



President's Corner

Donna Seger, MD

Board Meeting 2004

In March, the AACT Board had a productive meeting, made so by the time and efforts of the Board members. This group of people makes decisions that dictate the future direction of the Academy.

In the past, the main focus and energy of the Academy was the annual meeting, NACCT. It was, and still is, a monumental undertaking, requiring the skills and energy of many people. In 2003, attendance at the meeting was over 700, reflecting the growth of the science and responsiveness to members' comments regarding meeting improvements. However, as an organization, it is time for us to push the limits and do even more.

In addition to the committee reports, discussions at the Board included: future collaborations with NIOSH, consensus papers, nominations of people for future Board positions, ideas for AACTion (wait till you see the new section by Tim Erickson), and IUTOX membership. As the specifics of each of these are resolved, items will be published in AACTion or on the AACT website. As an organization, we are moving to a new level. It is a good time to be a member!



Dr. Seger

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AACT Keynote Breakfast and Symposium Features Bruce Ames

Marty Caravati, MD

"There are 10 milligrams of known carcinogens in a cup of coffee..."

The topic of the AACT symposium for this year's NACCT is environmental chemicals and human carcinogenicity ("Environmental Chemicals and Cancer: Menace or Myth").

There are chemicals present in the environment that have been shown to produce cancer in animal models. This is of great concern to the general public. As a result, millions of dollars and much human effort has been devoted to environmental regulation, health policy, exposure assessments, and clinical evaluation for environmental chemicals and their potential human effects. A cottage industry for evaluation and treatment (i.e. chemical testing, chelation) of potential human environmental exposures has developed and grown dramatically in recent years. The relationships between rodent carcinogenicity, dose-response, synthetic vs. natural chemicals, and the risk of human cancer are controversial. Toxicologists are often called upon to provide individual exposure evaluations, community risk assessments, and risk communication to the public regarding this controversial area.

Dr. Bruce Ames will be the featured speaker. He is a Professor of Biochemistry and Molecular Biology at the University of California, Berkeley, and senior scientist at Children's Hospital

Oakland Research Institute. His main interest of study is identifying mutagens that damage human DNA, the body's defenses against them, and the consequences of DNA damage in promoting cancer and aging. He has more than 450 publications. Along with colleagues, he developed a simple, indirect assay for potential carcinogens known as the Ames Test. He is the recipient of numerous awards, including the U.S. National Medal of Science, the Linus Pauling Institute Prize for Health Research, and the American Society for Microbiology Lifetime Achievement Award. He will review the pertinent science and address the controversial issues in the hotly debated area of environmental carcinogens.

In addition, Dr. Ames will deliver the Keynote Breakfast on Saturday morning titled: "Optimizing Health with a Metabolic Tune-up: Relevance to Toxicology". His lab currently researches various aspects of "tuning-up" metabolism to optimize health. Since aging and degenerative diseases are partly caused by oxidation, his research focuses on oxidative mutagens, dietary antioxidants, and oxidative defenses with the aim of delaying the degenerative diseases of aging. He will provide insight into this process and what can be done to minimize cancer risk.

Famous [and Not So Famous] Events in Toxicologic History

Timothy Erickson, MD, FACEP, FACMT

Lead Poisoning and the Demise of the Ancient Roman Empire

Hence gout and stone afflict the human race;
Hence lazy jaundice with her saffron face;
Palsy, with shaking head and tott'ring knees.
And bloated dropsy, the staunch sot's disease;
Consumption, pale, with keen but hollow eye,
And sharpened feature, shew'd that death was nigh.
The feeble offspring curse their crazy sires,
And, tainted from his birth, the youth expires.

*(Description of lead poisoning by an anonymous Roman hermit,
Translated by Humelbergius Secundus, 1829)*

Lead was one of the earliest metals discovered by the human race and was used as early as 3000 B.C.. (*Kinder*) The ancient Romans and Greeks were the first to discover its toxic effects. Hippocrates (370 B.C.) attributed a severe case of colic in a worker who extracted metals to lead poisoning, and Pliny the Elder (A.D. 23–79) wrote that workers painting ships with native ceruse (white lead) wore loose bags over their faces to avoid breathing noxious dust. (*Hunter*)

The ancient Romans used lead for making cooking utensils, storage vessels, lining baths, and constructing water pipes. The water pipes were the vital arteries of ancient Rome and were forged by laborers whose patron saint, Vulcan, exhibited several of the symptoms of advanced lead poisoning: lameness, pallor, and wizened expression (*Lewis*). When soft water sits in lead pipes, it leaches the metal into the drinking water. In ancient Rome, the rich controlled most of the public water outlets. The first drawn water of the morning, which had been sitting over night absorbing lead, was a privilege of the rich. The plumber's job was to join and mend pipes took his name from the Latin word *plumbum*, meaning lead. *Plumbum* is also the origin of the chemical symbol for lead (Pb) the 82nd element on the periodic table.

The Ancients regarded lead as the father of all metals, and the deity they associated with lead was the Roman God Saturn, who was best known for devouring his own young. The word "saturnine," describes an individual whose temperament has become uniformly gloomy and cynical, the result of lead intoxication. (*Lewis*)

The Romans were aware that lead could cause serious health problems, even madness and death. Nonetheless, ancient Romans, like present-day Americans, did not realize that everyday low-level exposure to the metal rendered them vulnerable to chronic lead toxicity.

The symptoms of acute lead intoxication appeared most dramatically among slaves forced to become lead miners and smelters. Many in bondage were condemned to spend all of their lives underground in lead mines throughout the Empire.

Roman aristocrats, on the other hand, regarded hard labor as beneath their dignity and suffered chronic poisoning as a result of a rich life style, glutinous diet, and consumption of lead-adulterated wine. Wine was cheap in ancient Rome and Athens and it was contaminated with lead from several sources during its preparation. Lead was also used as part of the preservative and as a flavor enhancer or sweetener. The rich received a disproportionate share of lead exposure because they could afford more of the sources of lead contamination. Musonius, a Roman writing in the first century A.D., observed that masters were weaker, less healthy, and unable to endure labor of the servant class. Those who grew up in the country were stronger than those who grew up in the city. Those who ate plain food were likely to live longer and have less of the diseases associated with lead poisoning. These were "gouts," "dropsies" and colics." This was the first record of anyone hypothesizing and documenting chronic lead poisoning in the Roman Empire. (*Nriagu*)

According to many modern scholars, chronic lead poisoning contributed to the demise of the Roman Empire. Symptoms of "plumbism" were apparent as early as the first century B.C. manifesting in Julius Caesar and his successor Caesar Augustus as sterility and loss of sexual libido. The 1st century A.D. was a time of "unbridled gluttony and drunkenness" among the rulers of Rome. The lead concealed in food and wine they consumed led to epidemics of saturnine gout

and sterility among aristocratic males and a high rate of infertility, stillbirths and infant mortality from upper class women.

Still more striking was the pattern of mental incompetence that came to be synonymous with the Roman monarchy; best exhibited by degenerate emperors such as Caligula, Nero, and Commodus. It is documented that Emperor Nero "wore a breastplate of lead, as he fiddled and sang while Rome burned". Domitian, the last of the Roman dictators, actually had a fountain installed in his palace from which he could drink "a never-ending stream of leaded wine". Historical scholar Nriagu concludes that lead contamination was a major cause of the decline of the Roman Empire.

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EAPCCT 40th Anniversary Conference

Nick Bateman, MD, Chairman, Scientific Committee EAPCCT

"The EAPCCT is holding its 40th anniversary conference in Strasbourg from the 1st to 4th June 2004. The programme includes a pre-congress educational day entitled "Chemical Terrorism: advanced workshop". Topics to be covered in the main congress include management of poisoned patients in the intensive care unit, care in the peri-hospital environment, chemical injuries and their management, aspects of Poisons Information Centre activities including surveillance together with a high quality scientific programme of research in clinical toxicology and lots more.

Strasbourg is a beautiful city on the edge of the Alsace wine area and is close to the Rhine valley. For those of you who have not been to a previous EAPCCT meeting, this presents an opportunity to sample cutting edge clinical toxicology in a relaxed and enjoyable environment. We look forward to meeting old friends and new.

Registration details are on the EAPCCT website at www.EAPCCT.org.

We hope to see you there!

Education Committee News

James Mowry, PharmD, Chair, Education Committee

2004 North American Congress of Clinical Toxicology

All symposia at the Seattle meeting are in the final stages of planning at this time. We anticipate offering approximately 40 hours of continuing education credit for pharmacists and physicians. We are working closely with the Emergency Nurses Association to obtain continuing education credit for nurses. Information on the number of hours available for nurses has not been finalized at this time.

Important Information for Presenters at NACCT: You will be receiving a packet from Contemporary Forums under the NACCT letterhead with an informational letter about your presentation and materials required from you, and a speaker's packet containing the forms to submit and general guidelines for presentations. If you do not receive this packet by April 15th, please let us know. Please note the following deadlines for information to be submitted to Contemporary Forums:

- General information submission from speakers — April 30, 2004
- Syllabus materials/questions submission — July 1, 2004

The syllabus material deadline is **very important**, as we must have sufficient time to print and compile the information.

EAPCCT XXII International Congress

The Academy will be co-sponsored continuing medical and pharmaceutical education credit at the EAPCCT XXIV International Congress held in Strasbourg, France in June 2004. The program is approved for 22.5 hours of continuing education credit for physicians and pharmacists.

Education Committee Members

The committee's members now include the following Academy members:

John Benitez, MD	Joe Spillane, PharmD
Al Bronstein, MD	Jon Thompson, MS
Dan Cobaugh, PharmD	Becky Tominack, MD
Bob Geller, MD	Ed Krenzelo, PharmD (for EAPCCT)
Chris Holstege, MD	Rose Ann Soloway, BSN, MSED (for AAPCC)
Rita Mrvos, BSN	Paul Wax, MD (for ACMT)
Greene Shepherd, PharmD	Ingrid Vicas, MD (for CAPCC)
Jack Snyder, MD, JD	

As always, you can contact the Education Committee at:

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Abstract Review Committee

James Mowry, PharmD, Chair, Education Committee

The Abstract Review Committee is chaired by Richard Clark, MD, Chair Abstract Review Committee. The members who make up the review committee come from all over the world and are involved in many different aspects of toxicology. Nurses, pharmacists, educators and physicians all serve as reviewers.

Submitted abstracts are coordinated at the central office of AACT by Martha Souders and are distributed among reviewers. Each abstract is reviewed by at least three blinded reviewers. Abstracts are scored from from 0 to 2 based on scientific content, interest to the field of toxicology, and other qualities. Reviews are tallied and compared for each category. The total number of abstracts accepted is dependent on the quality of submissions and, to some extent, the space and time available at the meeting.

The deadline for submitting abstracts this year is April 1, 2004.

Membership Records

	March 2004
Active (non-ACMT)	450
AACT (ACMT)	N/A
AACT/ABAT	71
Student	22
Emeritus (no Journal)	30
Emeritus/with Journal	10
International Members	76
Honorary	5
Total	664

AACT Representatives at Australia's Scientific Meeting

Jeff Burgess, MD

Drs. Mike McGuigan and Jeff Burgess gave invited presentations at the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting in Sydney, Australia on November 30 – December 3, 2003. Dr. McGuigan presented "Polymorphisms and Poisonings: Clinical Toxicogenetics". One of the key points from this presentation was that although genetic polymorphisms do not yet explain the course of acute poisonings, the possibility should be considered when unexpectedly serious poisonings or complications occur. Dr. Burgess presented "Adverse Health Effects from Exposure to Clandestine Methamphetamine Laboratories". As in the United States, the number of methamphetamine laboratories continues to grow in Australia.

The ASCEPT conference is an excellent venue for presentation of medical toxicology research. Drs. McGuigan and Burgess greatly enjoyed the hospitality of their Australian colleagues with particular thanks to Drs. Andrew Dawson, Nick Buckley and Ian Whyte.

AACTion

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