EDITORIAL
FORENSIC TOXICOLOGY—NEED FOR NEW EMERGING DEFINITIONS
Yale H. Caplan, Ph.D., DABFT, ToxTalk Co-Editor

In December 1987, an editorial in these pages entitled “Forensic Toxicology – Emerging Definitions” describing the impact of the pending NIDA / SAMHSA Guidelines on the field of forensic toxicology foreshadowed the SOFT/AAFS Guidelines and the broadening scope of professional certification for toxicologists and accreditation for laboratories. In the two decades that followed, the SOFT / AAFS Guidelines were adopted and revised to become the standard of practice for laboratories, and ABFT expanded programs to include Certifi- cants (Diplomates and Forensic Toxicology Specialists) at varying levels of academic accomplishment.

Forensic Toxicology continues to expand, and again definitions of practice emerge and deserve recognition. Postmortem toxicology stands alone to encompass death investiga- tion. But those areas involving the performance of living human subjects (usually attributed to DUI / DUID) and workplace testing (usually limited to jobs in regulated and similar work- places) combine to describe a new area - performance enhancement forensic toxicology. This includes the testing for steroids and other specialty drugs (and possibly physiological factors) that challenge the many areas of competitive sports but also includes workplaces where heightened performance may be needed to protect society. These areas are clearly forensic in nature but compe- tent forensic principles have not been uniformly applied. Appropriate definitions, rules and recognized standards where absent lead to misunderstanding and misuse of test results. Similar concerns are also echoed in legal (courts, corrections) and other settings (schools, impaired professionals) where toxicology results impinge on human freedoms.

This time is again a time like all times. It is a time to study and evaluate, to consider positions, and develop definitions and policies that permit forensic toxicologists to continue to best serve the public need.
Greetings from Southern California. It is both my privilege and my pleasure to be your President for 2008. As many of you will remember from discussion during the Business Meeting in North Carolina (2007), some financial issues were identified for future consideration. I feel it is appropriate in this initial message of 2008 to give the membership additional clarification in this area.

The annual operating budget for S.O.F.T. is approximately $110,000 (see Treasurer’s Report in this issue), with most of that coming from two sources: annual dues ($40,000 or so, depending upon when in the year the dues are paid); and meeting profits (averaging $40-$50,000 over the last few years).

Expenses for the organization include office rent, staff, website costs, fees for on-line registration and dues payment, publication of ToxTalk, accountant fees, and other professional commitments….to name a few. As you may surmise, even though we are not mathematicians, S.O.F.T. would therefore need the annual meeting to bring in a profit of more than $50,000 every year. Alternatively, our organization could consider a slight increase to annual dues to assist in covering increased expenses.

In order to support annual meeting hosts and allow them to concentrate on the scientific quality of our annual meetings, and not on making a large profit, the Board has decided to propose to the membership a modest annual dues increase, from $50 to $60 for full members. Other membership categories will not be affected. This potential increase will be voted upon at the next annual Business meeting in Phoenix in October 2008.

As many of you are aware, S.O.F.T. dues have not been increased since 1994. As I am sure you will agree, nothing has stayed the same price for 14 years….and as I have noted above, the expenses for the organization have increased substantially since then. Please consider what you receive from S.O.F.T. (ToxTalk, high quality low cost annual meetings, on-line convenience for dues and registrations etc.) and approve this moderate raise.

Often I have heard it said that S.O.F.T. has “lots of money”. Indeed, I believed it myself until I was a member of the Board and became Treasurer. For clarity, the ERA fund contains approximately $176,000 at the time of writing. We are forbidden by the by-laws to use anything but the interest on this money, and that only for funding ERA and YSMA awards (or other educational projects as the Board approves). There is a further $50,000 in a reserve fund, just in case one of the annual meetings is affected by an unforeseen disaster (remember 9/11).

While S.O.F.T. is certainly in good financial shape, the re-appointed Long-Term Strategic Planning Committee have been charged with developing a long-term budget, as well as putting forward ways for improving the overall financial position of the organization. In further support of long-term planning efforts, I have appointed Vice-President Tony Costantino to assemble an ad-hoc Meeting Guidelines Committee to revise the guidelines for meeting hosts, to include the requirement for specified profits from each annual meeting, among other issues.

Finally, the deadline for the SOFT/JAT Special issue is fast approaching, so I encourage you to send your manuscripts to our Editor for this year, Dan Anderson.

I thank you for your loyal membership and hope you will consider the information provided in forming your vote in October. Best wishes to all.

Christine
TREASURER’S REPORT
Submitted by Bradford Hepler, Ph.D., DABFT

Table 1 summarizes the 2006 and 2007 ending balances from bank statements for the 2007 tax year. The net operational increase / decrease is the same as derived from the 2007 SOFT Organizational Income / Expenses Report detailed in Table 2.

This accounting is a tabulation of all activities relative to income and outgo during 2007. There are three informational footnotes relative to Table 2.

1. *SOFT Dues and Subscriptions are a compilation of proceeds that exceed the 2007 year of collection i.e. in part come from previous year(s).

2. **Meeting Proceeds are compiled from meeting proceeds and meeting expenses paid from the operational account with the exception of annual meeting account seed monies which are carried as a separate expense line item.

3. ***Meeting Expenses for 2007 are the combined seed monies for the 2008 annual meeting and the TIAFT 2007 meeting administrative support expenses.

The “net” operational income is a reflection of all three SOFT organizational funds. The overall increase in operational funds between year end 2006 and 2007 is essentially a reflection of Dues and Subscription funds received in 2007.

Submitted,
Bradford R. Hepler, Ph.D., SOFT Treasurer

<table>
<thead>
<tr>
<th>Table 1: SOFT 2007 Organizational Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Fund:</td>
</tr>
<tr>
<td>SOFT Checking Account</td>
</tr>
<tr>
<td>ERA Fund</td>
</tr>
<tr>
<td>Reserve Fund</td>
</tr>
<tr>
<td>Totals</td>
</tr>
</tbody>
</table>

Table 2: 2007 SOFT Organizational Income/Expense Report

<table>
<thead>
<tr>
<th>INCOME</th>
<th>2007 ACCOUNT TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMEX Account</td>
<td>782.39</td>
</tr>
<tr>
<td>Bankcard Account</td>
<td>4,066.34</td>
</tr>
<tr>
<td>SOFT Application Fees</td>
<td>2,453.00</td>
</tr>
<tr>
<td>SOFT Dues &amp; Subscriptions*</td>
<td>56,110.81</td>
</tr>
<tr>
<td>Late Fees (Dues)</td>
<td>210.00</td>
</tr>
<tr>
<td>ERA Donations</td>
<td>918.00</td>
</tr>
<tr>
<td>Meeting Proceeds**</td>
<td>50,218.90</td>
</tr>
<tr>
<td>Address Labels</td>
<td>500.00</td>
</tr>
<tr>
<td>Mugs/Shirts/Memorabilia Sales</td>
<td>1,547.00</td>
</tr>
<tr>
<td>Postage Revenue</td>
<td>96.00</td>
</tr>
<tr>
<td>Reimbursed CE Seed Money Expenses</td>
<td>2,810.00</td>
</tr>
<tr>
<td>ToxTalk Subscription</td>
<td>75.00</td>
</tr>
<tr>
<td>Interest Earned ERA Fund</td>
<td>6,466.06</td>
</tr>
<tr>
<td>Interest Earned Reserve Fund</td>
<td>1,845.63</td>
</tr>
<tr>
<td>Income Misc.</td>
<td>50.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>128,149.13</strong></td>
</tr>
</tbody>
</table>

**EXPENSES**

<table>
<thead>
<tr>
<th>Expense</th>
<th>2007 ACCOUNT TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAFS Midyear Meeting Expenses</td>
<td>847.70</td>
</tr>
<tr>
<td>AAFS SOFT Night out</td>
<td>6,379.16</td>
</tr>
<tr>
<td>AMEX Account Maintenance</td>
<td>73.50</td>
</tr>
<tr>
<td>Bankcard Account Maintenance</td>
<td>175.04</td>
</tr>
<tr>
<td>Bank Service Charges</td>
<td>218.10</td>
</tr>
<tr>
<td>Contract Labor</td>
<td>195.00</td>
</tr>
<tr>
<td>ERA/YSMA Awards</td>
<td>9,000.00</td>
</tr>
<tr>
<td>Internet Account Maintenance</td>
<td>59.70</td>
</tr>
<tr>
<td>Insurance</td>
<td>542.00</td>
</tr>
<tr>
<td>JAT Meeting issue</td>
<td>14,850.00</td>
</tr>
<tr>
<td>Lease SOFT Office Space</td>
<td>4,545.31</td>
</tr>
<tr>
<td>Meeting Expenses***</td>
<td>6,553.31</td>
</tr>
<tr>
<td>Office Supplies</td>
<td>5,329.99</td>
</tr>
<tr>
<td>Payroll Expenses</td>
<td>20,369.57</td>
</tr>
<tr>
<td>Postage/Shipping Expenses</td>
<td>354.61</td>
</tr>
<tr>
<td>Professional Fees- Accountant</td>
<td>4,874.30</td>
</tr>
<tr>
<td>Refund Payments</td>
<td>303.01</td>
</tr>
<tr>
<td>Registration of SOFT Logo</td>
<td>308.66</td>
</tr>
<tr>
<td>SOFT Logo Items Expenses</td>
<td>2,252.70</td>
</tr>
<tr>
<td>SOFT Officers / Committee Expenses</td>
<td>4,850.02</td>
</tr>
<tr>
<td>Software Programing</td>
<td>5,433.10</td>
</tr>
<tr>
<td>State of DE: Incorporation Expenses</td>
<td>254.50</td>
</tr>
<tr>
<td>Telephone</td>
<td>673.12</td>
</tr>
<tr>
<td>ToxTalk</td>
<td>13,917.40</td>
</tr>
<tr>
<td>Website</td>
<td>2,999.22</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>105,359.24</strong></td>
</tr>
</tbody>
</table>

Net/(Loss) Income: **22,789.89**
The Annual Business meeting of the Society of Forensic Toxicologists, Inc. (SOFT) was held on October 17, 2007 at the Sheraton Imperial Hotel Raleigh Durham, NC. President Diana Wilkins requested that the Secretary establish a quorum. A quorum of greater than 68 full and retired members was present. President Wilkins called the meeting to order at 3:35 pm. Upon a motion duly made, seconded and passed, the agenda was approved. By a motion duly made, seconded and passed, the minutes of the Annual Business Meeting of the Society of Forensic Toxicologists, Inc., of October 2006 as published in ToxTalk, were approved by aclamiation.

President's Report: Diana Wilkins, Ph.D. President Wilkins expressed her pleasure and gratitude for serving as the 2007 President of SOFT. She thanked the membership for the opportunity. She noted that during the year SOFT has expanded its support of various educational activities. Five Educational Research Awards and 4 Young Scientist Meeting Awards were provided in 2007. Another sponsored educational activity earlier in the week was the first SOFT Student Enrichment Program (SSEP), in which interested high school, college and graduate students were offered the opportunity to learn more about forensic toxicology in various practice settings. The program included both didactic lectures and laboratory tours. She expressed her hope that the SSEP would become a permanent part of the annual program.

Dr. Wilkins recognized the Special Issue of the Journal of Analytical Toxicology and noted that SOFT is in its 27th year of collaboration with Preston Publications. She thanked and acknowledged Dr. Sarah Kerrigan for ensuring another high quality Special Edition issue while serving as this year’s Guest Editor.

Dr. Wilkins introduced a new ad hoc committee that was formed in 2007. This committee is named the Strategic Planning Committee and is comprised of SOFT members with financial expertise, whose charge is to provide advice on the development of long range planning goals and budget for SOFT. She thanked Brad Hepler for agreeing to serve as the first Chair of this committee.

Dr. Wilkins regrettably informed the membership of the passing of retired SOFT member Roger Maickel. She expressed condolences to his wife Lois, as well as his other family members and friends. She called for a moment of silence.

Dr. Wilkins next acknowledged Jeri Miller, Ruth Winecker (meeting hosts), Vickie Watts (meeting coordinator) and Lisa O’Dell (vendor liaison) for their tremendous efforts and the success of the 2007 meeting. She also encouraged the membership to visit and thank the exhibitors for their valuable support of the meeting’s activities.

Finally, Dr. Wilkins encouraged the membership to become more active in SOFT.

Secretary’s Report: Anthony Costantino, Ph.D. Secretary Costantino thanked the membership for the opportunity to serve SOFT in this capacity over the past two years. He also thanked Bonnie Fulmer from the SOFT Office for her support.

Treasurer’s Report: Brad Hepler, Ph.D. Treasurer Hepler thanked the membership for the opportunity to serve SOFT in this capacity. He also thanked Bonnie Fulmer for organizing the financial records at the SOFT office.

As of September 30, 2007 the Society has an operational budget of $161,050.53, the Reserve Fund contains $52,741.84 and the ERA Fund has $183,587.36. The amount of interest earned to date is as follows: Reserve Fund: $1718.08 and the ERA Fund $5994.61. SOFT hired Martin Halloran, CPA to review The SOFT financial statements and to advise the organization on an ongoing basis.

Vice President's and Committee Reports: Christine Moore, Ph.D. Vice President Moore called on the committee chairs to give their reports:

A. Bylaws: Yale Caplan, Ph.D. There were no specific actions this year. The Bylaws were converted to a Word document and distributed to the BOD. Dr. Caplan also noted that the first meeting of the group that became SOFT met in 1974 at a site very close to the site of the 2007 meeting. He asked any Business Meeting attendees who were present at the 1974 meeting to stand. This group was recognized by the other attendees with a round of applause.

B. Budget, Finance, & Audit: Robert Turk, Ph.D. The committee members include Dr. Turk, Dr. Diana Garside, Dr. George Jackson, Dr. Michael Schaffer and Dr. Dean Fritch. Dr. Turk reported that the committee is awaiting the internal audit by Mr. Halloran for review. The committee has several recommendations: that a CPA reviews the finances, that the financial statement be shared with the membership before the meeting, and that the records be consolidated at one physical location.

C. Membership: Anthony Costantino, Ph.D. Dr. Costantino informed the membership that the current committee members were Dr. Peter Stout, Dr. Rebecca Jufer-Phipps and Ms. Jennifer L imagem. The membership of SOFT totaled 891, inclusive of 647 Full Members, 167 Associate Members, 14 Charter Members, 25 Retired Charter, 25 Retired, and 24 Student members. Application and promotion forms are available on the SOFT web site.

D. ToxTalk: Yale Caplan, Ph.D. / Vickie Watts Dr. Caplan reported that four issues were produced in a new format since the last quarter for 2006. He thanked Vickie Watts as co-editor and Bonnie Fulmer for her support in the actual publishing and distribution of the publication. He also thanked the Section Editors. The expenses are approximately $3000 per issue.

E. JAT Special Issue: Sarah Kerrigan, Ph.D. Special issue editor, Dr. Kerrigan thanked Dr. Wilkins for the opportunity. A total of 17 manuscripts were submitted. She thanked the colleagues, members and friends who volunteered their valuable time to review the submissions.

F. Education Research Award and Young Scientist Meeting Award: Philip Kemp Ph.D. Dr. Kemp reported that the committee received 5 ERA and 4 YSMA applications this year. The ERA awardees are Amy Cadwallader (University of Utah), Erin Kolbrich (National Institute of Drug Abuse), Michele Merves (University of Florida), Cody Peer (West Virginia University) and Sandeep Sunny Rodhey (Pace University). The Young Scientist Meeting Awards were distributed. The recipients were Sara Kegler (LA County Coroner), Henry Swofford (Georgia Bureau of Investigation), Tor Selden (National Board of Forensic Medicine, Sweden) and Briemne Brown (Center for Human Toxicology).

G. Meeting Resource Committee 2007 Raleigh Durham, NC Meeting Hosts Ruth Winecker and Jeri Ropper Miller thanked SOFT and the membership for a successful meeting.

2008 Phoenix, AZ Meeting Hosts Vickie Watts and Norm Wade presented. The meeting dates are October 27-31. The meeting will be held at the Pointe South Mountain Resort.

Future meeting sites and hosts are:

2009 Oklahoma City, OK - Philip Kemp
2010 Richmond, VA - Michelle Peace and Lisa Tarnai Moak
2011 San Francisco, CA – Nikolos Lemos
2012 Boston, MA – Mike Wagner

H. Laboratory Guidelines: Lee Hearn, Ph.D. There was no current activity to report. Dr. Hearn invited the membership to offer comments and suggestions. The committee met during the SOFT meeting.
I. Drugs and Driving Committee.
Sarah Kerrigan, Ph.D.
The committee is comprised of three subcommittees: The Website Committee, Laboratory Guidelines Committee and the Training and Outreach Committee. The DUID website project is the committee’s most immediate task at present. A workshop entitled “Toxicology Jeopardy”: A Practical Approach to DUID Testing was held at the SOFT 2007 meeting. Drugs and Driving Special Sessions have been scheduled by Michele Spirk at the SOFT 2007 and AAFS 2008 meetings.

J. Policies and Procedures.
William Anderson, Ph.D.
Dr. Anderson reported that all minutes have been abstracted since the last annual meeting. The Policy and Procedures Manual has been reviewed to ensure that it is current. Copies of the manual will be available to Board Members who would like a hard copy.

K. Website.
Bruce Goldberger, Ph.D.
No report was given.

L. Continuing Education Committee.
Ann Marie Gordon.
Ms. Gordon reported that the Joint Continuing Education Committee/Drugs and Driving Committee “Interpretive DUID Workshop” was hosted by Jennifer Limoges, May 22-24, 2007 in Albany, NY. Two Continuing Education Committee workshops occurred at the 2007 meeting: “Benzodiazepines: The Basics and Beyond and “Toxicology Jeopardy”: A practical Approach to DUID Testing.

M. Drug Facilitated Sexual Assault Committee.
Marc LeBeau, Ph.D.
Dr. LeBeau reported that the committee has been very active. There are three subcommittees. The Education and Outreach Subcommittee has been working on a draft FACT sheet and will be published on the website in the near future. The information will be available to the membership and others such as law enforcement. The Research Subcommittee is compiling the number of DFSA cases that have been submitted to the committee. The newest initiative is to take the survey that is available on the website and to make it an electronic download. The Guidance Subcommittee which is trying to develop standardized procedures that will allow laboratories to achieve the recommended detection limits for analysis in DFSA cases.

N. Ethics Committee.
Aaron Jacobs, Ph.D.
There is no activity to report.

O. MS/MS Guidelines Committee.
John Cody, Ph.D.
The committee is continuing to work on and discuss proposed guidelines. The approach will be segmented by analytical method. The first methodology considered was that of targeted analysis using selected reaction monitoring MS-MS. Subsequently the analysis of unknowns using spectral analysis will be discussed. The committee has developed a proposal for targeted analysis and is in the final stages of detailing related definitions and clarifications.

P. Strategic Planning Committee.
Brad Hepler, Ph.D.
The committee was established in 2006 as an ad hoc committee by President Wilkins. The mandate of this committee is to provide advice on the development of long term planning goals and budget to the organization. The other members of the committee are Laurel Farrell, Robert Zettl, Dennis Crouch and Daniel Isenschmid. The committee met in June at the SOFT Office where the records of the organization are being consolidated. Financial records from 1998 to present have been consolidated. The committee will continue to work on a long term business plan.

Q. Nominating Committee.
Timothy Rohrig, Ph.D.
The nominating committee consisted of Timothy Rohrig (chair), Rod McCutcheon and Jennifer Limoges.
Nominees for 2008 were: Christine Moore, President Tony Costantino, Vice-President Sarah Kerrigan, Secretary Dan Anderson, Director 3-year Term Dwain Fuller, Director 3-year Term Peter Stout, Director, 3-year Term

Liaison Reports:
President Wilkins
AAFS: Jeri Miller, Ph.D.
The annual meeting will be held form February 18-23, 2008 in Washington, DC. There have been 80 submissions and more than 60 were accepted. There were nine workshop submissions. Several joint sessions are planned.

TIAFT: Daniel Isenschmid, Ph.D.
The 2008 meeting will be in Martinique in the French Caribbean June 2-8.
The passing of Allan Curry was noted.

CAT: John Hughes, Ph.D.
There will be meeting in November in Monterrey and one in February in southern CA. Please monitor the website for details.

MATT: Don Frederick, Ph.D.
There will be a meeting in Dayton Ohio in the Spring of 2008.

ABFT: Yale Caplan, Ph.D.
There was a surge in the number of individuals who applied for ABFT certification due to the waiver of the application fee. Sixty-six applications were received. There are 9 new certificants.

FTCB: Amanda Jenkins, Ph.D.
Dr. Jenkins reminded the membership that FTCB offers certification in three areas: Forensic Alcohol, FUDT and Forensic Toxicology. There were three new certificants: Two in Alcohol and one in Forensic Toxicology.

SoHT: Christine Moore, Ph.D.
SoHT will meet in conjunction with TIAFT in Martinique. The SoHT meeting will occur on Tuesday June 3, 2008.

Adjournment:
The meeting was adjourned at 5:20 p.m.

Respectfully submitted,
Anthony G. Costantino, Ph.D.
SOFT Secretary, 2006-2007

Minutes subject to final adoption at the 2008 SOFT Annual Business Meeting.
Welcome to the Home of SOFT 2008 – Phoenix, AZ

We extend a warm welcome to Phoenix, Arizona for the next annual meeting of S.O.F.T. during the last week of October. Phoenix is a premier destination for visitors in winter months because of its blue skies and warm climate. Arizona is famous for its indigenous saguaro cactus, plentiful golf courses, and beautiful deserts.

The site of the meeting is the Arizona Grand Hotel, formerly the Pointe South Mountain. The 164-acre property recently changed ownership and the 640 guest rooms are undergoing a $52 million dollar renovation that will be completed by the time S.O.F.T. meets in October 2008. Every guest room is a two-room suite, perfect to share expenses with a colleague, or to bring along the family for an extended vacation. Plans are underway to develop an interesting and unique scientific program for the SOFT 2008 attendees plus a fun social calendar to entertain all. Please make plans to attend the 2008 Meeting in Phoenix. You will enjoy bright sunny skies, stunning red rock bluffs, desert mountain ridges, swaying palm trees, impressive desert vistas and the classic, beautiful desert sunsets.

Explore the Arizona Southwest

The “Valley of the Sun” offers world-class shopping, critically acclaimed dining, impressive arts and cultural life and luxurious day spas on resort properties. Relax, refresh, and rejuvenate! Whether you enjoy active hiking, boating, cycling or golfing or you just want to chill by the pool, you’ll find a lot to do in this friendly, eclectic city. Surrounded by the Arizona red rocks and southwest desert, Phoenix is home to a vast array of museums, galleries, an eclectic city. Surrounded by the Arizona red rocks and southwest desert, Phoenix is home to a vast array of museums, galleries, a desert zoo and shops as well as local and state parks. Arizona is known for its excellent golf courses and two courses are on property at the Arizona Grand Resort. Also closeby is the Legacy Golf Resort which is only a five-minute shuttle ride. If you want to travel to the famous Sedona Red Rocks it is only a two-hour drive and will be a trip you will always treasure. Sedona offers jeep rides up into the red rocks as well as a train ride on the Verde Valley Railway. The Grand Canyon is one of the natural wonders of the world and is only a five-hour drive from Phoenix but well worth the trip. Plan some extra leisure time when you visit because Arizona is a place you’ll want to EXPLOR.
SOFT 2008 ANNUAL MEETING  
Phoenix, Arizona  
October 27-31, 2008  
Hosts: Vickie Watts / Norman Wade  
Site: Arizona Grand Hotel (formerly the Pointe South Mountain)

PRELIMINARY PROGRAM

Saturday, October 25, 2008
- Satellite Organization Meetings

Sunday, October 26, 2008
- Registration Opens (9:00am – 6:00pm)  
- NLCP Inspector Training (2:00pm – 6:00pm)  
- Dinner on your own

Monday, October 27, 2008
- Continental Breakfast (7:00am – 8:30am)  
- Registration (7:00am – 6:00pm)  
- SOFT Workshops (8:00am – 5:00pm)  
- SOFT Student Enrichment Program (8:00am – 5:00pm)  
- ABFT Exam Committee  
- SOFT-AAFS Drugs and Driving Committee  
- Tier-One Exhibitors Hospitality (6:30pm – 8:30pm)

Tuesday, October 28, 2008
- Continental Breakfast (7:00am – 8:30am)  
- Registration (7:00am – 6:00pm)  
- SOFT Workshops (8:00am – 5:00pm)  
- SOFT Board Meeting (7:00am-12:00pm)  
- ABFT Exam  
- ABFT Accreditation Committee  
- ABFT Board Meeting  
- Exhibits Setup (12:00pm – 5:00pm)  
- Exhibits Open (6:30pm – 8:00pm)  
- Welcoming Reception (6:30pm – 8:00pm)  
  (Reception in Exhibit Hall)  
- Elmer Gordon Forum (8:00pm – 10:00pm)  
- Nite Owl Reception (10:30pm – 12:30am)

Wednesday, October 29, 2008
- Continental Breakfast (7:30am – 9:00am)  
- Registration (7:30am – 5:00pm)  
- AAFS Steering Committee (9:00am – 10:00am)  
- Exhibits open (7:30am – 3:30pm)  
- Opening Ceremonies Plenary Session  
- Scientific Sessions (8:30am –12:00pm)  
- Lunch with Exhibitors (12:00pm – 1:15pm)  
- DFSA Committee Meeting (12:00pm – 1:15pm)  
- Scientific Sessions (1:15pm – 5:00pm)  
- Exhibitor’s Happy Hour (5:00pm – 6:30pm)  
- “Sunset at the Oasis” Poolside Reception (7:00pm – 10:00 pm)

Thursday, October 30, 2008
- SOFT Fun Run/Walk (6:30am – 8:00am)  
- Continental Breakfast (7:30am – 9:00am)  
- Registration (7:30am – 5:00pm)  
- Exhibits open (7:30am – 1:30pm)  
- Exhibitor Feedback Meeting(8:00am - 9:30pm)  
- Scientific Session (8:30am – 12:00pm)  
- Lunch with Exhibitors (12:00pm – 1:15pm)  
- Exhibits Breakdown (1:30pm – 3:30pm)  
- Scientific Session (1:15pm – 2:30pm)  
- SOFT Business Meeting (3:00pm – 5:00pm)  
- ABFT Certificate Reception Wine & Cheese Reception  
- Presidents Banquet and Masquerade Ball (6:30pm – 11:30pm)

Friday, October 31, 2008
- Continental Breakfast (7:30am – 9:00am)  
- Scientific Session (9:00am – 12:00pm)  
- NSC Executive Board (1:30pm – 3:30pm)
### S.O.F.T. Workshops
**For the Annual Meeting**
**October 27—31, 2008**

*Submitted by Workshop Coordinator, Dan Anderson (danderson@coroner.lacontry.gov)*

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
<th>Chairs / Instructors</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excel Spreadsheet Design</strong></td>
<td>This workshop is aimed at the PC user who is acquainted with Microsoft and with general PC commands. <strong>User must bring their own laptop PC with Excel 2003 or Excel 2007 AND a supplemental PC mouse control.</strong> The workshop will provide hands on working Knowledge of Excel layout and basic statistical analysis capabilities. The user will learn in <strong>Workshop I-Excel Spreadsheet Design</strong>, how to setup Excel sheets in a database format, master the basic commands including spreadsheet formatting, conditional formatting, data validation, data propagation, data sortation / filtering, build calculation expressions using function commands and how to execute pivot table analysis. The user will learn in <strong>Workshop II-Excel Basic Statistics</strong> how to identify data distributions and choosing the correct toll for statistical evaluation; Detect when transformation of data and advanced non-parametric analysis tools are needed; Differentiate between continuous and discrete data; Differentiate parametric from non-parametric data and select appropriate population parameter analysis tools.</td>
<td>Leland McClure, PhD</td>
<td>Full Day</td>
</tr>
<tr>
<td><strong>Excel Basic Statistics</strong></td>
<td>Pharmacodynamics (PD) can be defined as what a drug does to the body and pharmacokinetics (PK) as what the body does to the drug. Pharmacogenetics, on the other hand, could be defined as the genetics that controls both. To begin to understand how genetics can have an influence, one must have an understanding of basic genetics. This workshop will give participants a fundamental understanding of how genetic changes can alter protein structure, function, and expression level, and how those changes can lead to altered PK and PD. Finally, the question remains as to how and if genetic differences can be used in the interpretation of specific cases, and in particular, those with some relation to forensic toxicology.</td>
<td>Loralie Langman, PhD</td>
<td>Full Day Restricted to 70 Attendees</td>
</tr>
<tr>
<td><strong>Pharmacogenomics For Dummies</strong></td>
<td>This workshop presents topics of varying complexity that will provide attendees with tools to improve productivity within their own laboratory. Topics discussed will include installation and version issues of the software, how to perform full scan methods and selected ion monitoring methods, drug quantification, drug screening with retention time locking/AMDIS, use of 2-D GC/MS, post run data manipulation, report building and report outputs, and an introduction to drug screening macros. It is HIGHLY recommended to have some experience with Chemstation® before you attempt this rather aggressive workshop. All interested workshop participants are encouraged to send problems or desired solutions to the workshop chairs well in advance to facilitate problem solving. In addition PLEASE bring or send your ideas or solutions that work for you to share with your classmates. Computers, preloaded with all necessary software, will be provided to participants so they may receive hands-on training.</td>
<td>Chip Walls</td>
<td>Full Day Restricted to 80 Attendees</td>
</tr>
<tr>
<td><strong>Improving Productivity in Your Forensic Toxicology Laboratory By Utilization of Chemstation® Software &amp; GC/MS Hardware Enhancements</strong></td>
<td>In 2001, the Center for Studies of Law in Action at Indiana University, founded in the 1950’s by Breathalyzer inventor Prof. Robert Borkenstein, began a program focusing on providing an intensive five day training opportunity covering the basics of drug pharmacology, including mechanisms of drug action and receptor chemistry, followed by sessions relating the fundamental pharmacological consequences of drug use to tangible effects on a subjects skills and abilities which are necessary for safe driving. This one day program is designed to give a flavor for what the weeklong course offers but also provides significant take home information on drugs and their effects on driving, and analytical toxicology issues relating to drug testing in impaired drivers. The Center’s philosophy is to provide a diverse faculty in terms of their background and expertise, and mix didactic teaching with faculty interaction and Question and Answer/Discussion sessions.</td>
<td>Barry Logan, PhD, Robert Zettl</td>
<td>Full Day</td>
</tr>
<tr>
<td><strong>Effects of Drugs on Human Performance and Behavior – A Borkenstein Sampler</strong></td>
<td>The practice of forensic toxicology covers wide and multidiscipline fields. Forensic toxicology includes drug and substance testing for performance enhancing such as athletics, performance impairment such as DUI/DUID, and post-mortem testing. While these fields are at times very different, they all have the same foundation in common. The workshop will provide an overview and review of these basic toxicology principles and practices. This workshop is designed for individuals with a few years of work experience or individuals who are looking for a review of forensic toxicology. The workshop will cover drug ADME, math and terminology used, instrumention, and interpretation of results.</td>
<td>Carl Wolf, PhD, Justin Poklis</td>
<td>Full Day</td>
</tr>
<tr>
<td><strong>Overview and Review of Forensic Toxicology</strong></td>
<td>The Arizona desert is part of the larger Sonoran ecosystem. Several native species of plants or animals have pharmacologically active substances present. Some of them are for defensive purposes and others are not. Some of these have been developed for medicinal purposes and others have been used recreationally. This workshop intends to investigate at least a couple of aspects common to both plant and animal sources.</td>
<td>Greg Ohlson</td>
<td>Half Day</td>
</tr>
<tr>
<td><strong>Naturally Occurring Pharmacologically Active Substances Native to the Southwest</strong></td>
<td></td>
<td>Loralie Langman, PhD</td>
<td>Full Day Restricted to 70 Attendees</td>
</tr>
</tbody>
</table>

Instructors:
- Wendell Weber, MD, PhD
- Leland McClure, PhD
- Craig Sutheimer, PhD
- Loralie Langman, PhD
- Michelle Spirk
- Michael Wagner, PhD
- Stephen Wong, PhD
- Bruce Budowle, PhD
- Dennis O’Kane, PhD
- Sypro Mosses, PhD
- Wendell Weber, MD, PhD
- Chip Walls
- William Anderson, PhD
- Jeanie Beno, PhD
- John Peltier
- Fred Feyherm
- Dwain Fuller
- Barry Logan, PhD
- Robert Zettl
- Lionel Raymon, PhD
- Marilyn Huestis, PhD
- Dan Inschmid, PhD
- Joe Turner
- Laurel Farrell
- Bruce Goldberger, PhD
- Carl Wolf, PhD
- Justin Poklis
- Douglas Smith
- Alphonse Poklis, PhD
- Julia Pearson, PhD
- Greg Ohlson
- Cindy Hogan
- Lynn Brown-Wagner, RN
<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
<th>Chairs / Instructors</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain Management and Addiction</td>
<td>Treating chronic pain patients is an ever increasing practice for physicians. The use of toxicology results of patients treated by pain management physicians provides valuable information for physicians to manage patients and aid them in determining patient compliance, help identify drug abuse, and potential drug diversion. The DEA is also active in monitoring the use of prescription drugs by pain management physicians to control abuse and diversion of prescription drugs. It is estimated that 15.1 million people admit abusing prescription drugs which is more than the combined number who admit cocaine, hallucinogens, inhalant and heroin abuse. Toxicology laboratories are asked more and more to test for several prescription drugs used in pain management outside of the normal scope of workplace drug testing panels. This ever increasing demand on toxicology laboratories presents new operational and technical challenges in drug testing. This workshop is designed to better understand this rapidly growing drug testing demand on toxicology laboratories. Neuropharmacology of addiction and pain mechanisms will be presented. The treatment of pain and use of toxicology results from the viewpoint of the physician will be presented. Analytical toxicology methods and case studies will also be discussed. A well as drug diversion and trafficking patterns.</td>
<td>Jim Bourland, PhD Erin Boone Edward French, PhD Todd Vanderah, PhD Ronald Backer, PhD Denny Crouch Dan Anderson Richard Tucker</td>
<td>Full Day</td>
</tr>
<tr>
<td>Critical Flicker Fusion Confusion</td>
<td>This SOFT/AAFS Drugs &amp; Driving Committee workshop will focus on laboratory, driving simulator, and on-the-road studies conducted to measure drug effects on human performance. Forensic toxicologists have a number of “tools” available to them when evaluating a drug’s potential effect on human performance, one of which are the behavioral research studies published in the scientific literature. In order to properly evaluate a publication and to give it proper weight in an interpretation, a toxicologist must be able to answer the following questions: How are these studies conducted? What aspect(s) of human performance is each test measuring? What are the pros and cons of a laboratory study, a simulator study or an on-the-road study in measuring human performance? How well does the research relate to real world driving situations? Experts that conduct laboratory, simulator, and on-the-road research studies will provide some answers to these questions. Future work in the field of behavioral research and drugged driving will also be discussed.</td>
<td>Jennifer Limoges Laurel Farrell Jan Ramakers, PhD Miriam Mintzer, PhD Anthony Liguori, PhD Marilyn Huestis, PhD</td>
<td>Half Day</td>
</tr>
<tr>
<td>Applications of LC-MS in Human and Veterinary Toxicology</td>
<td>During the last few years liquid chromatography – mass spectrometry (LC/MS) became an important analytical tool available to forensic toxicologists. This workshop will provide a general overview of LC/MS followed by interesting applications of LC/MS in human antemortem and postmortem toxicology including detection of erectile dysfunction drugs, several benzodiazepines and their major metabolites, as well as the detection of EDTA in “planted” blood stains. In addition, the applications of LC/MS to detection of human recombinant EPO and anabolic steroids in horse races will be discussed.</td>
<td>Adam Negrusz, PhD Sara Kegler Crystal Holt Marc LeBeau, PhD Brandi Bellissima Cornelius Uboh, PhD Heather Antonides</td>
<td>Half Day</td>
</tr>
<tr>
<td>Overview of Biomarkers of Alcohol Testing: Emerging Trends and Foreseen Applications</td>
<td>The standardized field sobriety tests (SFSTs) and the measurements of blood alcohol are the common methods for the detection of alcohol use and abuse. Newer tests for carbohydrate-deficient transferrin (CDT), ethylglucuronide (EtG) and the early detection of alcoholol consumption (EDAC) test are additional biomarkers. These tests can be applied to detection and monitoring compliance in intoxicated drivers and impaired professionals. This workshop will utilize case studies for the optimal interpretation of laboratory data from these tests.</td>
<td>Donald Frederick, PhD Pamela Bean, PhD Charles Pate, PhD James Harasymiw, MD Hank George</td>
<td>Half Day</td>
</tr>
<tr>
<td>The “Stimulating” Realm of Sympathomimetic Amines and Tryptamines</td>
<td>The SOFT Continuing Education Committee is offering a half-day workshop on sympathomimetic amines and hallucinogenic tryptamines. This particular class of stimulants encompasses a wide range of drugs including over-the-counter (OTC) cold remedies, prescription medications for Attention Deficit Disorder, and illicit drugs abused at parties and raves. Because of their prevalence, these stimulants are commonly encountered in DUI and post-mortem laboratories. The purpose of this workshop is to address the pharmacology as well as the analytical methods used to detect the sympathomimetic amines and tryptamines. Also, the prevalence of these drugs in society will be demonstrated through a series of case studies including those involving OTC medications, methamphetamine, MDMA, other hallucinogenic amines, and the tryptamines.</td>
<td>Chris Chronister, PhD Diane Boland, PhD Bruce Goldberg, PhD William Hearn, PhD Barry Logan, PhD</td>
<td>Half Day</td>
</tr>
<tr>
<td>ISO 17025 Accreditation – What you need to know</td>
<td>Accreditation of forensic laboratories is mandatory in a few states (New York, Texas, Oklahoma) and increasingly expected by clients of the laboratories and by the courts. For forensic toxicology laboratories, the choice of which accreditation program to use is limited. However, most programs either use ISO/IEC 17025 as a basis for laboratory accreditation, or embody the principles of those standards. ISO 17025 embodies the quality management principles of ISO 9000 and 9001 and the technical requirements of the old ISO 25 and applies to “testing and calibration laboratories”. The original concept was to make sure that standards existed for measurement of physical parameters (e.g. length, weight, time, electricity), and chemical analysis (e.g. environmental and toxicology testing) that could be applied and accepted internationally. Of necessity, the ISO 17025 standards have been written in a very general manner, so that they can be applied to a very wide range of calibration and testing laboratories. The goal of this workshop is to provide a general overview of the ISO 17025 standards, explain how they may be applied in the context of a forensic toxicology laboratory, and how the inspection / accreditation process generally operates.</td>
<td>Graham Jones, PhD Laurel Farrell William Tilstone, PhD Marc LeBeau, PhD Jennifer Limoges</td>
<td>Half Day</td>
</tr>
</tbody>
</table>
Meeting attendees will find Arizona to be full of diverse and exhilarating attractions. Phoenix, and the “Valley of the Sun”, is the nation’s fifth largest city has more than 300 days of sunshine a year. October through April are prime months to visit, when the daily temperatures are in the 70’s. This article will try to highlight many varied destinations within the local Metropolitan area as well as within the beautiful state of Arizona that visitors will find most captivating. The internet site www.azcentral.com is a wonderful source of more detailed information.

Sedona is another paramount scenic destination in Arizona, only a two hour drive North from Phoenix and open 365 days a year. Tours are available daily, some in combination with a hike or mule ride down for an overnight stay. Some visitors select a helicopter or white water river rafting expedition to experience a more exhilarating visit. Some choose to take a walk on the new glass bottom Skywalk or to ride the Grand Canyon Railway there.

Open Road Tours offers S.O.F.T. visitors a 10% discount off the 2007 (enclosed) brochure prices for any regularly scheduled tours between October 22 through November 7, 2008. To receive the 10% discounted rate, reference the “SOFT” code. Reservations must be made before October 15, 2008.

Samples of “Open Road Tours” 1-day options:
Grand Canyon Day Tour: $140
Grand Canyon w/ helicopter flight: $265
Sedona Day Tour: $90, w/ jeep tour: $140
Phoenix/Valley Area Highlights Tour: $45
Apache Trail w/ Canyon Lake Steamboat: $90
Verde Canyon Train w/ Jerome stop: $139

Sedona is another paramount scenic destination in Arizona, only a two hour drive North from Phoenix, with indescribable beauty. Visitors simply feel privileged to experience the gorgeous red rock mountains, colorful foliage of the oak tree forests, and the sparkling waters of Oak Creek. The area offers recreational activities including hiking, biking, horseback riding, hot air balloon rides, jeep tours, helicopter views, fishing, swimming, etc. The town of Sedona also boasts of its world-class resorts, and exquisite arts & crafts. Anywhere you turn your steering wheel in Sedona could be considered a scenic drive.
The S.O.F.T. 2008 Annual Conference will be held at the Arizona Grand Resort, located at the base of South Mountain, the largest municipal park in the nation (11 miles across). A 30 minute drive from the resort, up a scenic winding mountain road, to **Dobbins Point Lookout** allows visitors to view the entire valley and surrounding mountain ranges. This Mountain Preserve is an excellent place to hike, bike, or ride horses. Many trails are available to accommodate all skill levels.

**Nearby visitor attractions just minutes away, and inexpensive to enjoy:**

- **The Heard Museum** – Collections of Native American art and historical exhibits.
- **Heritage Square** – Collection of historic buildings dating back to the 1880’s.
- **Arizona Science Center** – Interactive (changing) educational exhibits, IMAX theatre, Planetarium.
- **Phoenix Museum of History** – Interactive and educational exhibits about the early history of Phoenix.
- **Phoenix Art Museum** – Collections include European, Asian, Latin, Contemporary, and American Art and Fashions.
- **Phoenix Zoo** – Large zoo with exhibits that replicate the natural habitats of the animals. - Papago Park
- **Phoenix Botanical Gardens** – 50 acres of exhibits showcasing one of the world’s finest collections of desert plants. - Papago Park

**Other interesting Out of Town attractions:**

Take a scenic 48 mile drive up the Apache Trail (State Route 88) to the chain of man-made lakes (Canyon Lake, Apache Lake, and Roosevelt Lake) along the Salt River NE of Phoenix. A great half or day long drive with opportunities to picnic, rent boats, hike and explore. A further drive south beyond Tucson (2-1/2 hr drive from Phoenix) will get you to the **Kartchner Caverns**, an underground “living cave”. Intricate formations continually grow as water seeps, drips, and flows from the walls. Ranger guided tours require reservations.

The “valley” has over 200 golf courses, many 24 hour casinos, countless gourmet restaurants, unique art galleries, and lots of outdoor recreational choices. You may want to spend some time relaxing around the resort’s many heated swimming pools, or enjoy the quiet, private balcony views from your hotel suite.
ABFT NEWS
American Board of Forensic Toxicology, Inc. (www.abft.org)

ABFT is accredited by the Forensic Specialities Accreditation Board
Yale H. Caplan, Ph.D., DABFT, President

ABFT Certification is available internationally. The next ABFT Examination for Diplomates and Specialists is scheduled for Tuesday, October 28, 2008 during the S.O.F.T. Meeting in Phoenix, Arizona. ABFT questions may be sent to: abftox@aol.com.

After serving 20 years as President, Yale H. Caplan, Ph.D., DABFT will be stepping down and has recently been elected as President of the Forensic Specialties Accreditation Board. At the last Board Meeting, Dr. Kurt Dubowski, one of the founding Directors and the Board’s first President, presented President Caplan with a Cardinal’s Cap in recognition of Yale’s long service as “President” of the “College of Cardinals”.

Congratulations to the new Directors of ABFT, elected or re-elected, for the period July 1, 2008 through June 30, 2011.
- Yale Caplan, Ph.D., DABFT
- Daniel Isenschmid, Ph.D., DABFT
- Joseph Manno, Ph.D., DABFT
- Elizabeth Spratt, M.S., DABFT

Congratulations to the new Officers of ABFT, elected for the period July 1, 2008 through June 30, 2009.
- Marina Stajic, Ph.D., DABFT President
- Bruce Goldberger, Ph.D., DABFT Vice-President
- Dan Isenschmid, Ph.D., DABFT Secretary
- Robert Middleberg, Ph.D., DABFT Treasurer

There are currently 122 Diplomates, 48 Forensic Toxicology Specialists, and 37 Emeritus Diplomates recognized by the Board.

The Laboratory Accreditation Program, chaired by Graham Jones, Ph.D., DABFT, is continuously reviewing accreditation standards. There are currently 21 accredited laboratories. See web site, www.abft.org, for list.

SOFT 2008 EXHIBITOR INVOLVEMENT

The S.O.F.T. 2008 Planning Committee expects Phoenix to be a sell out meeting. Nearly every continuing exhibitor from previous conferences has committed to participation. Financial sponsorship from exhibitors is critical to maintaining our superior quality meetings, continued growth, excellent renown guest speakers, and low attendee registration costs. As is possible, please extend your appreciation and business toward our essential partners in business.

Agilent
AIT Laboratories
Alternative Biomedical Solutions
Applied Biosystems
Axiom Diagnostics
Biochemical Diagnostics, Inc.
Biotage
Bruker Daltonics
Caliper Life Sciences
Cerilliant
ChemWare
CMI, Inc.
Data Unlimited International
DPX Labs
donnick hunter—a division of
Parker Hannifin Corp.
GBF, Inc.
GERSTEL, Inc.
Immunalysis
International Diagnostics
JEOL USA, Inc.
Justice Trax
Lin-Zhi International
Lipomed
Microliter Analytical Supplies
NMS Labs.
Neogen Corporation
OraSure
Orochem Technologies
Perkin Elmer
Quality Assurance Systems
Randox Laboratories
Restek Corp.
Roche
Rudolph Research Analytical
SGE Analytical Science
Sciteck Diagnostics
Shamrock Glass
Shimadzu Scientific Instruments
Siemens
SPEWARE Corp.
Standard Register
TASC of Arizona
Thermo Fisher Scientific
UTAK Laboratories
United Chemical Technologies
Varian, Inc.
VertiQ Software
Venture Labs
Waters Corp.
SOFT will continue the Student Enrichment Program (SEP) as a regular part of the annual October meetings. The educational outreach program invites college students to participate in a one day forensic toxicology program to foster education among our future forensic scientists and to give students an educational opportunity they may not otherwise experience.

Half of the day, students will attend lectures from professionals in the forensic toxicology field. The second part of the program, students are invited to tour two laboratories. The Maricopa County Medical Examiner’s Forensic Science Center and the Phoenix Police Department Crime Laboratory will host the students during the upcoming 2008 meeting. Demonstrations and “hands-on” experiments will be coordinated by staff from the Phoenix Crime Laboratory and Arizona Department of Public Safety Crime Laboratory.

A nice lunch is provided to the students, as well as ID badges, memorabilia from the meeting, and a certificate of attendance at the conclusion of the program.

Students are responsible for providing their own transportation to the meeting site (Arizona Grand Resort). All other costs associated with the day-long event will be covered by private sponsors. Proceeds from last year’s SOFT Silent Auction will financially sponsor this educational event, along with several other sponsoring companies, to include TASC, Inc. of Arizona (Treatment Assessment Screening Centers), the Maricopa County Medical Examiner’s Office, and United Chemical Technologies.

The SEP will notify faculty and students from Arizona colleges and universities of this unique regional educational opportunity. Participating students are chosen via application process. Students demonstrating high academic achievement in the sciences can apply, many times prompted to do so by their professors. Applications can be downloaded from the SOFT web-site (soft-tox.org) and the SOFT 2008 Meeting website (soft2008.org). The application includes submission of a short essay statement from the student expressing their interest and experience in the forensic sciences and a teacher recommendation. The SEP committee will review all applications and contact the most qualified applicants with an invitation to attend.

**SSEP Coordinator:**
Jeri Ropero-Miller, RTI Int’l
Contact: 919-485-5685
jerimiller@rti.org

- **Application Period:**
  May 1, 2008 to Sept. 30, 2008

- **Applications Available from:**
  www.soft-tox.org
  soft2008.org
  jerimiller@rti.org

- **Acceptance Notification:**
  October 10, 2008

---

**S.O.F.T. CONTINUES THE STUDENT ENRICHMENT PROGRAM**

S.O.F.T. has long sponsored an Educational Research Award (ERA) to encourage studies in Forensic Toxicology, and additionally a second similar program called the Young Scientist Meeting Award (YSMA) targeting graduate students and young scientists.

The listed names are the generous S.O.F.T. members who have individually donated small and large amounts of funds in 2008 to honor and encourage young scientists to explore the field of Toxicology.

- William Anderson
- David Andrenyak
- Timothy Appel
- Fred Apple
- Donna Bush
- Paula Childs
- William Closson
- Ed Cone
- Anthony Costantino
- Leo Dal Cortivo
- Tim Eastly
- Laurel Farrell
- Bradford Hepler
- Donald Hoffman
- Larry Howard
- Walter Hrynkiw
- Marilyn Huestis
- Rebecca Jufer-Phipps
- James Kramer
- Thomas Kupiec
- Matthew Lambing
- Marc LeBeau
- Nikolos Lemos
- Richard Maguire
- Elizabeth Marker
- Maria Martinez
- Samuel Mathews
- Joel Mayer
- J. Rod McCutcheon
- Richard McGarry
- Michael McGee
- Diane Mertens-Maxham
- John Mitchell
- Madeline Montgomery
- Adam Negrusz
- Miranda Nolan
- Robert Osiewicz
- Jeri Ropero-Miller
- Wayne Ross
- Joseph Saady
- Richard Saferstein
- Michael Schaffer
- Robert Sears
- Theodore Siek
- Robert Simon
- Michael Slade
- Michael Smith
- Vina Spiehler
- Elizabeth Spratt
- Craig Sutheimer
- Robert Turk
- Lowell Van Berkom
- Karl Verebey
- Susan Vondrak
- Wen-Ling Wang
- Vickie Watts
- Robert White
- J. Robert Zettl
"I thought he was going to die. I didn’t want to tell my kids that, of course, but I thought he was going to die.” Those were the words of Shelby Esses, whose son Jack quickly fell unconscious after swallowing a handful of Spin Master Aqua Dots.(1)

If you have been following the news, you are likely familiar with what happened here. You may have even had some calls from the media about this. For those who may have missed this story, this is the latest chapter in “toxic toys” from China, Aqua Dots®. Aqua Dots® is a toy that consists of small beads coated with a water-activated adhesive. The idea is to arrange the colored beads into the desired design then spray them with water to cause them to fuse together. However, a problem seems to lie in the adhesive. The adhesive is intended to contain 1,5-pentanediol, which is considered to be non-toxic, but somehow the Aqua Dots® that little Jack Esses was playing with, as well as others on store shelves, contained instead 1,4-butanediol. Whether the substitution of 1,4-butanediol for 1,5-pentanediol, which cost approximately 5 times that of 1,4-butanediol, was simply a mistake or a calculated attempt to save money in production costs is a matter of speculation at this point.(1) What is known is that Aqua Dots® were quickly pulled from store shelves throughout the United States.

It has long been known that 1,4-butanediol (BD) is an analog to the popular recreational and “date-rape” drug, gamma-hydroxybutyrate (GHB). In fact BD is more than an analog, it is a pro-drug to GHB; rapidly metabolizing to GHB in the body. As such, understanding the pharmacodynamics of GHB are imperative to understanding BD intoxication.

**Pharmacodynamics:**

The clinical effects of BD are essentially indistinguishable from those of GHB and may be solely due to the GHB produced by BD’s rapid metabolism. The effects of GHB are dizziness, alcohol-like inebriation, and sleep induction. At higher concentrations, vomiting, myoclonus, respiratory depression, coma and death may occur. The effects of GHB are short-lived and often resolve abruptly within a matter or a few hours. This along with its relative safety and widespread availability make it particularly well-suited as a date rape drug.(2)

However, because two metabolic steps are required to convert BD to GHB, the pharmacokinetics of BD differ somewhat from GHB and therefore merit special attention.

**Pharmacokinetics:**

In a very recent study involving 8 healthy adult volunteers administered a 25 mg/kg dose of BD, the following was observed: The average Cmax for BD was 3.8 mg/L, approximately one tenth of that of GHB at 45.6 mg/L. For five of the eight subjects, measurable plasma GHB levels were present at the first specimen collection, 5 minutes after dosing. All subjects had measurable plasma levels of GHB 30 minutes after dosing. The elimination half-life for BD was 39.3 ± 11.0 min and 32.3 ± 6.6 min for GHB. Plasma concentrations of both BD and GHB were below the limit of quantitation of 1 mg/L by 4 hours after dosing.

Extensive conversion of BD to GHB was demonstrated, indicating that ingestion of BD is essentially equivalent to GHB intake. The prompt appearance of GHB in the plasma indicates rapid absorption and metabolism of BD occurring after oral ingestion. Compared to a previous study of GHB by the same authors, the Tmax for GHB was somewhat greater than that observed for GHB due to the metabolism of administered BD in this study (57.2 ± 12.5 versus 39.4 ± 11.2 min, respectively). This may be due to the fact that GHB is a carboxylic acid with greater polarity than the neutral aliphatic alcohol, BD, and hence gastrointestinal absorption of GHB is likely to be slower than that of BD.

The rate of metabolism of BD was found to be variable and to correlate with the ADH-IB genotype. Four subjects had high GHB:BD AUC ratios of 80-100, indicative of rapid metabolism of BD to GHB,
four subjects had low AUC ratios ranging from 8 to 17. Three of the four individuals with lower GHB:BD AUC ratios were Asian, suggesting possible genetic-based differences in BD metabolism. Genotyping for a well-known ADH-IB G143A single nucleotide polymorphism was performed which revealed an interesting correlation. Three of four subjects with variant alleles (GA and AA) had greater Cmax and lower CL/F values for BD than subjects with wild-type (CG) variants. This finding is discordant with the well-described association of G143A variant genotype with 40-fold increase in ethanol metabolism.

The authors suggest several possibilities for this observation. Variant ADH enzymes may have altered substrate affinity for diols such as BD, which can cyclize, versus straight-chain alcohols. Although ADH-mediated metabolism is rate limiting in ethanol metabolism, it may be that the second step conversion of γ-hydroxybutyraldehyde to GHB is the rate-limiting step for BD. It is also possible that another pathway exists for the elimination of BD. Support for this hypothesis comes from some animal data showing that metabolism of BD to GHB occurs in brain tissue independent of both ADH and aldehyde dehydrogenase. Furthermore, although ethanol blocks BD from metabolism by ADH in liver cells, aldehyde and disulfiram failed to block the second step of conversion of γ-hydroxybutyraldehyde to GHB, suggesting that aldehyde dehydrogenase may not be involved in the formation of GHB from BD. This would suggest that the metabolic pathway of BD metabolism may not be identical to ethanol, as previously hypothesized.

Summary:
As long assumed, it appears the clinical effects of BD are indistinguishable from those of GHB, and are likely to be solely the result of metabolic production of GHB from BD. However, the pharmacokinetics for BD are not yet fully understood. The data would suggest that the Tmax for GHB when derived from the ingestion of BD is shorter than when ingesting GHB alone, perhaps due to more rapid absorption of BD from the GI tract. Furthermore, because the first step in the metabolic process of converting BD to GHB, conversion of BD to γ-hydroxybutyraldehyde, is mediated by ADH, the concomitant use of ethanol may slow the onset and extend the clinical symptoms of GHB intoxication.

References:
1. Harris, Peggy, Mom: Son passed out after eating toy beads. Associated Press, November 9, 2007
**Introducing TOXICOLOGICAL FINDINGS OF DICYCLOMINE AND MORPHINE IN A DECEASED CANCER PATIENT**

Steven Fleming¹, C. Clinton Frazee¹, Uttam Garg¹, Leonard Johnson¹, Mary Dudley², Laura Knight², and Valerie Rao²

¹Department of Pathology and Laboratory Medicine, Children’s Mercy Hospitals and Clinics and University of Missouri School of Medicine, Kansas City, Missouri
²Office of the Jackson County Medical Examiner, Kansas City, Missouri

**Introduction**

Dicyclomine is an anticholinergic and antispasmodic agent used to relieve smooth muscle spasms of the gastrointestinal tract. It is sold under the trade name Bentyl® and is available in 10 mg capsules, 20 mg capsules, syrup (10 mg/5 mL), and an aqueous solution for intramuscular injections (1). Dicyclomine has a half-life of five hours. It can produce adverse effects such as dizziness, nausea, vomiting, dilated pupils, and difficulty in swallowing (2). The concentration of dicyclomine and the symptoms associated with overdosage (thought to be life threatening in adults) are not well defined. However, one study indicates a maximum peak plasma concentration of 80 ng/mL two hours after administration of a 40 mg sustained release tablet (2). Another study indicated a peak plasma concentration up to 60 ng/mL following three hourly 20 mg liquid doses (3).

Morphine is a commonly prescribed narcotic analgesic that is prescribed to suppress moderate to severe pain. It produces adverse effects such as nausea, drowsiness, vomiting, hypothermia, apathy, respiratory depression, hypotension, coma, and pulmonary edema (2). In one study, cancer patients that received daily doses of morphine ranging from 60 – 180 mg were found to have a peak plasma concentration averaging 19 ng/mL (4).

We report a case illustrating the pertinent postmortem toxicology and findings involving an ingestion of dicyclomine and morphine.

**Case History and Findings**

A 50 year old woman was discovered dead in the bed of her residence. The decedent’s past medical history was notable for cervical cancer, osteoporosis, renal disease, chronic back/pelvic pain, and she recently had a colostomy. The decedent was prescribed dicyclomine and morphine pills. Six days had passed since both prescriptions were filled and 42 pills were missing from dicyclomine and 31 pills were missing from the morphine bottle.

Due to the extensive past medical history an external exam was performed instead of a complete autopsy. The cause of death was determined to be cervical carcinoma and the manner of death was reported as natural.

**Postmortem Toxicology**

Postmortem femoral blood and vitreous humor were submitted for toxicological analysis. The analysis included a blood EIA screen for drugs of abuse, volatile screen by GC-FID, and a liquid-liquid extraction for alkaline drugs followed by GC-MS. The toxicology results are summarized below.

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum HPLC</td>
<td></td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>2.8 mcg/mL</td>
</tr>
<tr>
<td>Blood GC-NPD</td>
<td></td>
</tr>
<tr>
<td>Dicyclomine</td>
<td>280 ng/mL</td>
</tr>
<tr>
<td>Blood GC-FID</td>
<td></td>
</tr>
<tr>
<td>No volatiles detected</td>
<td></td>
</tr>
<tr>
<td>Blood (EIA)</td>
<td></td>
</tr>
<tr>
<td>Amphetamine</td>
<td>Negative</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>Negative</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>Negative</td>
</tr>
<tr>
<td>Cannabinoids</td>
<td>Negative</td>
</tr>
<tr>
<td>Cocaine metabolite</td>
<td>Negative</td>
</tr>
<tr>
<td>Methadone</td>
<td>Negative</td>
</tr>
<tr>
<td>Opiates</td>
<td>Positive</td>
</tr>
<tr>
<td>Phenylcyclidine</td>
<td>Negative</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>Negative</td>
</tr>
<tr>
<td>Blood GC-MS*</td>
<td></td>
</tr>
<tr>
<td>Acetaminophen</td>
<td></td>
</tr>
<tr>
<td>Dicyclomine</td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td>307 ng/mL</td>
</tr>
</tbody>
</table>

*Qualitatively identified by RRT and MS

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood GC-MS SIM</td>
<td></td>
</tr>
<tr>
<td>Codeine</td>
<td>&lt;50 ng/mL</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>&lt;50 ng/mL</td>
</tr>
<tr>
<td>Morphine</td>
<td>307 ng/mL</td>
</tr>
</tbody>
</table>
Discussion
From the literature only three cases involving fatalities were found and only one case attributed the cause of death to an overdose of dicyclomine (3,5). The overdose case reported a dicyclomine concentration of 505 ng/mL. The other two cases reported dicyclomine concentration of 220 ng/mL and 200 ng/mL. The first of these two cases ruled the cause of death as undetermined and the later as sudden infant death syndrome. All three of these cases involved infants.

The femoral blood concentration of 280 ng/mL of dicyclomine in the presented case falls within the range of the three reported fatalities. Since this finding was in an adult with late stage cervical carcinoma, the dicyclomine concentration was determined to not be related to the cause of death. The high level of morphine found in the blood could be contributed to the decedent’s past medical history of chronic pain. The toxicology data provides important information, as it was determined that the drugs detected did not play a significant role in the cause of death.

Chemically, BENTYL (dicyclomine hydrochloride) is [bicyclohexyl]-1-carboxylic acid, 2-(diethylamino) ethyl ester, hydrochloride with the above chemical structure. Dicyclomine hydrochloride occurs as a fine, white, crystalline, practically odorless powder with a bitter taste. It is soluble in water, freely soluble in alcohol and chloroform, and very slightly soluble in ether.

References

WEB BASED CONTINUING EDUCATION COMING
Submitted by Project Co-Directors: Peter Stout, Ph.D., DABFT and Jeri Ropero-Miller, Ph.D., DABFT

Announcing the availability of a web based continuing education opportunity for forensic scientists. This program is offered by RTI International in a cooperative agreement with the National Institute of Justice (NIJ). This program will be available in this form at least through November of 2009. The purpose is to provide readily available continuing education opportunities for forensic scientists (toxicologists), ranging from basic information on forensic topics to advanced interpretive issues. One hour is required for attendance of each training module and a certificate of attendance will be offered upon completion of each course.

The program features free participation using live virtual classroom content and on-demand content. Participants need access to a phone and internet, although, program content is best viewed using high speed access.

Visit the site often as new course material is updated continually. Details of the program can be found at:

www.rti.org/forensiced

For additional information:
E-mail: cfs-forensic-ed@rti.org, or
Phone toll free: 1-866-252-8415

We have already seen substantial interest from busy professionals. Please inform others who may be interested in this program. Feedback, observations, and constructive comments are encouraged from participants to ensure that this program is beneficial and effective for the community.
### AAFS NEWS

**Toxicology Section**

The Toxicology Section of the AAFS was honored in that one of our members, Dr. Bruce A. Goldberger served as President of the American Academy of Forensic Sciences this past year 2007-2008 and presided over the 60th Anniversary Meeting which was held February 18-23, 2008 in Washington D.C. Dr. Goldberger selected the theme of his meeting appropriately as “The Forensic Sciences—An International Treasure”.

The keynote speaker was Senator, Joseph R. Biden, Jr. who provided the Academy with a spirited video outlining his support for the forensic sciences.

The AAFS Meeting provided numerous workshops involving many SOFT members. Notable toxicology workshops were “Forensic Toxicology: A Historical Perspective” with Yale Caplan, Barry Logan, Michele Merves and Alphonse Poklis presenting; “ChemStation Productivity by Agilent” with H. Chip Walls and William Anderson presenting; “Postmortem Toxicology: Interpretation of Drug Concentrations in Hair” with Christine Moore, Timothy Rohrig, Daniel Isenschmid and Laureen Marinetti presenting, and “Marijuana Induced Psychosis” with Vina Spiehler, Kenneth Ferslew, Joseph Manno and Philip Kemp presenting.

The Toxicology Section of the AAFS Meeting hosted two Toxicology Poster Sessions and a number of Platform scientific papers including 67 presentations.

### AAFS / SOFT JOINT DRUGS & DRIVING COMMITTEE

The committee met and is in the process of developing the final product for the combined AAFS / SOFT DUID website. This has been a rather long and arduous project expected to be completed within the next few months. Thanks to Dr. Kerrigan and the committee for keeping the project on track.

### NATIONAL SAFETY COUNCIL—COMMITTEE ON ALCOHOL AND OTHER DRUGS

The Executive Board of NSC/CAOD met on Sunday prior to the AAFS 2008 annual meeting. Items and issues discussed were:

- a push for the development of “drugged driving legislation,”
- a position paper stating that laboratories should always confirm drugs of abuse prior to results reporting,
- updating of CAOD material on the NSC website, and
- establishing a policy for acceptable practices in evidential breath alcohol testing.

The full committee met the following day with a presentation from James Fell of the Pacific Institute for Research & Evaluation on Traffic Safety and Enforcement Programs. During that meeting, the 2008 Robert F. Borkenstein Award was presented to J. Mack Cowan during ceremonies that evening. Mr. Cowan is the Manager of the Texas Breath Alcohol Program.


---

**Below:** Gathered at the February 2008 AAFS Meeting in Washington D.C. are Vickie Watts, M.S., Marilyn Huestis, Ph.D., Bruce Goldberger, Ph.D., Yale Caplan, Ph.D., Dan Isenschmid, Ph.D., Marina Stajic, Ph.D., and Tony Costantino, Ph.D.

**Below:** Rob Middleberg, Ph.D., pictured above, served as Toxicology Section Chair at the AAFS Meeting in Washington D.C.
TOXICOLOGY ACHIEVEMENT AWARDS

Submitted by Vickie W. Watts, M.S.

ALEXANDER O. GETTLER AWARD PRESENTED TO WILLIAM ANDERSON, PH.D.

Dr. William Anderson was awarded the 2007 American Academy of Forensic Sciences Toxicology Section’s Alexander O. Gettler Award. In accordance with the historical criteria of the award, the Alexander O. Gettler award is given for outstanding contributions to the knowledge base of forensic toxicology. Dr. Anderson received this award for lifetime achievement in forensic toxicology to include the development of analytical methods and the interpretation of postmortem toxicology results. This is exemplified by his research and publications concerning the postmortem redistribution of drugs. He has published several papers and a book chapter concerning the fact that the concentration of some drugs may change after death under a process called postmortem redistribution. “The thesis of the project was that the concentration of some drugs may be elevated in a heart blood specimen and our work proved that this may happen,” states Dr. Anderson. “This was a novel concept when we presented the mechanisms of how this happened and how to deal with the problem. The work had a major impact on how postmortem drug concentrations are interpreted.”

*Except for this piece were taken from the Washoe County Sheriff’s Media Advisory.

ROLLA HARGER AWARD PRESENTED TO CHARLES WINEK, PH.D.

One of SOFT’s Charter members, Dr. Charles Winek was honored with the Rolla N. Harger Award from the American Academy of Forensic Sciences. The Rolla Harger award is bestowed to members of the AAFS Toxicology Section for outstanding contributions to forensic toxicology through education, advancement of the profession and analytical achievements.

The many contributions that Dr. Winek has made are too long to include in this posting. In summary, following his doctoral degree, Charles worked one year with Proctor & Gamble and then returned to teach at his alma mater, Duquesne University, for 38 years. Three years into teaching he became the Chief Toxicologist for Allegheny County that serves Pittsburgh and surrounding communities, and then as Director of the Department of Labs that include the toxicology, crime and health labs

for a total of 32 years. In his CV are listed over 120 papers published in scientific and peer reviewed journals, many of which, as did Rolla Harger, have centered on ethanol studies from stability and interpretation, to novel analytical methods in alternate matrices such as bone marrow and synovial fluid. Dr. Winek has authored, co-authored, or contributed to over 30 books and over 50 papers presented at meetings to include research presented by graduate students he advised.

On a more personal note, Charles has been smoking a pipe long enough that there are cherry blend tobacco fields in NC named in his honor. He is of Polish decent and attributes many of his more admirable traits to the Italian influence of the neighborhood he grew up in at Erie, PA.

*Except for this piece were taken from Frank Esposito’s Introduction at Award Ceremony.

ABERNATHY AWARD PRESENTED TO LAUREL J. FARRELL, B.A.

Ms. Laurel Farrell, B.A. was awarded the 2007 American Academy of Forensic Sciences Toxicology Section’s Ray Abernethy Award. In accordance with the historical criteria of the award, Ms. Farrell has been a practicing forensic toxicologist both at bench level and supervising practitioners of forensic toxicology for over 30 years. Ms Farrell is an internationally recognized authority in the field of drugs and driving impairment and continues to serve as a well-respected researcher, educator and leader in the field of forensic toxicology. She has excelled and promoted the field of forensic toxicology through her numerous workshops and platform presentations at national and international scientific conferences around the world.

Ms Farrell has worked on numerous committees for the Toxicology Section of the American Academy and has assisted in countless workshops conducted at the annual conferences. Laurel is Past President of the Society of Forensic Toxicologists (2002) and served on the SOFT Board of Directors as a Board member and officer from 1996 until 2003. She is Past Chairman of the AAFS/ SOFT Joint Drugs and Driving Committee from 2000 to 2002. Ms Farrell has served on the Executive Board of the National Safety Council Committee on Alcohol and Other Drugs and has worked on numerous subcommittees within this group.

I have personally been acquainted with Laurel Farrell for over 20 years and have known her to be of the highest moral character. Ms. Farrell is an avid educator of forensic toxicologists and provides practitioners in the forensic toxicology community the tools and training to promote and enhance their skills on the bench performing toxicological analyses as well as interpretation as to the results of their analyses. She is a leader in all aspects of her endeavors in the field of forensic toxicology. Those of us who have worked with her on the many successful projects she has embraced are better people for the experience.

Out of respect and friendship,
Vickie W. Watts
Future S.O.F.T. Meeting Info

2009: Oklahoma City, OK………Oct. 18-23, 2009……………...………………...Phil Kemp
2010: Richmond, VA……………Oct. 18-22, 2010….…..Michelle Peace, Lisa Tarnai Moak
2011: San Francisco, CA……………………………………..…..……………Nikolas Lemos
2012: Boston, MA……………………………………...…………….………Michael Wagner

REфер TO THE 2008 MEETING WEBSITE OFTEN

The new, user friendly 2008 SOFT Meeting Website, www.soft2008.org, is currently available to reference current, detailed meeting information. Use this site to download the “Call for Papers Instructions", to check on Workshop Details, to view photographs / information about the resort, or to check updates on the Preliminary Program. Additions and updates to this website and links to related sites are continually happening. It is recommended that you log in frequently and see “What’s New”.

BOOK HOTEL RESERVATIONS NOW

Hotel room reservations at the Arizona Grand during the S.O.F.T. Conference is $189 for SOFT attendees. Reservations are only accepted by phone. Call toll free 1-877-800-4888 and be sure to reference the SOFT Group to take advantage of the reduced rate. The Resort is a very large 164 acre property recently enjoying a 52 million dollar renovation. Every guest room is a two-room suite, perfect to share expenses with a colleague, or to bring the family for an extended vacation. If you want to ensure that you’re not forced to an overflow hotel, BOOK NOW. Room availability cannot be guaranteed if you wait.

CALL FOR VOLUNTEERS

The S.O.F.T. 2008 meeting in Phoenix will be here before we know it! It takes the effort of many people to ensure all events proceed smoothly. Volunteers are always needed to help ensure that meeting attendees fully enjoy their stay in the host city.

Anyone able to offer a few hours of time during the meeting as a S.O.F.T. Volunteer should notify the Volunteer Coordinator to be added to the schedule. Mention specific available timeframe and any particular areas of interest that would be preferable to help with.

Thanks to both past and future volunteers for helping make S.O.F.T. meetings efficient and enjoyable for everyone!

Debhy Denson, SOFT Volunteer Coordinator
Email: denson@rti.org  Tele: 919-541-7265

2008 S.O.F.T. COMMITTEE CHAIRS

Committee.........................Committee Chair
Nominating.........................Diana Wilkins, Ph.D.
Membership........................Sarah Kerrigan, Ph.D.
Strategic Planning..................Bradford Hepler, Ph.D., DABFT
Budget, Finance, and Audit........Robert Turk, Ph.D., DABFT
ToxTalk Co-Editors ..............Yale Caplan, Ph.D., DABFT
ByLaws.............................Vickie Watts, M.S.
Policies and Procedure..............William Anderson, Ph.D.
SOFT Internet Web-Site............Bruce Goldberger, Ph.D., DABFT
Continuing Education..............Ann Marie Gordon, M.S.
Laboratory Guidelines.............W. Lee Hearn, Ph.D.
Ethics.............................Aaron Jacobs, Ph.D.
Drug Facilitated Rape & Sexual Assault...Marc LeBeau, Ph.D.
MS/MS Guidelines................John Cody, Ph.D.

ToxTalk is the official publication of the Society of Forensic Toxicologists, Inc., mailed quarterly (bulk mail) to its members. It is each member’s responsibility to report changes of address to the SOFT Administrative Office. Non-members may receive ToxTalk for $15 per calendar year. Checks payable to SOFT may be mailed to the SOFT Administrative Office. To submit articles or address ToxTalk issues please email to ToxTalk@soft-tox.org.