides and Health Risks in Developing Countries
- Contribution of Life Style Factors to Acquired Susceptibility to Environmental Disease in Developing Countries

WORKSHOP TOPICS

- Safety Issues in the Use of Herbals in Medicine and Foods
- Waterborne Diseases Versus Chlorination By-products
- Poison Control Services in Developing Countries
- Outdoor and Indoor Air Pollutants in Developing Countries

PLENARY LECTURES

- Toxicology Information Resources Session
- Toxicology Education Roundtable Discussion
- Poster Sessions
- Continuing Education Courses

IMPORTANT DATES

- Preliminary Programme: December 2002P>
 - Deadline for submission of abstracts: May 1, 2003

 - Deadline for early registration at lower fee: August 1, 2003
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CANADIAN FEDERATION OF BIOLOGICAL SOCIETIES

Bruce Sells, Executive, Director

- We are pleased to announce that the CFBS Incoming President is David Andrews, Professor of Biochemistry, McMaster University and Canada Research Chair in Membrane Biogenesis.
- We are pleased also to welcome the Canadian Society for Immunology (CSI), beginning July 1, 2002, as full members of CFBS.
- CFBS has become a member of the newly-formed "Health Research Advocacy Network". Membership in this group, because of its size, will provide greater opportunity for life scientists to put forward their issues to higher levels of government.
- The 2003 Annual CFBS Meeting will be held in the Ottawa Congress Centre. June 11- 15. The main theme of the Meeting will be "Cardiovascular and Metabolic Disease". Also included in the program is the topic "Skeletal Aging". The scientific sessions are being organized with the cooperation of the CIHR Institute Cardiovascular and Respiratory Health, the Pharmacological Society of Canada, the Canadian Physiological Society, the Canadian Society for Nutritional Sciences, Health Canada, the Ottawa Heart Institute and input from individuals of the Heart and Stroke Foundation of Canada. We expect that other Societies may also wish to contribute to the meeting themes. A preliminary outline of the 8 symposia in the program will appear on the CFBS website at the end of September.
- The 2004 CFBS Annual Meeting: CFBS wishes to host the 2004 meeting in Western Canada and has asked the executives of each Society for suggestions of Themes, meeting location and Local Organizing Committees. Please encourage your executive to make your suggestions known. We welcome your input.
- Please consult the CFBS website for this year's advocacy brief "Capacity for Innovation" and for the Advocacy Report for the May 2002 visits to "decision-makers". We encourage you to communicate with us items related to our advocacy activities. Please remember that we in the CFBS Office are working for you.. The last year has seen passage of. "The

Species at Risk" Legislation and support for the "Indirect Costs of Research". We are also pleased to note that a new CIHR grants committee "Movement and Exercise" has been established. This latter announcement should please members of the Canadian Society for Exercise Physiology. Our involvement with the Canadian Consortium for Research (CCR) has resulted in a letter to Provincial Premiers encouraging them to develop a joint vision with the Federal Government regarding support of post secondary education.

- CFBS has been informed, by the Royal Society of Canada, that approval has been granted by Industry Canada for incorporation of the "Canadian Academies of Science" (CAS). Financial support is now being requested from the Government.
- The CFBS Annual Strategic Planning Meeting, which provides a forum for the Life Sciences stakeholders to articulate their comments, suggestions and criticisms, will be held on Saturday November 16th, 2002 in Ottawa at the Lord Elgin Hotel. Please encourage your Society/Institution to send a representative to ensure that your views will be heard. An agenda will be available shortly.
- CFBS 45th Annual Meeting pictures have been posted on the [CFBS web site](#) and [participating exhibitors' list and pictures](#)

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JOURNAL OF PHARMACOLOGY AND TOXICOLOGY

The National Research Council of Canada announces that recent issues are now available:

[Volume 80 Number 7 July 2002](#)

[Volume 80 Number 8 August 2002](#)

[Volume 80 Number 9 September 2002](#)

[Volume 80 Number 10 October 2002](#)

FEDERAL BUREAU OF INVESTIGATION SYMPOSIA

Debbie Wang, FBI

The FBI hosts symposia of interest to forensic scientists. Our last symposium in Forensic Toxicology was in 1992. The next Forensic Toxicology Symposium is scheduled for 2004.

The TIAFT meetings provide opportunities for education and discussions with colleagues in forensic toxicology.

FBI symposia are over a broad range of forensic topics from year to year; note that each symposium is on a specific topic. Symposia topics include:

- Postmortem Toxicology
- Behavioral Toxicology
- Clinical & Environmental Toxicology
- Forensic Urine Drug Testing
- Alternative Matrices
- Analytical Methods

More information is available at the [SOFT web site](#) under "Annual Meeting", or the [TIAFT web site](#) under "TIAFT Events".

AMERICAN BOARD OF VETERINARY TOXICOLOGY

The Certification Examination will be held July 20, 2003, at the Annual American Veterinary Medical Association

Convention in Denver, Colorado, USA. For details of applications and other information please contact: Dr Randall A. Lovell, FDA/Center for Veterinary Medicine, Division of Animal Feeds, 7500 Standish Place, Rockville, MD 20855, USA. Or e-mail Dr Lovell at <rl Lovell@cvm.fda.gov> or visit the [American Board of Veterinary Toxicology website](#).

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LIQUID NITROGEN IS NOT "SAFE"

According to a letter from an anonymous correspondent(1), the writer took a sip of liquid nitrogen to prove it was safe. Within two seconds the student had collapsed in intense pain, unable to breathe, and eventually passed out. The ensuing surgery took all night. *"My entire gastrointestinal tract was badly scarred and perforated"* wrote the student. *"They removed part of my stomach."* The expanding gas collapsed one lung. The student was discharged from hospital eight weeks later.

Reference

1. Chemical Health& Safety (2002), 9:4.
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A TERROR PROTEIN?

According to a university press release *"Researchers at the University of Warwick's Molecular Medicine Research Centre have found the 'Bin Laden' of cancer-causing faulty proteins."* Does that mean it is a protein that will get blamed for everything, but no one can isolate it or tell what it is up to?

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BEER MATS FOR ADVERTISING AND TESTING

According to a recent short report¹, there are three "*drug rapes*" on an average evening in Britain's bars and pubs. The chief suspect is flunitrazepam, a benzodiazepine. There is a well established therapeutic rationale for this and similar drugs, but rape most definitely is not one of them. The victims become drowsy, and wake up with no memory of much of the previous twelve hours. SSD, a small biotechnology company is about to launch a kit to test for flunitrazepam and other drug-rape drugs in drinks, using the surface of beer mats to hold a series of immunoassays. In Britain, 88 per cent of the victims of drug rape are female, and 12 per cent male. The test is easy, just moisten a test area on the beer mat and watch for colour changes. Unfortunately, neat spirits can mask the drugs. So caution is still necessary when drinking.

Reference

1. Anon (2002) "*Cheers, mate! A smart beer mat may help to stop drug-facilitated rapes*". The Economist, p 76. June 1.

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WHAT BLOWS AROUND, COMES AROUND

Mount Pinatubo in the Philippines erupted in 1991, killing hundreds of people and evacuating over one million more. Is fine ash from this explosion still be killing people today? Some volcanologists think this is the case (Geology, 2002, 30: 663). When the volcano erupted, debris was lifted to the stratosphere like in a fountain. The scientists believe the fountain collapsed, sending debris down the lower mountain in a pyroclastic flow. Analysis of ash particles in a 50 km area around the volcano demonstrated a much greater proportion of fine ash near the volcano than could have come from a central fountain - unless that fountain collapsed. The concern for toxicologists is the fine ash: particulate matter that, if inhaled, may cause a host of health effects, including pneumonia, bronchitis, asthma, and emphysema. The wind can re-circulate these deposited fine particles every time it blows. The implications for the persistence of long-term adverse health effects from major volcanic eruptions are obvious.

CELL PHONES

Blessing or curse? A blessing when you can call for help during an emergency on campus (we did), a curse when you are having a romantic dinner at an expensive restaurant (yes, really). On the blessing side, the debate about cell phone safety continues unresolved. Are there non-thermal biological effects? What are the putative mechanisms of action? Stay tuned!.

On the curse side, magnetic wood will block those annoying incoming calls. Just sandwich a magnetic layer between two layers of wood. No reception. The down side of this is that emergency workers, e.g. firemen and paramedics, would lose all radio communication when they entered premises with this magnetic wood. This could be very dangerous.

CONFERENCES, MEETINGS AND WORKSHOPS

2002

Dec 5-6 35th Annual Symposium, Society of Toxicology of Canada, Montreal, Quebec, Canada. Theme: Toxicology of Sensitive Populations. Contact: Dr. Gordon Krip, STC, P.O. Box 517, Beaconsfield, Québec, Canada. H9W 5V1

2003

March 9-13 42nd Annual Meeting of the Society of Toxicology. Salt Lake City, UT, USA. Contact: SOT, 1767 Business Centre Drive, Suite 302, Reston, VA 22090-5332, USA. Tel: 703-438-3115. Fax: 703-438-3113, e-mail: annette@toxicology.org Web site: <http://www.toxicology.org/>

Apr 27-May 1 International Society for the Study of Xenobiotics, 8th European ISSX Meeting. Dijon, France. Contact: ISSX

Office, PO Box 3, Cabin John, MD 20818, USA. Tel: 301-983-2434, Fax: 301-983-5357. E-mail: nholahan@issx.org Website: <http://www.issx.org/>

June 16-19 The Human Genome: Implications for Toxicologic Pathology and Carcinogenesis. Savannah, GA, USA. Contact: STP Meetings Department, 19 Mantua Road, Mount Royal, NJ 08061, USA

July 13-18 9th International European Association for Veterinary Pharmacology and Toxicology (EAVPT), Lisboa, Portugal. For more information visit the [EAVPT web site](#) or [e-mail](#)

July 19-21 30th Annual Meeting of the Japanese Society of Toxicology, Azabu University, Sagamihara (Tokyo Area), Kanagawa, Japan. Contact: Prof. Fumiakii Akahori, Dept of Pharmacology, School of Veterinary Medicine, Azabu University, 1-17-71 Fuchinobe, Sagamihara 229-8501, Japan. Tel:0081-42-754-7111, Fax: 0081-42-752-3415, or [E-mail](#)

Sept 4-9 North American Congress of Clinical Toxicology. Chicago, IL, USA. Contact: Contemporary Forums, 11900 Silvergate Dr. Dublin, CA 94568, USA. Tel: 925-828-7100. Fax: 925-828-2121. or [E-mail](#)

Sept 14-19 14th World Congress on Animal, Plant and Microbial Toxins. Adelaide, Australia. Contact: The Congress Secretariat, c/o Associate Prof⁴essor Julian White, Toxinology Department, Women's and Children's Hospital, North Adelaide SA5006, Australia

2004

June 13-17 Non-rodent Species in Toxicologic Pathology, Salt Lake City, UT, USA. Contact: STP Meetings, 19 Mantua Road, Mount Royal, NJ 08061, USA

July 11-16 10th International Congress of Toxicology, ICT-X, Tampere, Finland. Contact: [E-mail ICTX](#)

Aug 28-Sept 3 FBI Laboratory Forensic Toxicology Symposium & Joint Meeting of the Society of Forensic Toxicologists (SOFT) and The International Society of Forensic Toxicologists (TIAFT). Washington, DC, USA. Contact: Marc A. LeBeau, Federal Bureau of Investigation, FBI Laboratory, Phone: 202-324-8472, Fax: 202-324-4633, [E-mail](#) Websites: [SOFT](#) or [TIAFT](#)

2007

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

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