



# AACT*ion* News & Announcements

Volume 25, Number 2  
American Academy of Clinical Toxicology

## NACCT 2015 Update

*Robert Palmer, PhD, DABAT, FAACT  
Chair, 2015 NACCT Planning Committee*

The 2015 NACCT meeting will be held at the Hyatt Regency in San Francisco, CA on October 8 - 12, 2015. A block of hotel rooms has been reserved and hotel registration is available via the AACT website ([www.clintox.org](http://www.clintox.org)).

In addition to the great location of the meeting, there are several other exciting NACCT events, which are highlighted in this issue of AACTion. New travel awards offered by AACT are described on page 5. The pre-meeting this year is jointly presented by AACT and ACMT, with educational grant support from BTG, International and is entitled, "Clinical Toxinology: A Two-Day Mini-Course"; more detail is provided on page 7. The updated NACCT2015 mobile app is up and running, and detailed instructions for how to download and install it the app are available on page 8.

Abstract submissions closed at midnight on April 14, 2015. Thank you to everyone who submitted abstracts for consideration. We had over 400 abstracts submitted for review this year, encompassing a wide array of clinical toxicology topics.

The Main Congress for NACCT 2015 will officially begin at 7:30 AM on Saturday, October 10, with the

Keynote Address delivered by Prof. Sandra de Castro-Buffington of the UCLA Fielding School of Public Health. This 60-minute multi-media presentation entitled, "Transforming Hollywood: Improving Health & Wellbeing through TV, Film & New Media" will describe the power of the entertainment media to reach mass audiences through a series of toxicology-related story lines. This outstanding presentation is not to be missed!

The mobile app will be used extensively in the time leading up to the meeting, as well as during the meeting itself. Abstracts, schedules and venue maps will all be accessible through the app, and app-based push notifications will provide the most recent advisories and updates of key meeting information. We will also be using the new app-based interactive Audience Response System (ARS) for real-time CE/CME questions during presentations.

Please enable the notification feature for the app on your mobile device now, and make sure to bring your phones to class at NACCT! Additional mobile app updates and detailed information about the scientific programs will be available soon. Stay tuned!

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# AACT<sup>ion</sup>

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## Important Dates to Remember!

Date (s)	Event
May 12 at 1:00p EDT*	AACT Pediatric Section Webinar
May 26 – 29, 2015	EAPCCT Congress St. Julians, Malta
June 1, 2015	AACT Fellow Application Deadline
October 8-12, 2015	NACCT San Francisco, CA
November 1, 2015	Lampe-Kunkel Research Award Deadline
November 1, 2015	AACT Junior Investigator Award Deadline

\*will occur the 2nd Tuesday of odd-numbered months, thereafter

## Want to be a Fellow of AACT?

*Christine Stork, PharmD, DABAT, FAACT*

The AACT Board of Trustees wishes to recognize Academy members whose contributions are important to the Academy and to the field of clinical toxicology. The designation of Fellow of the American Academy of Clinical Toxicology (FAACT) honors those members whose contributions have been of significant benefit to the Academy.

Applications for FAACT are being accepted until June 1, 2015 to the Chair of the Fellowship Committee, Christine M. Stork, Pharm.D., DABAT, FAACT at [storkc@upstate.edu](mailto:storkc@upstate.edu)

For more information, please visit <http://www.clintox.org/becomefellow.cfm>.

## AACT Webinar Series

*Shawn Varney, MD*

The next AACT Webinar is scheduled for 12 May 2015 at 1:00 pm Eastern (noon Central).

The presentation will feature William Banner, Jr, MD, PhD. He is an Attending Physician, Pediatric ICU, Baptist Integris Medical Center, Oklahoma City, OK. He is also the Medical Director of the Oklahoma Poison Control Center.

The topic of this webinar will be "Children Are Not Small Adults: Disasters in Pediatric Toxicology" and it is sponsored by the AACT Pediatrics Section.

AACT Webinars will occur the 2nd Tuesday of odd-numbered months, thereafter, at 1:00 pm Eastern Time, beginning with the May webinar.

# Emeritus and Senior Membership Categories: Updates

*Mark Thoman, MD, FAACT, AACT Past-President  
and Karen Simone, PharmD, DABAT, FAACT, AACT President*

In 3 more years we will be celebrating a half century in the origins of our unique professional organization, the American Academy of Clinical Toxicology. There are a very few of us still around that attended that first hastily organized one-day following the annual AAP, or American Academy of Pediatrics, in October, 1968 at the Palmer House in Chicago.

As the decades slipped by many, if not most, of those of us who were, "charter members" are now gone. And for a few of us that joined in the beginning of a fledgling AACT, we are, as Dr. Frank Aldrich, my good friend, colleague and past AACT president, would often say at our board meetings over the years that we charter members were getting, "A little long in the tooth."

As those of us that began our medical careers as young physicians in our late 20's and early 30's in the late '60's, we are now the older seniors that have come to a point in time when we need a place to stay involved, if not active.

Recently, AACT Board has started looking into ways in which we seniors can continue to be as active, semi-active or inactive, in the AACT, as we desire.

A newly organized committee has been formed with the purpose to:

*"...determine appropriate AACT Senior Member Advantages and make a recommendation to the Board for financial and other incentives to stay involved in the Academy."*

This will entail the following:

- Convene a small group of members to determine the advantages desired, and to determine how we define "Senior Members."
- Work with the Board/Administrative Office to determine the financial impact to the organization, budget required (if any), support needed to implement the advantages desired.

- Prepare a motion for the Board that includes a list of recommendations with the financial and administrative impact/support associated with it.

Emeritus status has been updated:

- This category would be an honor bestowed on those who are no longer active (retired)
- Will be reserved for Fellows of the Academy (those already emeritus are grandfathered)

A proposal being considered by the AACT Board is to make a Senior (not yet emeritus) member category for those who are still active (not yet retired) that:

- Could include price discounts on membership dues and/or meeting fees
- Would encourage interaction with younger toxicologists
- Would allow senior members to continue to vote in elections and run for board positions (something emeritus status does not allow)

It is hoped this new Senior Member category will encourage a member to stay as active as he or she desires with some financial discount, and without having to be fully retired or give up voting and board seat privileges.

And finally, there are several of us who have agreed to work on this and are requesting senior or not-so-senior members (someday you'll be the seniors) to give us your ideas and/or suggestion in this matter. This can be sent to:

Karen Simone: [SIMONK@mmc.org](mailto:SIMONK@mmc.org)  
and/or

Mark Thoman: [PARO1795@aol.com](mailto:PARO1795@aol.com)

# Toxicology in the News

Susan Smolinske, Pharm.D., DABAT

## March 16, 2015

“Crufts dog was poisoned in Belgium”

This is a sad tale for all animal lovers.

[http://news.yahoo.com/crufts-dog-poisoned-belgium-195015368.html;\\_ylt=A86.J5FFdi5VnRYAcgUnnllQ](http://news.yahoo.com/crufts-dog-poisoned-belgium-195015368.html;_ylt=A86.J5FFdi5VnRYAcgUnnllQ)

## April 3, 2015

“I feel delusional and I’m hallucinating”

How often have you heard this from your patients, or more likely, observed the results? The latest designer drug street name (not the latest designer drug) made Time Magazine, and reminds us that not all designer drugs act the same and that local “trade names” may vary. This drug is Flakka or 5\$ Insanity in Florida, Gravel in other areas, and Molly in still others. It also points out the value of NDEWS-NETWORK, the listserv that quickly provided high quality analysis results on this substance. <http://time.com/3768667/flakka-drug-florida/>

## April 7, 2015

“Hidden speed”

The pendulum seems to be swinging the other way regarding dietary supplement adulteration and mislabeling. It is reassuring that GNC will now perform DNA testing and hopefully other suppliers will follow. <http://www.latimes.com/business/la-fi-amphetamine-supplements-study-20150407-story.html>  
<http://www.nbcnews.com/health/health-news/hidden-speed-what-bmpea-why-it-dangerous-n339706>

## April 13, 2015

“fentanyl now with cocaine”!

According to CBS Detroit and other sources, Detroit is seeing an alarming number of deaths from cocaine contaminated with fentanyl, similar to the 2006 outbreak of death due to heroin contaminated with fentanyl. <http://detroit.cbslocal.com/2015/04/13/drugs-laced-with-fentanyl-linked-to-over-70-deaths-in-wayne-washtenaw-counties-in-2015/>

## April 17, 2015

Increase in Synthetic Cannabinoids across the Country USA Today: <http://www.usatoday.com/story/news/nation/2015/04/23/spice-hospitalizations-spike/26270055/>

NYT: [http://www.nytimes.com/2015/04/25/health/surge-in-hospital-visits-linked-to-a-drug-called-spice-alarms-health-officials.html?\\_r=0](http://www.nytimes.com/2015/04/25/health/surge-in-hospital-visits-linked-to-a-drug-called-spice-alarms-health-officials.html?_r=0)

CBS: <http://www.cbsnews.com/news/us-hospitals-see-severe-spike-in-synthetic-marijuana-overdoses/>

AAPCC: <http://www.aapcc.org/alerts/synthetic-marijuana/>

## Question of the Day

Do you have a “favorite” Question of the Day? We will be highlighting one or two of the most interesting Question of the Day entries in each issue of AACTion. If you have a suggestion, please email [marraffj@upstate.edu](mailto:marraffj@upstate.edu)

The Question of the Day is just one of the great member-only benefits of AACT! Looking for a previously released QOD....sign in to [www.clintox.org](http://www.clintox.org) and go to the members only side and click on QOD and that database is searchable by keyword. Here is one of the AACTion Co-editors favorite from February 12, 2015:

*Question: The mushroom *Pleurotus ostreatus* contains the toxin ostreolysin. What is the mechanism of toxicity for this toxin?*

The cited reference notes that ostreolysin is a 16-kDa acidic protein and is a member of the aegerolysin protein family. The authors note that the mechanism of toxicity for ostreolysin is “Transient increase in arterial blood pressure and then a progressive fall to mid-circulatory pressure accompanied by bradycardia, myocardial ischemia, and ventricular extrasystoles. The hyperkalemia resulting from the hemolytic activity probably plays an important role in its toxicity.” (Jo WS et al. Toxicological profiles of poisonous, edible, and medicinal mushrooms. 2014 Mycobiology 42(3):215-220)

# Peace, Love, Toxicology: New Travel Awards Announced

*Ken McMartin, PhD FAACT*

## **AACT announces new travel awards to NACCT 2015 in San Francisco**

- Who:** Students (graduate/medical) and Trainees (residents/fellows/postdocs)
- What:** Three \$1,000 awards to support travel of 1 student and 2 trainees to present abstract at NACCT
- When:** Application deadline is July 1, 2015
- Where:** San Francisco the city of peace, love and rock n roll
- Why:** To enjoy networking interactions with clinical toxicologists from around the world, plus some pretty good cuisine
- How:** Application information and materials on AACT website ([www.clintox.org](http://www.clintox.org)).



Applications will consist of a copy of the accepted abstract, a letter of reference from a mentor and a short face page form. Abstracts describing research studies will have priority over case reports. Applications will be judged based on the quality of the abstract and the mentor's letter. Note that the awardee and the mentor must be members of AACT.



## **EAPCCT Updates**

*Alexander Campbell, BSc (Hons) Dip. Med.Tox. FEAPCCT*

The EAPCCT loves to welcome our North American colleagues at our annual congress, in much the same way as we love to come and enjoy your hospitality at NACCT! Next year we are in sunny Spain, in the capital city Madrid May 24-27, 2016.

Obviously, we would like to include themes for our programme that will appeal to you all. So if you have

plans to come, ensure we are providing what you want to learn about, debate or discuss by dropping an email to our General Secretary Mark Zammit ([gs.eapcct@gmail.com](mailto:gs.eapcct@gmail.com)) before the 2015 Malta congress (it is still not too late to book!), and we will ensure our Scientific and Meetings committee can consider these. Speaker suggestions for themes are always welcome too!



SOT | Contemporary Concepts in Toxicology  
**FutureTox III:**  
**Transforming 21st Century Science into  
Risk Assessment and Regulatory Decision-Making**  
November 19–20, 2015 | Arlington, Virginia

### **FutureTox III: Bridges for Translation**

Transforming 21st Century Science into Risk Assessment and Regulatory Decision-Making will be held November 19–20, 2015, at the Hilton Crystal City at Washington Reagan National Airport, Arlington, Virginia. This conference was developed by the Scientific Liaison Coalition (SLC) and associated stakeholders and follows the well-received FutureTox II Contemporary Concepts in Toxicology conference also initiated by the SLC.

FutureTox III is focusing on building the high throughput risk assessment paradigm, taking the science of in vitro data and in silico models forward. Thus, the conference will explore the central question: What progress is being made to address challenges in applying and implementing the emerging “big data” toolbox for risk assessment and regulatory decision-making?

Automated high-throughput screening (HTS) and high-content screening (HCS) of large chemical inventories, together with newer complex culture models utilizing human cells, microtissue systems, and integrative models, are now providing vast amounts of data that can be used to inform regulatory toxicity testing. These methods, together with novel approaches to model exposure and

kinetics, creates an opportunity for a paradigm shift toward diversified and high-throughput risk assessment (HTRA) approaches for regulatory decision-making. Overall, the approach results in more rapid, more relevant, and more nimble discovery-screening and prioritization efforts with less reliance on animal testing. The time is right to discuss and debate how TT21C science, approaches, and technologies will be applied in risk assessment and regulatory decision-making.

The overarching objectives of the meeting are toward:

- Advancing the cornerstones for high-throughput risk assessment through exploration and discussions with multiple stakeholders
- Taking TT21C in vitro and in silico models forward while reducing reliance on animal testing
- Exploring progress and identifying challenges in implementing the emerging “big-data” toolbox for risk assessment and regulatory decision-making.

The conference will include plenary sessions by invited speakers, a poster session, and topical breakout groups. For more information and to register, please visit the FutureTox III website.

## **Do you have News to Share?**

Do you have feedback for your editors? Do you have content that you would like included in AACTion? Do you know of any of your colleagues on the move? Your AACTion editors want to hear from you. [marraffj@upstate.edu](mailto:marraffj@upstate.edu); [smolinske@comcast.net](mailto:smolinske@comcast.net)



# North American Congress of Clinical Toxicology

PROUDLY OFFERS A TWO-DAY PRE-SYMPOSIUM JOINTLY SPONSORED BY



The American Academy of Clinical Toxicology &



The American College of Medical Toxicology

## CLINICAL TOXINOLOGY: A 2-DAY MINI-COURSE

OCTOBER 8-9, 2015 | SAN FRANCISCO, CA

### COURSE DESCRIPTION:

This course is an adaptation of the International Clinical Toxinology Course, usually held over six days in Adelaide, Australia. A subset of the full course faculty will present this two-day mini-course as a pre-meeting symposium at the 2015 North American Congress of Clinical Toxicology (NACCT). The course format includes basic knowledge lectures and interactive case discussions to stimulate critical clinical thinking and interactive skills development. Attendees will be introduced to concepts in Clinical Toxinology which provide a basic framework of knowledge on which they may build skills in this field. There is a focus on venomous snakes exotic to North America, recognizing the clinical challenges associated with medical management of exotic snakebite in the US in these envenomations.

**The target audience for the course includes healthcare professionals with interest in:**

- Clinical Toxinology/Toxicology
- Poison Information
- Emergency Medicine
- Wilderness Medicine
- Rural Medicine
- Tropical Medicine
- Pediatrics
- Intensive Care Medicine

### COURSE HIGHLIGHTS:

- Mechanism of action of venoms
- Antivenom theory and practice
- Spider bite, scorpion sting, tick envenomation
- The myth of necrotic arachnidism
- Jellyfish and other stinging marine creatures
- Characteristics and management of envenoming by snakes from Europe, Asia, Africa, the Middle East, Central & South America, New Guinea, and Australia



### COURSE FACULTY:

- **JULIAN WHITE, MBBS, MD**  
WOMEN'S & CHILDREN'S HOSPITAL,  
ADELAIDE, AUSTRALIA
  - **DAVID WARRELL, MBBS**  
UNIVERSITY OF OXFORD,  
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- UNIVERSITY OF ADELAIDE FACULTY OF HEALTH SCIENCES  
& WOMEN'S & CHILDREN'S HOSPITAL, ADELAIDE

Generous financial support provided by an educational grant from

 BTG International, Inc

# NACCT 2015 Mobile App: Download Now!

## Download the North American Congress of Clinical Toxicology (NACCT) 2015 Mobile App



Our mobile app for the NACCT 2015 conference is ready to download on your iPhone, iPad, or Android! Click **here** from your device. Apple and Android users can also search for the app in the App store or Play store.

Once installed, you'll have instant access to awesome features, like:

- > Conference schedule and session information
  - > Live polling interaction
  - > Speaker handouts
  - > Exhibitor List
  - > Speaker and Author Information
  - > QR Code Scanner
  - > Location Maps
  - > Social Media Integration
  - > Event Messages
- ...And, much more!

You may even select your favorite items to create personalized schedules and preferences!

\*If you already have the NACCT app, make sure you get the latest updates from the App or Play store so you can access the 2015 event.

If you do not have the NACCT App please follow the instructions below:

1. Download the app by clicking **here**  
\*If you are using a Blackberry or Windows device, access the app by entering <https://crowd.cc/nacct2015> in your device's mobile browser.
2. Open the app and tap on NACCT 2015
3. Make sure you click OK to accept the "push notifications" so you can be alerted about happenings associated with the 2015 conference.

Additionally, the app may be found in Google Play and iTunes markets by searching "NACCT."

Or, if you have a "QR Scanner" app already on your device, you can scan the NACCT 2015 QR code to download the app. When you scan the code, you will be prompted to download the app.



If you have support questions, please email Alli Bamer at [abamer@cforums.com](mailto:abamer@cforums.com)

Looking forward to seeing you at NACCT in San Francisco 2015!



San Francisco, CA



# Sports Toxicology Section: Literature Updates and Summary

*Christopher Hoyte, MD*

The Sports Toxicology Section has reviewed two recent papers related to the topic of Sports Toxicology and provided a summary of these papers with key points for your review. If you have any questions or comments, please send an email to *AACTion* editor, Jeanna Marraffa at [marraffj@upstate.edu](mailto:marraffj@upstate.edu).

## **The Athlete Biological Passport: an integral element of innovative strategies in antidoping**

Vernec, AR

Br J Sports Med 2014; 48:817-819.

Here the author delineates the current state of doping control programs. Recently, the World Anti-Doping Agency (WADA) outline their strategies to protect the clean athlete both in regard to health as well as fairness in competition. One of the new strategies outlined by WADA is the use of longitudinal profiling which is the serial analysis of biomarkers as indirect evidence of doping. This collection of biomarkers make up the "Athlete Biological Passport" (ABP). The advantage here is that evidence of doping may be detected after the illegal agent has been metabolized and cleared from the body.

### **Key Points**

1) The hematologic module uses a series of biomarkers standardized over a population of athletes including the data set from clinical trials involving clean and doped volunteer athletes. In order to combat the use of erythropoietin (EPO), the reticulocyte count has been scrutinized and analyzed in order to arrive at a reference range for which variation within the athlete can be detected. After EPO has been metabolized and excreted, acute elevations in reticulocyte count can be discrete evidence of its use.

2) The steroidal module attempts to detect the presence of exogenous anabolic steroids in the athlete. This module compares serial testosterone to estrogen (T:E) ratios in the individual. A ratio > 4:1 is considered to be suspicious of doping and therefore the sample used to determine the ratio is analyzed by mass spectrometry specifically looking for the presence of anabolic steroids. There appears to be a wide variation of a "normal" T:E ratio. For example, in some individuals the genetic polymorphism UGTB217 results in abnormally low T:E ratios (less than

1:1). Therefore, these individuals may be able to use exogenous anabolic steroids and fall far short of the 4:1 detection. Serial ratio determinations will aid detecting acute increases in this ratio.

3) Endocrine and proteomic modules are currently being developed.

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## **Performance-Enhancing Substances in Sports: A Review of the Literature**

Momaya A, Fawal M, Estes R

Sports Med 2015; 45:517-531.

Here, the authors review the current state of the use of performance enhancing drugs (PED). Specifically, Momaya et al. report 5-31% PED use among athletes. Currently, the most common PEDs used by athletes (including elite athletes) include amphetamines, anabolic steroids, beta-hydroxy-beta-methylbutyrate, blood doping, creatine, erythropoietin, human growth hormone, and stimulants. In addition, gene doping likely has a future in sports and performance enhancement. The authors discuss each individual PED and highlight their effects on physiology and athletic performance, describe detection analysis, and toxicity.

### **Key Points**

1) Beta-Hydroxy-Beta-Methylbutyrate (HMB) is a newer PED that has recently gained notoriety among athletes. It is a leucine metabolite, a precursor to cholesterol and serves to reduce post workout protein breakdown. Its mechanism of action is via the rapamycin/p70S6K signaling pathway which promotes protein synthesis, muscular hypertrophy, and anti-catabolic effects. There have been no reported adverse effects with HMB, the drug is not banned by any sports regulatory governing body, and it can be purchased as an over-the-counter supplement.

2) Despite significant scientific advances in PED detection and more severe penalties for doping violations, it seems that education prevention programs are the most effective deterrent measures.

# In Memory of Professor Chantal Bismuth

*Alexander Campbell, BSc (Hons) Dip. Med.Tox. FEAPCCT*

With great sadness, the world of Clinical Toxicology will have heard of the death of Professor Chantal Bismuth on the 21st April 2015.

Those who have worked and studied in our field should know her name well, for this flamboyant and brilliant French lady dedicated her professional life to clinical toxicology. Her impressive and academically rigorous contributions to many texts, the huge numbers of publications to her name and her many honors attest to that. She was a major contributor to EAPCCT congresses over many years, and was a long-standing Emeritus member of the association.

My colleague Professor Thomas Zilker, has searched his database of EAPCCT congress presentations and found that her first appearance in the EAPCCT programme was for the congress in Ischia in 1974 where she had 4 papers. She was then present at all congresses, except 1982, until 2001 in Barcelona. She had 45 contributions in that time. Her range of toxicological interests was wide ranging - encompassing cardiotoxic medications, cyanide, extracorporeal elimination, pesticides, chemical weapons, toxic alcohols and use of organ transplantation in toxicology to name but a few. She was forthright and incisive speaker and debater, and charming company in a social setting. We will miss her, but will not forget her.

## The Fomepizole Shortage: What Should we do?

Many of us remember when ethanol was the only treatment for methanol and ethylene glycol poisoning. Fomepizole changed our entire approach and I don't know about you, but I would rather not have to think about ethanol in these patients. However, we are once again being faced with ethanol in light of the recent fomepizole shortage. What is even more challenging right now is that the 5% and 10% sterile ethanol solutions for injection have been discontinued.

We asked one of the experts for her thoughts on using ethanol during this fomepizole shortage, Dr. Mary Ann Howland (MAH).

### **Is it true that 5 % and 10% ethanol solutions are no longer available?**

MAH: Yes, that is correct; these products have been discontinued. According to Lexi-Comp, there is an injection, solution [dehydrated, preservative free] as a 98% solution used for therapeutic neurolysis.

### **If fomepizole is not available, what do you suggest?**

MAH: I would NOT recommend extemporaneous

compounding of IV ethanol except in extraordinary situations. I recommend giving ethanol orally in a 20% concentration. If the patient cannot tolerate oral administration, then the ethanol can be administered via a nasogastric tube. Vodka is usually 40% (80 proof) and can be diluted one to one to make a 20% concentration. If fomepizole is unavailable, the pharmacy should have vodka on the premises to use as an alternative. Stocking vodka should not be an excuse for not obtaining fomepizole once the shortage of fomepizole is over.

### **What if IV ethanol is the only possibility?**

MAH: I would only recommend IV ethanol in very rare circumstances such as in patients with a GI bleed or who have concomitantly ingested a caustic with the toxic alcohol. Luckily, this is rare and I have not yet encountered either. If IV ethanol is needed, the reader may refer to: Goldfrank's Toxicologic Emergencies, 10th Ed, Antidotes in Depth, Chapter A31, "Ethanol" (pages 1369 - 1372), for detailed guidelines for use.

Thank you Dr. Howland for your thoughts and insight on this!