Vth COMTOX SYMPOSIUM
ON TOXICOLOGY AND CLINICAL
CHEMISTRY OF METALS
Vancouver, British Columbia, Canada
10 to 13 July 1995

Site and date

The Vth COMTOX Symposium will be held at the University of British Columbia on 10 to 13 July 1995, in the week between the VIIth International Congress of Toxicology in Seattle, Washington, and the American Association for Clinical Chemistry meeting in Anaheim, California. The Symposium is a Satellite Meeting of the International Congress of Toxicology.

The Four Major Themes of the Scientific Program

Analysis of Metals in Biological Materials
Inductively coupled plasma mass spectrometry and atomic emission spectroscopy; electrothermal atomic absorption spectrometry; neutron activation analysis and related techniques, electron microprobe analysis; voltammetry and related techniques; speciation by high performance liquid chromatography; capillary electrophoresis with metal-sensitive detectors; metal receptor isolation by metal-affinity chromatography; Western blots with metal radioprobes; reference methods and materials; quality assurance, and interlaboratory harmonization of metal analyses.

Molecular Biology & Toxicology of Metals
Cellular entry and subcellular translocation of metals; metal-binding to macromolecules and diffusible ligands; metallothionein and its isoforms; metals in cell division, gene replication, and transcription; metal-induced free reactions; mechanisms of metal genotoxicity, carcinogenesis, and teratogenesis.

Metals in Health and Disease
Metal absorption, distribution, and kinetics; animal models; nutritional essentiality; dietary requirements; reference values for metals in body fluids and tissues; toxicity for brain, liver, kidney, heart, lung, bone, and skin; hematological, immunological, endocrine, and reproductive effects; interactions of essential and toxic trace metals; genetic disorders of metal metabolism; inter-individual variation in susceptibility to metal toxicity; metal accumulation in organ insufficiency; metal compounds as drugs and chemotherapeutic agents; chelation treatment and dietary therapy for metal overload.

Occupational & Environmental Exposures
Chemical and biological monitoring of metal exposures from occupational, environmental, and iatrogenic sources; metal release from dental and orthopaedic prostheses; biomarkers of metal toxicity and carcinogenesis; epidemiological studies.
Lectures

Trace Metal Analysis
Chemical speciation of metals in biological materials. R Cornelis (Belgium)
Trace metal isotopes in body fluids. D Templeton (Canada)
The impact of laboratory design on analytical sensitivity for trace metals. TP Moyer (USA)
Quality control of trace element measurements in body fluids and tissues. Y Thomassen (Norway)
Quality assurance of blood lead assays for screening and diagnostic purposes. PJ Parsons (USA)
Analytical imaging of chemical elements and their isotopes in biological materials. ME Thellier (France)
Sources of error in ICP-MS analyses of trace metals in biological materials. NI Ward (UK)

Metals and Gene Regulation
Metal interactions with DNA-binding proteins. B Sarkar (Canada)
Metalloregulatory transcription factors in eukaryotic gene expression. DJ Thiele (USA)
Regulation of the mouse metallothionein I gene expression. C Séguin (Canada)
Genetic alterations of glutathione and porphyrin synthesis as adaptive responses to mercury-induced oxidative stress. JS Woods (USA)
Interference of cadmium with calcium-mediated gene expression. D Beyersmann (Germany)
Regulation of gene expression and hormone signal transduction by lead in osteocytes. J. Pounds (USA)

Regulation and Disorders of Trace Metal Metabolism
Molecular analysis of genetic disorders of copper metabolism in humans and animals. JB Mercer (Australia)
Control of metallothionein degradation. I Bremner (UK)
Copper mobilization following ischemic myocardial injury. M Chevion (Israel)
Pathological consequences of disordered copper metabolism in LEC rats. N. Takeichi (Japan)
Hereditary hepatitis caused by disordered metabolism of copper in LEC rats; recovery by chelation therapy. KT Suzuki (Japan)

Metal Compounds as Drugs
Metal compounds in cancer chemotherapy. N Imura (Japan)
Clinical pharmacokinetics and therapeutic applications of bismuth compounds. KM Koch (USA)

Metal Carcinogenesis
Role of oxidative damage in metal-induced carcinogenesis: Recent developments. KS Kasprzak (USA)
Mutations induced by metal generated oxygen reactive species. L. Loeb (USA)
Interaction of carcinogenic metal compounds with DNA repair processes. A Hartwig (Germany)
Genotoxicity and carcinogenicity of chromium compounds: Mechanistic aspects. S. DeFlora (Italy)
Nickel carcinogenesis: Inherited effects on transcription. M. Costa (USA)
Cytoskeletal injury induced by carcinogenic metals. IN Chou (USA)
Anti-carcinogenic activity of cadmium. M. Waalkes (USA)

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Metals and Nutrition
Recent advances in knowledge about the essentiality of trace metals. M. Anke (Germany)
Chronic studies of the absorption and metabolism of selenium by animals and humans. P. Whanger (USA)
Selenium nutrition in pediatrics. G. Lockitch (Canada)

Paper on zinc nutrition and metabolism. (to be announced)
Recent advances in iron nutrition and metabolism. S. Hercberg (France)
Manifestations of chromium deficiency in human and animal nutrition. RA Anderson (USA)

Metals and Reproduction
Molecular targets for metal teratogenesis. FW Sunderman Jr. (USA)
Some molecular effects of metals on reproduction and development of the embryo and fetus. NK Mottet and R. Poncé (USA)
Mathematical modeling for risk assessment of the teratogenicity of methylmercury. E. Faustman (USA)

Toxicity of Metals
Molecular and cellular approaches to understanding mechanism of metal toxicity. MG Cherian (Canada)
Mechanisms of III-V semiconductor toxicity. B. Fowler (USA)
Factors influencing the bioavailability of dietary lead and cadmium. M. Vahter (Sweden)
Osteotoxicity of metal compounds: Relevance to human exposures. M. Bhattacharyya (USA)
The immunotoxicity of metals. R. Smialowicz (USA)
Metallothionein and the immune system. AP Autor (Canada)
Prevention of nickel dermatitis by regulation of specific exposures. T. Menné (Denmark)

Occupational and Environmental Exposures to Metals
Role of metals in neurodegeneration. J. Savory (USA)
Defining the critical organs and adverse effects of metals in humans. G. Nordberg (Sweden)
Multiple exposures to metals in the workplace. L. Alessio (Italy)
Clinical data for occupational and environmental exposures to metals, derived from an ICP-MS screening program. RJ Audette (Canada)
Biological monitoring of metal exposures in Eastern Europe. M Nordberg (Sweden)
Exposure and toxicity of metal arc welding fumes. PJ Hewitt (UK)
Environmental aspects of arsenic toxicity. TJ Hindmarsh (Canada)
Neurotoxicity caused by lead and methylmercury in children. P Grandjean (Denmark)
Lead toxicity: a paradigm for environmental health sciences research. RA Goyer (USA)

Therapy of Metal Overload and Toxicity
Effects of chelators on cadmium deposits and essential metal levels. V. Eybl (Czech Republic)
Chelation therapy of lead-exposed children. (to be announced)
The DAMEVAL challenge test as a measure of mercury exposure from dental amalgams. V. Aposhian (USA)
Paper on therapy of Wilson's disease. (to be announced)
Paper on therapy of Menkes' disease. (to be announced)
Paper on therapy of iron overload. (to be announced)

Epidemiology and Bio-markers of Metal-Induced Cancers
Recent epidemiological evidence on the carcinogenicity of metals. P. Boffetta (France)
Cancer risk from orthopedic prostheses. MP Coleman (UK)
Paper on biomarkers of metal exposures and neoplastic transformation (to be announced)
Members' Registration Fee US$ 350. (for members of the Association of Clinical Scientists; affiliate members of IUPAC; and members of the Program and Scientific Advisory Committees who register before 15 January 1995)

Selected Nations Registration Fee US$ 300. (for 50 scientists and physicians from nations of Eastern Europe, Near East, Africa, South America, Central America, and Peoples Republic of China who register before 15 January 1995)

Student Registration Fee US$ 300. (for 50 pre-doctoral students, post-doctoral fellows, and physicians-in-training who register before 15 January 1995, with an acceptable abstract and a statement of eligibility from their University Dean or Institutional Program Director). Their doctoral degrees must have been granted after 1 July 1990).

The **final deadline for registration is 15 June 1995**. Except for special circumstances, on-site registration will not be available.

### Campus Accommodations

The COMTOX Symposium has reserved a large block of single and double rooms for registrants and accompanying persons in the modern Walter Gage Residence Tower on the UBC campus. These rooms are comfortably furnished and modestly priced. The 1994 room rates (in Canadian dollars) are $32 per person per night (plus 15% tax) for **single** rooms with shared washroom facilities and $70 per room per night (plus 15% tax) for a room with a **double** bed (single or double occupancy). The 1995 rates may be slightly higher.

These prices are for accommodation only, and do **not** include meals, which are available at the Student Union. Accommodation Forms should be sent to the **University of British Columbia Conference Centre, 5961 Student Union Boulevard, Vancouver B.C., Canada V6T 2C9** (tel: 604-822-1010; fax: 604-822-1001). Requests for these rooms must be received by **8 June 1995**.

### Hotel Accommodations

The COMTOX Symposium has reserved a small block of rooms in the sumptuous **Landis Hotel**, for registrants and accompanying persons who prefer to stay downtown in Vancouver and commute to the UBC campus by public bus or taxi. The campus is approximately 20 minutes by taxi or 30 minutes by bus from the Landis Hotel. The discounted room rate (in Canadian dollars) will be **$125 per night** (single or double occupancy), **plus 17% tax**. The Landis Hotel's Room Reservation Form should be sent directly to the **Landis Hotel, 1234 Hornby Street, Vancouver, B.C., Canada V6Z1W2** (tel.: 604-688-1234; fax: 604-689-1762). Requests for these rooms must be received by **8 June 1995**.

### Secretariat

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### Registration

The regular registration fee and the available discounted fees are as follows:

- **Regular Registration Fee US$ 450.** (registration from 15 Jan to 15 June 1995)
- **Early Registration Fee US$ 400.** (registration before 15 January 1995)