Society of Forensic Toxicologists, Inc.

Volume 31, Issue 4

December 2007

TOXTALK

INSIDE THIS ISSUE:

2007 S.O.F.T. ANNUAL MEETING FOCUSES ON GROWTH, EDUCATION IN FORENSIC TOXICOLOGY, AND NORTH CAROLINA TRADITIONS

WOW! S.O.F.T. 2007 came and went in a flurry to Raleigh-Durham, North Carolina. The Planning Committee worked long and hard to bring the membership a memorable meeting and at the end of the week we felt confident it showed!

This meeting carried on the S.O.F.T. traditions of superior scientific presentations and educational opportunities, high-energy social engagements, and non-stop professional development. As part of the business meeting report, the Planning Committee shared meeting statistics and would like to share these final statistics in ToxTalk. S.O.F.T. 2007 had a total of 788 meeting registrations and the attendees in each category were as follows:

- Members 335
- Nonmembers 206
- Students 19
- Accompany Persons 26
- Exhibitors 202

The Scientific Program began with eight workshops. Attendees registered for a total of 794 Workshop Units of Continuing Education. On Monday, three Full-day workshops on Benzodiazepines, Solid Phase Extraction, and Excel Spread Sheet and two Half-day workshops on Herbals and Drug Facilitated Crime were offered. Tuesday's workshops included two Full-day workshops on LC/MS and Toxicology Jeopardy on DUID and one Half-day workshop on Crossroads of Clinical and Forensic Case Interpretations.

Eighty-five posters were presented during three sessions within Wednesday and Thursday's schedule of the Scientific Program. Another 30 Platform Presentations were given as part of the Wednesday - Friday schedule.

Evening events throughout the week were designed with S.O.F.T. and North Carolina traditions in mind. The Welcoming Reception, hosted among our more than 200 Exhibitors, had the "down south appeal of North Carolina barbeque, black-eyed peas and banana pudding". From here, attendees cozily gathered to enjoy the Elmer Gordon Forum before trying their luck at Cerilliant's Nite Owl Reception of Casino tables and $5K worth of casino tokens. The following night was not to be out done as S.O.F.T. attendees were taken to an offsite event at the Historic Tobacco Campus in downtown Durham. Attendees chose to "step" or "triple step" to the Lindy Hop and West Coast Swing hits played by Durham's own Rebecca and the HiTones or alternatively they could relax on picnic blankets under the moonlit sky listening to Scott Ainslie, a local blues and jazz musician. Equally enjoyable, the President's Reception boasted a "Surf-n-Turf" meal while artists of the Paperhand Puppet Intervention performed for all. After dinner and the theatrical showcase, attendees with any energy left were encouraged to hit the dance floor for a few more tunes.

As Saturday came, many attendees were fortunate to find sleep on their agenda; could they be dreaming about what next year would be like for S.O.F.T. 2008 in Phoenix?

The S.O.F.T. 2007 Planning Committee would like to graciously thank all of the exhibitors, meeting volunteers and the S.O.F.T. Board for their help and support in making this a successful meeting.

Jeri Ropero Miller & Ruth Winecker: Co-Hosts
Diana Garside: Events Coordinator
Rebecca Jufer Phipps: Scientific Chair
William Anderson: Workshop Chair
Andrew Mason: Student Enrichment Program
Vickie Watts: S.O.F.T. Meeting Coordinator
Lisa O'Dell: S.O.F.T. Exhibit Coordinator
Bruce A. Goldberger: S.O.F.T. Web-Master

THANK YOU LISA

After fourteen years of coordinating the exhibiting companies for the annual meetings, Lisa O'Dell has stepped down as the S.O.F.T. Exhibitor Liaison. Sincere appreciation to Lisa for her thorough collaboration with exhibitors over the years. Lisa would like everyone to know that the relationships she has made with the exhibitors, meeting hosts, and attendees will be treasured.

PRESIDENT'S MESSAGE
BY DIANA WILKINS, PH.D.

It has been an honor and a privilege to serve as the 2007 President of the Society of Forensic Toxicologists. I'd like to take this opportunity to thank the membership for allowing me to serve you in this important capacity. I am sincerely appreciative that I have been able to draw upon the valuable advice and assistance of the entire S.O.F.T. membership, as well as the past and present members of the S.O.F.T. Board and Committee Chairs. Indeed, our organization has continued to move forward to meet the demands of our expanding group.

There has been a great deal of activity this year, and S.O.F.T. has endeavored to expand our support of various educational activities in particular. First, I am happy to report that S.O.F.T has provided five Education Research Awards and four Young Scientist Meeting Awards for this year. There are some excellent young developing scientists and researchers working in our various laboratories! S.O.F.T. is very fortunate to have the opportunity to support their work. Second, S.O.F.T. was extremely fortunate to co-sponsor the first S.O.F.T. Student Enrichment Program, where interested high school, college, and graduate students were offered the opportunity to learn more about toxicology in various practice settings. Through the tremendous local-support of Research Triangle Institute, the State Bureau of Investigation, and LabCorp, the students were able to tour local laboratory facilities, as well as attend didactic lectures and discussion with the program's faculty. S.O.F.T. plans that this outstanding event will be continued annually so that we continue to cultivate interest in careers in forensic toxicology for the future.

I hope that everyone has had a chance to look over the most recent Special Issue of the *Journal of Analytical Toxicology*. Now in our 27th year of collaboration with Preston Publications, this issue presents current information on some of the most relevant topics to the practice of forensic toxicology. Emerging trends and novel research in the areas of analytical, post-mortem and human performance toxicology, as well as case studies of particular interest to forensic toxicologists, are included in this valuable resource. On behalf of S.O.F.T., I would like to thank Dr. Sarah Kerrigan for accepting the responsibilities associated with serving as Guest Editor of this issue. There is a tremendous amount of time and effort involved in creating a publication of high quality, peer-reviewed, scientific papers. This achievement could only be accomplished through the combined efforts of Dr. Kerrigan and her dedicated team of volunteer reviewers. This Special Issue of the *Journal of Analytical Toxicology* continues to assist in the dissemination of new information to practicing forensic toxicologists, as well as students and trainees.

Along with S.O.F.T.'s continued growth and development, comes both new opportunities and challenging decisions. A new ad hoc committee was formed this past year, comprised of S.O.F.T. members with financial expertise, whose charge was to provide advice on the development of long-range planning goals and budget for S.O.F.T. Many thanks go to Brad Hepler for agreeing to serve as the first Chair of this committee. As with any new endeavor, there are always unforeseen issues that arise that require more time and effort than originally anticipated. Brad and his committee have done an outstanding job in defining the task and beginning to chart a course for future financial growth and stability for our growing organization.

The 2007 S.O.F.T. annual meeting in North Carolina was a huge success! Jeri Miller, Ruth Winecker, and their local team put together an exciting scientific program, as well as fun social activities. Our S.O.F.T. Meeting Coordinator, Vickie Watts, worked tirelessly, as always, to help organize the smooth flow of all behind-the-scenes activities. Lisa O'Dell also continued her tremendous efforts on our behalf in working with the many exhibitors at the meeting. The wonderful support of the exhibitors continues to ensure that S.O.F.T.'s annual meeting continues its tradition of science and fun! Plans are well underway for S.O.F.T. meetings through 2012. Please visit the SOFT website for more information on these meetings as preparations become available.

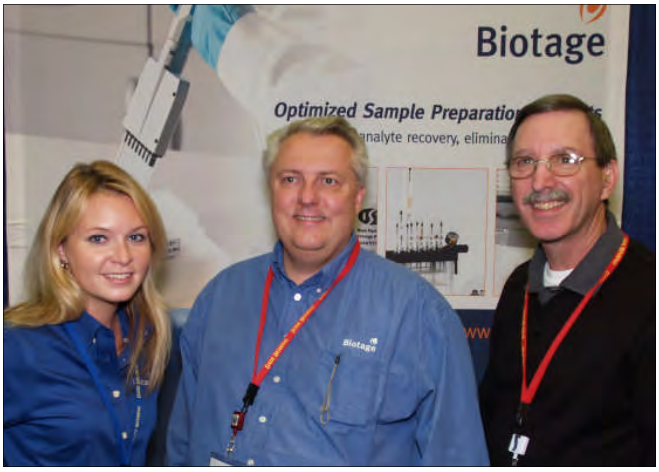
Finally, as you can see from my report, it is the combined efforts of the many individuals who volunteer their time and talent that makes S.O.F.T. successful. I am confident that S.O.F.T. will continue its strong tradition of fostering constructive scientific dialogue, professional development, and educational outreach, among our diverse membership.

2007 Raleigh Meeting Exhibitors & Sponsors

There were 65 different companies that exhibited at and sponsored the 2007 S.O.F.T. Annual Meeting in Raleigh, North Carolina. Financial assistance provided by meeting sponsors is essential to maintaining superior quality and large participation at the meetings. We extend our appreciation for past exhibitor commitment and welcome continued alliance with these exceptional companies.

Agilent Technologies
AIT Laboratories
Alternative Biomedical Solutions
American Solutions for Business
Applied Biosystems
Axiom Diagnostics, Inc.
Biochemical Diagnostics, Inc.
Biotage (Discovery Chemistry)
Branan Medical Corporation
Bruker Daltonics, Inc.
Caliper Life Sciences
Campbell Science Corporation
Capitol Vial Brands (Thermo Fisher Scientific)
Cerilliant Corporation
ChemWare, Inc.
CMI, Inc.
Common Cents Systems
Dade Behring, Inc.
Data Unlimited International, Inc.
dominick hunter, (Parker-Hannifin Corp.)
DPX Labs, LLC
EccoTrax, Inc.
Excalibur Lab Specialists, Inc.
Express Diagnostics International, Inc.
Forensic Magazine
GBF Medical Group
GenTech Scientific, Inc.
GERSTEL, Inc.
Immunalysis Corporation
Instant Technologies, Inc.
International Diagnostic Systems Corp.
JEOL USA, Inc.
Journal of Analytical Toxicology
JusticeTrax, Inc.
Laboratory Corporation of America Holdings
LEAP Technologies
Lin-Zhi International, Inc.
Lipomed, Inc.
Microgenics (Thermo Scientific)
MicroLiter Analytical Supplies, Inc.
Neogen Corporation
NMS Labs
OraSure Technologies, Inc.
Orochem Technologies, Inc.
Perkin Elmer Life & Analytical Sciences
Quality Assurance Service Corporation
Randox Laboratories, Ltd.
Regis Technologies
Restek Corporation
Roche
RTI International
Rudolph Research Analytical
Sciteck, Inc.
SGE Analytical Science
Shamrock Glass Company, Inc.
Shimadzu Scientific Instruments, Inc.

SPEware Corporation
Standard Register Co., Lab Solutions Group
Thermo Scientific
United Chemical Technologies, Inc.
UTAK Laboratories, Inc.
Varian, Inc.
Venture Labs, Inc.
VertiQ Software, LLC
Waters Corporation



FIRST ANNUAL S.O.F.T. STUDENT ENRICHMENT PROGRAM

By Andrew Mason, S.O.F.T.-SEP 2007 Committee Chair

The inaugural SOFT Student Enrichment Program (SOFT-SEP) was held on Monday, October 15, 2007, in conjunction with SOFT's annual meeting in Raleigh-Durham, NC. Fifty nine of 62 accepted High School students attended, while 14 of 15 accepted University or Graduate School students attended, along with several other teachers, interested parents and SOFT members. Total attendance was almost 90 individuals, including the faculty, most of whom attended the entire event.

The morning program included a laboratory tour; the High School students toured the forensic drug testing lab at LabCorp, Inc., in the Research Triangle Park, while the College students toured the toxicology and drug chemistry labs at the NC State Bureau of Investigation (NC-SBI) in Raleigh, NC. The students returned to a provided luncheon that included table-side discussions with practicing forensic toxicologists. Following lunch back at the conference site, the students were treated to an afternoon symposium of outstanding presentations on various aspects of forensic toxicology practice, given by the program faculty.

For many students, this was their first experience being at a scientific conference, and one of our goals was to make their SOFT-SEP attendance reflect that experience. They received name badges, a folder with schedules, biographies of the presenters, and other literature, a SOFT-SEP t-shirt, a set of lab glasses, and attendance certificates at the conclusion of the program. I have had numerous emails and several phone calls from the students and their parents and teachers thanking us for presenting this program, and saying how much they or their students appreciated it. We understand that several of the college students have already submitted CV's to a faculty member, in an effort to secure additional training. One college student told us he drove 1,100 miles, from Louisiana, by himself, in order to attend the program!

Many people worked very hard to put this program together. Special thanks go to Jeri Miller, one of our meeting hosts and the SOFT-SEP Meeting Coordinator, to Ruth Winecker, our other continually supportive Meeting Host, and to Vickie Watts the Meeting Coordinator, Diana Garside, and the rest of the local arrangements committee. The presenters, who took time from their busy schedules to prepare and present their lectures, deserve our thanks also. They include Catherine Hammet-Stabler, Marilyn Huestis, Marc LeBeau, Robert Middleberg, Jeri Miller, Matt Slawson, Peter Stout, Chip Walls, Diana Wilkins, and Ruth Winecker. Thanks go to the laboratories who kindly allowed us to visit, including LabCorp, Inc. (Randy Lynn and Phyllis Chandler), and the NC-SBI (Jerry Richardson, Laura Farrin, Hope Copeland). Finally, thanks go to our sponsors, including LabCorp, Inc., the NC-SBI, NMS Labs, the Research Triangle Institute, and ToxicoLogics, Ltd.

Overall, we are very pleased with the reactions, impressions and suggestions we received regarding the SOFT-SEP. We are hopeful that the program will be continued as a regular part of SOFT's annual meeting (planning for Phoenix has already begun!), and we are confident that we have laid down a good foundation on which others may build in future years.

Students and Faculty of the Inaugural SOFT Student Enrichment Program held October 15, 2007 in Raleigh, NC.

S.O.F.T 2007 Fun Run/Walk

A group numbering over 60 strong ran and / or walked a course surrounding the Sheraton Imperial Hotel Thursday morning at dawn during the meeting.

Sincere thanks to Frank Esposito, coordinator of the event, who established the path to follow, recruited partners to perform as "direction of travel guides" throughout the course, and congratulated the athletes upon their return. The Fun Run is always a big hit for the fitness crowd. All participants received the 2007 Fun Run tee shirt and three winners received a digital heart monitor generously contributed by Agilent Technologies.

First Place Men's Runner:
Rob Herndon – time = 20 min. 26 sec.
First Place Women's Runner:
Sue Brown – time = 25 min. 5 sec.
First Place Walker:
Eric Muller – time = 42 min. 39 sec.

Remembering Dr. Rieders and Dr. Sunshine . . .

Submitted by Bunnie Gallagher of Shamrock Glass Company

For the second year, the Rieders/ Sunshine Silent Auction has been a success. This is due to the great response from both the S.O.F.T. members and the exhibitors at the annual show. At the recent meeting in North Carolina, $4,409 was raised. This will be used for educational venues sponsored by the S.O.F.T. organization. Several people well along in their careers have made mention the stipends received from the organization came along just when they needed it most.

How better to honor the memory of these two great men than to help those studying the sciences?

Dr. Irving Sunshine taught so many of our present day toxicologists. One student that remembers him fondly is Dr. Brad Hepler. The following thoughts are his, from an article he wrote a few years ago: *Dr. Sunshine was a "first class nudger". He was both student and teacher, always open to new ideas. Passionate about his endeavors, Irv had high expectations for his students and all those involved in his life.*

Dr. Sunshine and his wife, Helen, raised two sons that were well prepared for life. They included the students in their warm circle, indeed, even housing them when the need arose.

Dr. Frederick Rieders information comes from his son, Dr. Michael Rieders. He tells us, *"My father came here from Vienna, Austria. One of his first jobs was as a Fuller Brush salesman in Harlem. This, among other things, shaped his future. He could not accept that women and minority people did not have access to education and other life benefits."*

When World War II broke out, he enlisted in the military. Dr. Rieders was very patriotic. At one point he was actively recruited by the Communist Party and publicly disavowed their cause. His fervor for America led to later interesting projects for the government. After the war, Dr. Rieders went to college on the G.I. bill. It was then that he discovered science. It became his lifelong work, not only a job, but an adventure in learning. His business, National Medical Service, has a well deserved fine reputation.

The Dr. Frederick Rieders Foundation continues his work educating young people in the sciences. He wanted them to be excited about learning. The foundation has a keen interest in females and minorities---a perfect example of Dr. Rieders memory of his early days.

Now you will read a personal recollection from the other end of the spectrum. Your writer came to know both of these great men in a different setting than in the laboratory. In 1979 Shamrock Glass was just getting started. I was new to the glass industry, one of less than a handful of women. One of National Medical Services people spoke of a need for a particular vial. It was not widely available and very highly priced, causing them to wash and re-use the vial. Shamrock started having the item manufactured and it started the company on a new course besides handmade apparatus. A few years ago at a S.O.F.T. meeting someone pointed Dr. Rieders out of the crowd. I approached him, introduced myself and thanked him for being such a wonderful customer for over 25 years. He looked at me intently and suddenly his eyes lit up. "Headspace vials!" he exclaimed. I was flabbergasted. How could this man, with the enormous amount of daily tasks, know about this small detail in his laboratory? I was deeply touched by the rest of our conversation and cannot speak of it without a lump in my throat. Many times over the years we have said, "They (National Medial Services) have put shoes on our children's feet." This is very true. His company has always treated this vendor as well as his employees with respect and kindness.

A small ad was placed in a laboratory publication in '79 or '80 and Dr. Sunshine was one that responded. He was pleased to find a source for vials with a reasonable price and fast delivery. This did not change his frugal ways and his students continued to re-use the vials. I still chuckle with the memory of making a new contact and them telling me that they only needed caps and stoppers because they re-used their vials. It was a dead giveaway that the person was one of the "Sunshine Boys". If you can believe this, I had the audacity to ask him for sales leads. (Please remember, I was rather young---and had two children to support). He passed numerous names on to me and generously allowed me to use him as a reference.

I added these words of remembrance of both men because they are both just as important to those of us on the fringes of your great good work as they have been to all of you. It has been an honor to have known them in some small way.













Grateful thanks to both Tinsley Preston, III, and H. Chip Walls for supplying this wonderful selection of photographs!















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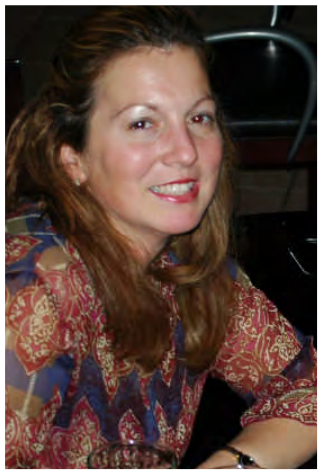











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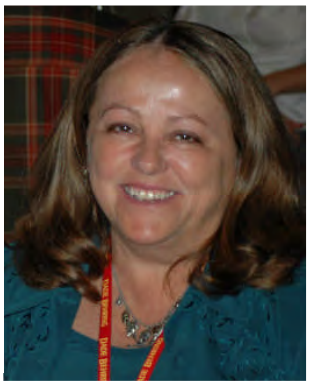
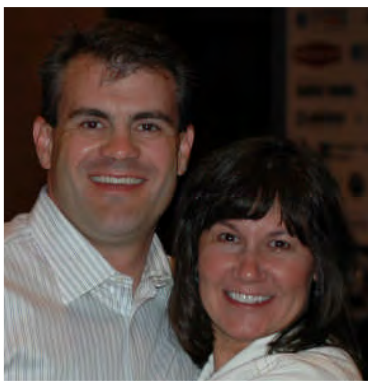







Grateful thanks to both Tinsley Preston, III, and H. Chip Walls for supplying this wonderful selection of photographs!

TREASURER'S REPORT

Submitted by Bradford R. Hepler, Ph.D., DABFT, SOFT Treasurer 2007 / 2008

In 2006, S.O.F.T. engaged a new accountant to assist S.O.F.T. with financial reporting:

Martin J. Halloran, CPA, Member—AICPA and NCACPA
Park 21 Business Center
18525 Statesville Road, Suite D-02
Cornelius, NC 28031

At the February 2007 Interim BOD Meeting, a new Ad Hoc Committee was formed to provide advice on the development of long-range planning goals and budget for S.O.F.T. for the next five years. To complete this task, the committee visited the new S.O.F.T. Administrative Office for the purpose of reviewing available records for recommendations on projected budget items.

Also at the February 2007 meeting, the BOD discussed a recommendation noted in the Budget and Audit Committee's report 1/31/07 to conduct an audit of S.O.F.T.'s financial records and an independently reviewed financial statement on a bi-annual basis. This review was facilitated by the Long-Term Strategic Planning Committee's visit to S.O.F.T.'s office in June 2007.

The Compilation Report for S.O.F.T.'s Tax Year 2006 prepared by Mr. Halloran is included on page 11. Through his efforts, all S.O.F.T. income tax filings are now up to date. Mr. Halloran has visited the S.O.F.T. Office in Arizona, and has become familiar with the records maintained at that location. Additionally, he has met with the BOD at the North Carolina meeting and made appropriate recommendations how the organization should proceed with documentation and tracking of financial records.

Recommendations include returning to the practice of providing annual Compilation Reports to the membership, along with providing a detailed reconciliation of records and report to the membership with the change of individuals occupying the office of Treasurer. Finally, Mr. Halloran recommended that a Certified Audit by an independent outside agency at the end of next year, and every seven years thereafter with report to the membership upon completion of the audit. These recommendations were voted upon and approved by the BOD.

Finally, a Fund Balance Comparison for the year 1993, to the years 2001-2006 is tabulated on page 11.

The Income and Expenses for the S.O.F.T. main bank account from January to October 31 is tabulated and presented below along with the current account balances to date.

Treasurer's Report—S.O.F.T., Inc. Income / Expenses: January through October 31, 2007

REVENUE	AMOUNT
AMEX Account	782.39
Application Fees (SOFT)	1,775.00
Bank Card Account	4,066.34
Dues & Subscriptions	54,208.50
ERA Donations	758.00
Hospices Contonaux	50.00
Interest Earned ERA	6,166.95
Interest Earned Reserve	1,764.68
Late Fees (Dues)	210.00
Mailing Labels Provided	500.00
Meeting Proceeds	66,032.74
Meeting Registration	290.00
Mugs/Shirts/Memorabilia	2,007.00
Postage Revenue	96.00
Reimbursed CE Expenses	2,810.00
Silent Auction SSEP	3,779.00
ToxTalk Subscription	75.00
TOTAL REVENUE	**145,371.60**

EXPENSES	AMOUNT
AAFS SOFT BOD Mtg	847.70
AAFS SOFT Night	6,379.16
AMEX Account Maint.	59.00
Analysis Service Charge	59.00
Bank Service Charges	106.10
BankCard Service Charge	140.19
Contract Labor	195.00
ERA/YSMA Awards	9,000.00
I-Account	39.80
Insurance	651.03
JAT Meeting Issue	14,850.00
Lease SOFT Office	4,545.53
Meeting Expenses	11,526.87
SOFT CE Seed Money	2,320.80
Office Supplies	3,338.79
Payroll Expenses	19,303.33
Postage / Shipping	354.61
Accountant	4,874.30
Refunded Payment	8.00
Reimbursements Postage	185.01
Registration SOFT Logo	308.66
Returned Deposit	110.00
Shirt / Mug Merchandise	368.65
SOFT Logo Items	752.00
SOFT Officer/Comm. Exp.	4,850.02
Software Programming	5,433.10
State of DE - Inc. Required	254.50
Telephone	568.40
ToxTalk	11,019.48
Website	2,999.22
TOTAL EXPENSES	**105,448.25**

NET INCOME (LOSS):	39,923.35

Current Account Balance (10-31-07)	AMOUNT
USBank - Operations Acct.	143,505.67
USBank - ERA Acct.	175,834.70
USBank - Reserve Acct.	52,788.44

TREASURER'S REPORT CONT.

Society of Forensic Toxicologists, Inc.
Statement of Income
for year ended December 31, 2006
Accountant's Compilation Report

REVENUE	AMOUNT
Meetings	455,709.00
Annual Dues	17,117.00
Donations	386.00
ERA Contributions	1,946.00
Interest Income	11,773.00
TOTAL REVENUE	**486,931.00**

EXPENSES	AMOUNT
Accounting & Legal	3,757.00
Administrative Aide	14,866.00
Bank Fees	598.00
Insurance	652.00
ERA Fund Awards	6,000.00
Donations	2,555.00
Printing	3,984.00
SOFT Logo Items	1,913.00
Office Lease	4,634.00
Office Supplies	9,326.00
ToxTalk Expenses	9,535.00
Web Credit Card Fees	16,032.00
AAFS Hospitality	8,314.00
Misc. Expenses	3,540.00
Meeting Expense	398,751.00
TOTAL EXPENSES	**484,457.00**
NET INCOME (LOSS)	**2,474.00**

Society of Forensic Toxicologists, Inc.
Balance Sheet
December 31, 2006
Accountant's Compilation Report

ASSETS

CURRENT ASSETS	AMOUNT
USBank - Operations Acct.	167,342.00
USBank - ERA Acct.	176,385.00
USBank - Reserve Acct.	51,030.00
Wells Fargo Web Acct.	33,368.00
Wells Fargo Web Savings	101.00
Wells Fargo NC Mtg. Acct.	1,297.00
TOTAL CURRENT ASSETS	**429,523.00**

LIABILITIES & FUND BALANCES

FUND BALANCES	AMOUNT
Unrestricted Fund Balances	253,138.00
Restricted Fund Balances	176,385.00
TOTAL FUND BALANCES	**429,523.00**

Society of Forensic Toxicologists, Inc.
Statement of Fund Balance
December 31, 2006
Accountant's Compilation Report

Fund Balance as of 12-31-05	427,049.00
Net Income	2,474.00
Fund Balance as of 12-31-06	429,523.00

Society of Forensic Toxicologists, Inc.
Fund Balance Comparisons
For the years 1993, 2001-2006

Year	Assets Outset of Year	Assets Year End	Change
1993	91,314.00	95,778.00	4,464.00
2001	226,941.00	271,174.00	44,233.00
2002	271,174.00	323,892.00	52,718.00
2003	323,892.00	346,954.00	23,062.00
2004	346,954.00	443,509.00	96,555.00
2005	443,509.00	427,049.00	-16,460.00
2006	427,049.00	429,523.00	2,474.00

DRUGS IN THE NEWS

Submitted by Section Editor, Dwain Fuller, BS, D-FTCB, TC-NRCC

Please send interesting "Drugs In The News" to Section Editor, Dwain Fuller at dwain.fuller@med.va.gov

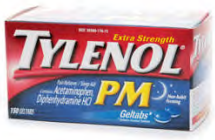
CARDIOTOXICITY OF DIPHENHYDRAMINE (BENADRYL®)

By David M. Benjamin, Ph.D.

Dr. Benjamin is a consultant in Forensic Toxicology and an Adjunct Assistant Professor at Boston University School of Medicine where he teaches Forensic Toxicology in the school's Biomedical Forensic Sciences Program. (medlaw@doctorbenjamin.com)

Editor's Note: "Cheese" heroin is continuing to make the news. In this Issue, Dr. David Benjamin provides further insight to the lethality of this mixture.

I was very interested in reading Dwain Fuller's article on Cheese, which appeared in the Drugs in the News section of the September 2007 edition of ToxTalk (Volume 31, Issue 3). In addition to pointing out the dangers of the combined use of heroin, acetaminophen, and diphenhydramine, it also calls into attention the toxicity of non-prescription drugs, or so called Over-the-Counter (OTC) drugs like diphenhydramine (Benadryl®) and acetaminophen (Tylenol®). According to the manufacturer of Extra Strength Tylenol® PM (1), the product contains acetaminophen 500 mg and diphenhydramine 25 mg, as well as a variety of excipients, solubilizers and dyes. There is also a liquid formulation that contains the same amounts of active ingredients in a 15 ml dose. Since most toxicologist are well-acquainted with the liver and kidney toxicities of acetaminophen and the occasional myocardial damage with subendocardial hemorrhage and focal necrosis that has been reported with acetaminophen overdosage (2), this article will focus on the cardiotoxicity of diphenhydramine, which can be a significant contributing factor to the death of both adults and children, either alone, or when it is used concomitantly with respiratory depressant or cardiodepressant agents like heroin.



Diphenhydramine Pharmacology and Toxicology

Diphenhydramine is a common OTC product used for its antihistaminic, anticholinergic, and sleep-inducing properties. Both diphenhydramine and the closely- related dimenhydrinate, the 8- chlorotheophylline derivative (or salt) of diphenhydramine, are used to prevent or treat nausea or motion sickness. Dimenhydrinate contains 53-55.5% diphenhydramine. However, little work has been done to compare the activities of 8-chlorotheophylline to theophylline, and there are few data on the contribution of the 8- chlorotheophylline moiety to the toxicity, pharmacokinetics or pharmacodynamics of dimenhydrinate (3). However, theophylline is known to posses cardiotoxicity due primarily to its inhibitory effects on phosphodiesterase (PDE) leading to increases in intracellular cyclic-AMP levels and a positive chronotropic effect on the heart (4). Asthmatics receiving high dose theophylline or aminophylline treatment (plasma concentrations above 20 mcg/ml) may experience cardiac arrhythmias or seizures. If 8- chlorotheophylline posses positive chronotropic effects on the heart like theophylline, then its combination with diphenhydramine should be re-examined and perhaps, reconsidered.

Most toxicologists are aware of diphenhydramine's central effects of sleepiness, but some may be less acquainted with its peripheral pro-arrhythmic affect and cardiotoxicity. Diphenhydramine is an ethanolamine type of H_1 histamine receptor blocker and also posses type 1A (quinidine-like) antiarrhythmic activity (5). Some will recall that almost 20 years ago, clinical trials with two class 1C (non-quinidine, non-lidocaine) antiarrhythmic agents, encainide and flecainide, were stopped due to increased mortality and that the drugs were subsequently removed from the market due to their pro-arrhythmic properties (6). Moreover, in mid-October 2007, the Federal Food and Drug Administration moved to prohibit the sale and use of many OTC cough and cold preparations designed for children under 2 years of age, and are currently moving towards expanding that ban to children under 6. Unfortunately, it has been known for years that antihistamines should not be used to treat the symptoms of a cold because antihistamines inhibit the movement of cilia in the nasal mucosa and increase mucus retention in the airways causing even greater difficulty with breathing.

How Common is Diphenhydramine Toxicity?

According to the American Association of Poison Control Center's Toxic Exposure Surveillance System (TESS), in 2003 there were 28,092 toxic exposures to diphenhydramine reported of which 11,355 (40.4%) required medical evaluation. Forty-three percent or 12,089 cases

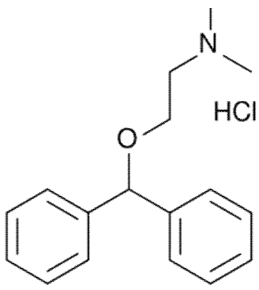
DRUGS IN THE NEWS (CONTINUED)

involved children under 6 years of age, of which 6 cases resulted in fatal outcomes. From 1985 – 2002, a review of the TESS data indicated 48 deaths in which diphenhydramine was the only drug ingested. The ages of these patients ranged from 2 months to 86 years, and 7 of these patients were 3 years of age or younger (7).

Pharmacokinetic Profile of Diphenhydramine

Diphenhydramine is rapidly absorbed with peak blood levels achieved within 2-3 hours. A single 50 mg dose produces peak blood levels of 83 ng/ml at 3 hours (8), with suppression of histamine-induced wheals apparent at blood levels of 25-50 ng/ml and sedation is present above 50 ng/ml. (9) However, children may exhibit paradoxical stimulation, restlessness, hallucinations, and/or seizures from doses that are sedating in adults. (10) The bioavailability of an initial single oral dose is only 42-62% due to "first pass" hepatic metabolism. Some investigators have suggested that multiple doses or toxic doses may be subject to non-linear kinetics, and this may be due, in part, to saturation of hepatic CYP enzymes following initial doses, and extensive genetic polymorphism. (9,11,12)

Diphenhydramine is extensively bound to plasma proteins up to 99% and has a large volume of distribution from 3-7 L/kg. Its blood-to-plasma ratio is 0.82, and it is accumulated in brain at a level of approximately twice that of blood. (8,9)



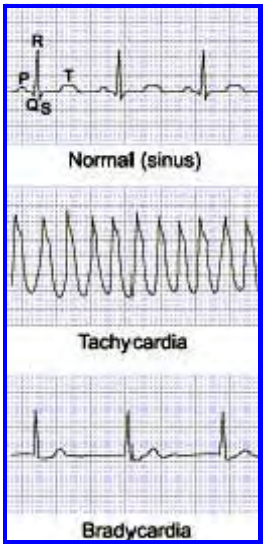
Diphenhydramine Chemical Structure

Less than 4% of an oral dose of diphenhydramine is excreted as intact drug (9). Diphenhydramine is oxidatively deaminated to nordiphenhydramine and dinordiphenhydramine which are probably excreted as N-glucuronides. The exhaustive demethylation of diphenhydramine and oxidative deamination of the resulting primary amine leads to the formation of dimethylphenoxyacetic acid, which is excreted as a glycine or glutamate conjugate (8). The half-life of diphenhydramine varies greatly from 2.4-9.3 hours (10), probably indicating extensive genetic polymorphism. *In vitro* data indicate that diphenhydramine is metabolized by the CYP 2D6 pathway (13) like its structurally-related tricyclic antidepressants and related anti-arrhythmics fleccainide and mexilitine. This discovery provides a reason to have great concern about diphenhydramine pharmacogenetics and the associated variability in metabolism since there are 5 different allelic forms of CYP 2D6, everything from ultra-extensive metabolizers (UM) to poor metabolizers (PM) with great variation in metabolic activity in between, including 5-10% of the Caucasian and 1-4% of other ethnic populations who have decreased or no 2D6 activity (PM) (12). These are the patients who get no analgesia from codeine because they cannot de-methylate codeine to morphine, or get dysphoric on dextromethorphan because they can't metabolize it well.

Diphenhydramine & Cardiotoxicity Cardiology 101 for Forensic Toxicologists (14)

The heart has a natural intrinsic pacemaker, the sinus node (or sino-atrial (SA) node), that regulates cardiac rate and ensures automaticity. The impulses are carried on a set of railroad track-like neutral circuits (the His-Purkinje System) which spread the electrical impulses from the sinus node through the atria to the atrial-ventricular node (AV node) and then throughout the ventricles to coordinate the rhythm of the heart. Such regulation couples the heart's electrically propagated impulses to heart muscle to ensure a forceful and efficient milking of the ventricles during systole. When the intrinsic activity of the heart is disrupted by drugs or disease, changes in normal cardiac pacing can occur, arrhythmias may develop, or cardiac muscle may lose its ability to forcefully contract. All of these outcomes mean decreased perfusion to the heart itself and all the other organs. Since the heart supplies its own blood via the coronary arteries during diastole, cardiac dysfunction is a "negative spiral" which leads to increased cardiac dysfunction.

If you recall basic cardiac electrophysiology, you will remember that the electrocardiogram (ECG) represents only the electrical activity of the heart and does not reflect the resultant muscular activity involved with ventricular systole and the actual work involved in pumping blood. While I certainly am not a cardiologist, we all should be somewhat familiar with the interpretation of the standard Lead II ECG and its relationship to myocardial physiology, cardiac output and the cardiotoxicity of drugs. Cardiac output is defined as the product of Heart Rate and the Stroke Volume (also known as the ejection fraction) and can be written as: CO=HR x SV; stroke volume is the volume of blood ejected from the left ventricle into the aorta with each systole (45-60 ml). The CO of the right ventricle may be less than the left ventricle. With increases in HR up to 120 or a little higher, the SV increases and additional blood is supplied to the organs. This allows us to exercise, walk stairs or otherwise exert ourselves and still maintain oxygenation of highly metabolic muscles and organs. But after the HR gets too high, CO decreases and so does perfusion. This is why tachycardia (HR>100 bpm; tachyarrhythmias) present a health danger. Decreased perfusion of the heart and brain can cause fainting (syncope) strokes (CVAs), and



heart attacks (myocardial infarctions; MIs). The same can occur when the HR slows down too much (bradycardia; HR<60). The orchestration of the cardiac circuitry can be monitored through its electrical activity by the electrocardiogram (ECG).

You will recall that the P wave represents atrial depolarization and that the QRS complex represents ventricular depolarization and the T wave represents ventricular repolarization. The ECG is recorded on graph paper. The time graduations on the X Axis are 1 mm apart with every fifth line darkened. Standard paper speed is 25 mm/s thus each mm = 0.04 s and 5 mm = 0.20 s. From the width of these waves, the duration of each wave of the ECG can be measured, and cardiac pacing monitored. The vertical axis measures voltage amplitude.

Cardiotoxicity of Pro-arrhythmic Drugs

The classical type 1A antiarrhythmic agent is quinidine. Quinidine is known for causing a widening of the QRS complex (i.e., takes more time for ventricular repolarization to occur) (5). This is due to the local anesthetic effect of class IA agents on the electrical conduction fibers of the heart. As a result, the conduction velocity of the electrical impulse originating in the sinus node of the heart is slowed and an abnormal rhythm develops. When the electrical rhythm of the heart becomes abnormal, the electromechanical relationship between rhythm and cardiac pumping also becomes asynchronous and the heart does not pump blood as effectively as it does with a normal rhythm. Less efficient pumping leads to decreases in cardiac output, decreased perfusion of cardiac muscle and secondary tissue hypoxia. Once the heart becomes hypoxic, its function further deteriorates and soon $paCO_2$ (arterial CO_2 concentration) increases and the patient develops respiratory acidosis. As bicarbonate is shifted to compensate for the respiratory acidosis, the patient develops a superimposed metabolic acidosis. When the heart suffers an increased period of hypoxia and acidosis, it becomes more irritable and even more serious arrhythmias occur, until the heart begins to fibrillate (uncoordinated muscular movement which is ineffective in pumping blood) and ultimately stops. Acidosis must be corrected with bicarbonate administration before the heart can be defibrillated effectively, and coincidently, sodium bicarbonate also treats arrhythmias caused by class IA local anesthetic agents including diphenhydramine (15).

Antihistamines Share a History of Cardiotoxicity

Initially, cardiotoxicity of antihistamines was probably ascribed to the anticholinergic effects which blocked the vagal input to the heart and caused tachycardia. However, by 1998 the first two non-sedating antihistamines, terfenadine (Seldane®) and astemizole (Hismanal®) were found to cause long QT syndrome and torsades de pointes when their metabolism was blocked by CYP 3A4 inhibitors like "azole" antifungal agents and erythromycin-like macrolide antibiotics, and the FDA had to ask the manufacturers to remove the drugs from the market place (16). Since then, diphenhydramine has been found to cause torasdes de pointes (17) and widened QRS complexes and prolonged QT intervals (18). Another investigator reported a case of moderate diphenhydramine overdose (625 mg) with concomitant acetaminophen ingestion which led to prolonged QT intervals and abnormal T waves (19). In 1998, Karch suggested that patients with cardiomegaly or myocardial fibrosis may be at additional risk of cardiotoxicity from diphenhydramine (20).

Summary

Diphenhydramine is an ethanolamine type of H_1 histamine receptor blocker which posses type 1A (quinidine-like) antiarrhythmic activity and is metabolized by the CYP 2D6 cytochrome which is subject to great polymorphism and inter-subject variability. Children with poorly developed microsomal enzyme systems and adults with impaired or absent isoforms of CYP 2D6 would have an intrinsic sensitivity to the pro-arrhythmic cardiotoxic effects of diphenhydramine, even without the concomitant exposure to a cardiodepressant drug like heroin.

Recent regulatory intervention by the Federal Food and Drug Administration to restrict the use of cough and cold preparations containing agents like diphenhydramine, dextromethorphan and phenethylamine decongestants in children under 6 years of age was long overdue and should reduce the number of pediatric hospitalizations for diphenhydramine toxicity and other OTC drug-induced pediatric mishaps reported in the clinical toxicology literature. Moreover, as described by Dwain Fuller in his article on "Cheese" in the last edition of ToxTalk, diphenhydramine and possibly acetaminophen may contribute to the deaths of countless individuals who combine these drugs with heroin and "snort" the mixture in order to intensify the euphoric effect. Unfortunately, while recreational drug users may think that they are using a safer combination by adding diphenhydramine to the

DRUGS IN THE NEWS (CONTINUED)

mixture and using less heroin, they are actually trading a decrease in the respiratory depressant effects of the heroin for a potentiation of the cardiotoxicity.

"Cheese", a potentially lethal drug mixture of heroin and Tylenol PM, usually snorted and inexpensive to obtain is appealing to teens.

When you consider the lack of information about the percent of heroin in street drugs, the great inter-subject variability in the metabolism of diphenhydramine, and vast number of unknown "cutting agents" used in street drugs, it is no wonder that "Cheese" has become a major public health danger and that teenaged youths have been among the those most often afflicted. It is clear that better drug abuse education must be offered to elementary and secondary school students, and that existing programs have failed. Since we can't put a pharmacologist or toxicologist into every household, maybe we can put one into every school. Educators, parents, toxicologists and local poison control centers should work together to develop better educational programs on drugs of abuse, and present them to parents and students as soon as students enter school. After all, you only get one chance to make a good first impression, and one time may be all it takes. Just ask Bostonians, the Boston Celtics Basketball team, and the family of Len Bias!

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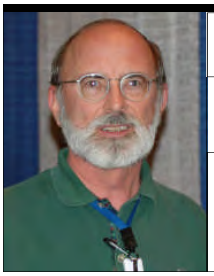

CASE NOTES

Submitted by Section Editor, Matthew Barnhill, Ph.D.

Please send interesting "Case Notes" to Section Editor, Matthew Barnhill, Ph.D. at mbarnhilljr@worldnet.att.net

CASE NOTES: #1 TWO MIRTAZAPINE RELATED FATALITIES

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Mirtazapine is a tetracyclic piperazinoazepine structurally related to mianserine but unrelated to other tricyclic antidepressants or selective serotonin reuptake inhibitors (SSRIs). In Canada, mirtazapine is indicated for the treatment of depression and in particular, patients suffering from major depressive disorder. Mirtazapine has demonstrated both noradrenergic and serotonergic effects *in vitro* and in animal models. There is no evidence of significant serotonergic effects in humans and recent reviews have reported little or no evidence of serotonergic activity even in overdose. Mirtazapine is readily absorbed following oral administration and generally individuals reach plasma concentrations not exceeding 0.10 mg/L following a single oral dose. During steady state, C_{max} and trough plasma concentrations of mirtazapine rarely exceed 0.18 mg/L and 0.08 mg/L, respectively[2,]. Mirtazapine has been reported as an incidental finding post-mortem at concentrations as high as 0.57 mg/L centrally and 0.44 mg/L peripherally.

Reports of significant toxicity following overdose by mirtazapine alone is rare. Common adverse effects of mirtazapine include drowsiness, dizziness, increased appetite and weight gain, and in some cases mild tachycardia. Despite increased reports of sedation and drowsiness as compared to placebo, these effects are mild in comparison to some tricyclic antidepressants. Demonstrating its margin of safety in overdose, three cases have been described with individual plasma concentrations of 2.3 mg/L at admission, 0.48 mg/L 20 hrs after ingestion and 0.37 mg/L approximately 41 hours after ingestion. The first two patients exhibited varying degrees of somnolence and in one case mild sinus tachycardia was also described[,].

Mirtazapine has been implicated in few deaths as a single intoxicant but is routinely detected in cases of polypharmacy[1]. Its interaction in cases of polypharmacy is often unclear, however, mirtazapine is neither a potent inhibitor nor inducer of common P450 isoenzymes. In six cases where mirtazapine was the sole intoxicant, the median, 10th and 90th percentile femoral blood concentrations were 2.3 mg/L, 1.0 and 4.3 mg/L, respectively. In a series of mixed drug intoxications, concentrations ranged from 0.38 to 2.3 mg/L in samples of central blood and peripherally from 0.45 to 3.4 mg/L[5,]. Mirtazapine has often demonstrated post-mortem concentration differences resulting in central to peripheral ratios (C/P) ranging from 0.6 to 1.71. In a series of nine cases the mean and median C/P were 1.2 and 1.33, respectively[4].

We present two additional cases with evidence of significant mirtazapine overdose. Central and peripheral whole blood concentrations of mirtazapine were determined along with a comprehensive toxicological screening of relevant samples. Samples were examined by screening procedures for the presence of volatiles, therapeutics and illicit drugs as described elsewhere. Mirtazapine was detected during general screening procedures at the Centre of Forensic Sciences, Ontario and quantitated by gas chromatography with nitrogen phosphorus detection (GC-NPD) at the Office of the Chief Medical Examiner, Alberta. Briefly, blood (1 mL) was extracted by a 1-chlorobutane liquid-liquid acid back-extraction procedure. Following extraction, samples were dried and reconstituted in 100 µL 1-chlorobutane. A 2 mL aliquot was analyzed by GC-NPD (Agilent 5890 or 6890, HP-5, 10 m x 0.32 mm x 1 mm film capillary column). Amitriptyline was used as the internal standard. Calibrators were prepared by spiking mirtazapine into blank blood to establish concentrations of 0.05, 0.1, 0.25, 0.5, 1.0, 2.0 and 5.0 mg/L. The results of all calibrators were within ±20% of target with correlation of >0.99. An independently prepared positive control having a nominal value of 0.54 mg/L was included with each run. Method performance was based on positive control values over a 30-month period (mean (SD) 0.578 ± 0.046 mg/L, 8.1 %CV, n=14).

Case 1: A 46-year-old male was found dead at home. He had a past medical history of depression and bipolar disorder with reported previous suicide attempts. Empty prescription containers for venlafaxine, olanzapine, lorazepam, mirtazapine and valproic acid were found nearby. At autopsy, particulate matter consistent

CASE NOTES #1 (CONTINUED)

with tablet debris was found in the stomach contents and small bowel, and no cause of death was determined.

Case 2: A 72-year-old female was found dead in her locked apartment. She had a past medical history of depression with reports of previous suicide attempts by alcohol and drug overdose. The patient was prescribed lorazepam and mirtazapine and she was reportedly taking acetaminophen. Post-mortem examination revealed pulmonary edema. There were no external or internal injuries or natural disease that could account for death.

We present two of the highest concentrations of mirtazapine reported to date. The concentrations are consistent with toxicity due to mirtazapine overdose. In the first case, mixed drug toxicity is probable as elevated noradrenergic effects due to venlafaxine and additive sedation due to lorazepam was likely present. The second case similarly reflects toxicity due to the effects of mirtazapine. These effects may have been influenced by the elevated blood alcohol concentration. Some decomposition was present in the urine sample in this case, raising the possibility that some of the alcohol could have been formed by post-mortem neoformation. However, the presence of an elevated ethanol concentration in the blood, which lacked indication of putrefaction, confirms that alcohol was ingested prior to death.

The C/P in these two cases is greater than the average C/P previously reported. In these two cases the heart to femoral blood ratios were 1.5 and 2.2. Incomplete distribution of mirtazapine following a large overdose could have contributed to the higher ratios. Given the propensity for increases in post-mortem concentrations of centrally collected samples due to these redistribution artefacts, especially in cases following oral overdose, peripherally collected samples are recommended for post-mortem toxicological testing.

Table 1: Results toxicological testing (units are mg/L unless otherwise indicated).

Case 1	Femoral Blood	Heart Blood	Urine
Mirtazapine	4.5	6.8	
Venlafaxine	2.8		
Lorazepam	0.28		
Valproic acid		60	
Olanzapine	<0.13		
Acetone			4 mg/dL

Case 2	Femoral Blood	Heart Blood	Urine
Mirtazapine	5.5	12	
Lorazepam	0.027		
Ethanol	136 mg/dL		171 mg/L*

***Evidence of putrefaction**

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FALL 2007 S.O.F.T. MEMBERSHIP SURVEY: ANNUAL MEETING FEEDBACK AND CURRENT CONTINUING EDUCATION NEEDS

Submitted by Jeri Ropero-Miller, Ph.D. and Peter Stout, Ph.D.

After the annual meeting this October, S.O.F.T. with the help of RTI International polled their membership to assess their educational experience at the annual meeting and to determine the current continuing educational needs for planning future educational opportunities for SOFT sponsorship. A broadcast electronic invitation was sent in late October to over eight hundred SOFT members, with one reminder email sent the following week. All members were asked to participate regardless of whether or not they attended the 2007 Annual meeting.

The response rate for this survey approached 35%. Of the 283 responders, 71% of responders (200 members) did attend the annual meeting. The distribution of position was fairly even across categories from chemist to director. Those who could not attend the meeting explained that inadequate funding (53%), schedule conflicts (35%), or inadequate personnel resources (23%) were the primary reasons they could not attend.

Most meeting attendees found the on-line registration easy to follow, appropriately available during the year, and added value to the meeting registration process (>90% rated all three criteria as 'good' or 'excellent'). The overall quality of the scientific platforms and poster sessions (room quality, room temperature, sound quality, visual quality, organization of the scientific program, speaker effectiveness, content usefulness) were rated 'good' to 'excellent', with greater than 90% of the meeting attendees being completely satisfied. The room temperature (excellent + good rating: 80%) and usefulness of the content (excellent + good rating: 88%) were the lowest ranking evaluated categories. Reported strengths of the workshops included "high quality content and presentation", but attendees felt the room size for the posters while improved by the addition of a second room, still was cramped and loud at times.

For meeting attendees, 80% took at least one continuing education workshop (28% with 1 workshop), but most registered for two or three workshops (61% and 12%, respectively). The overall quality of the workshops (room quality, room temperature, sound quality, visual quality, handout quality, speaker effectiveness, content usefulness) were rated 'good' to 'excellent', with greater than 90% of workshop attendees being satisfied with the room and visual quality while the lowest rating was afforded to room temperature (excellent + good rating: 78%). Reported strengths of the workshops included "high quality content and presentation", but attendees felt that the "readability" of the workshop handouts could be improved.

For the overall meeting evaluation quality of the meeting (room quality, room temperature, sound quality, visual quality, handout quality, speaker effectiveness, content usefulness) were rated 'good' to 'excellent', with greater than 90% of workshop attendees being satisfied with the room, visual quality, organization of scientific program, and speaker effectiveness. 89% of respondents rated the usefulness of the content as "good" or "excellent" while the lowest ratings were afforded to room temperature (excellent + good rating: 79%) and sound quality (excellent + good rating: 83%). Reported strengths of the meeting included "high quality content and presentations". Respondents repeatedly mentioned that the poster sessions were cramped and difficult to navigate.

For future planning and continuing education, 70% of respondents said they or others in their institution have a need for continuing education. The top ranked needs for future continuing education that would be applicable to all personnel were LC/MS/MS basic theory, specific drug issues, and QA/QC practices. These were followed by GC/MS basic theory, solid phase extraction theory and practical laboratory solution. Basic laboratory techniques, basic laboratory documentation and alcohol analysis were the third most common priority.

For more advanced topics pertaining to more "senior" personnel, drug specific interpretation was the most highly prioritized topic of all subjects polled followed by advanced LC/MS/MS theory and expert testimony topics. QA/QC management, regulatory issues, practical laboratory solutions and neurocognitive test overview were most commonly ranked as second priority and herbal drug issues and pharmacogenomics were ranked third. Generally, the advanced topics were all ranked higher priorities than the topics pertinent to all personnel. This is perhaps reflective that those attending SOFT tend to be more senior personnel.

Thank you to all who took time to complete the survey; your input is very valuable to planning future meetings. Specific information is helpful to planning committees establishing the next several years of SOFT meetings. We look forward to seeing everyone at future SOFT meetings and hope to continue to improve the value of SOFT meetings for all attendees.

SO-SOFT ADVENTURES

Significant Others of S.O.F.T. Members (SO-SOFT) see to it that they explore around the many S.O.F.T. meeting destinations. While in the Raleigh / Durham/ Chapel Hill area the group journeyed to Seagrove visiting various potters and shopped. While there, they stopped at the local Jug Town Café to partake in a Blue Plate Special.

Other days smaller groups went to the Duke Chapel, Sarah P. Duke Gardens of Chapel Hill and of course the mall. These lovely ladies are also regular, dependable volunteers at the registration desk year after year. Much thanks to you all.

ABFT News

American Board of Forensic Toxicology, Inc. (www.abft.org)

ABFT is accredited by the Forensic Specialities Accreditation Board

ABFT President: Yale H. Caplan, Ph.D., DABFT

The ABFT fee waiver program, that ended on December 31, 2006 was a tremendous success with 66 new applicants now going through the certification process. Currently there are 162 active Certificants (121 Diplomates and 41 Forensic Toxicology Specialists) and 33 Emeritus Diplomates.

Congratulations New Certificants:

Laura LeBay, DABFT
Laureen Marinetti, DABFT
Julia Pearson, DABFT
Eric Alexy, FTSABFT
Myron Gebhardt, FTSABFT
Mattheu Miller, FTSABFT
Douglas Smith, FTSABFT
Michael Wagner, FTSABFT
Gregory Zavatsky, FTSABFT

Certification Now Open Internationally:
ABFT certification, originally limited to the United States and Canada, has been extended internationally. This is in response to the many requests for certification from non-U.S. citizens around the world. The only restrictions are that the examination must be taken in English and taken in the United States at our designated examination sites. Candidate's education must be documented by internationally recognized organizations. Questions may be sent by email to abftox.com

Member News

DUES TIME

Enclosed with this issue is your 2008 S.O.F.T. Annual Dues Notice. Please pay dues before the January 31 deadline. There are three ways to pay:

- charge on-line via the website, or
- mail in the dues form with a check, or
- mail in the dues form with your charge number written in.

The next issue (March) of ToxTalk will include your 2008 S.O.F.T. Membership Directory.

It is the responsibility of each S.O.F.T. member to keep the office informed of any change address and/or changes in contact information.

PHOTO CREDITS:

Chip Walls, long time and beloved S.O.F.T. member, also a talented photographer, has generously supplied copies of the hundreds of photographs he took at the 2007 Raleigh meeting for all to enjoy. Sincere appreciation to you Chip.

WHAT A GUY!

Special thanks to S. Tinsley Preston, III of Preston Publications for his continued supporting role in providing the Journal of Analytical Toxicology Special Issue to all meeting attendees. Tinsley also donated an annual subscription of JAT to the Sunshine/Rieders Silent Auction event valued over $500. In addition to his aforementioned generosity, Tinsley is also an accomplished photographer and has kindly contributed his photographs taken in NC for use in the ToxTalk publications. Thank you for all you do!

Plan to Visit Phoenix in 2008

Big plans are underway to make the 2008 Phoenix meeting memorable and fun. The planning committee is currently busy putting together an all encompassing great scientific program. With this issue of ToxTalk, you will find a three page Workshop Proposal, a Call for Papers for the JAT 2008 Special Issue, and the Preliminary Program for use in planning your stay. Reservations at the hotel will be available after January 1, 2008. The Pointe South Mountain has just underwent a multi-million dollar renovation and a name change to The Arizona Grand Hotel. The S.O.F.T. special room rate is $189. Every room is a two room suite, perfect to bring the family for an October getaway.

The Exhibit Hall at this Arizona Grand Hotel is 20,000 square feet, roomy enough to display the poster sessions within, and will be the site of all receptions. All events will take place on site. It is highly recommended that plans be made to stay at the meeting hotel . The two room suite is perfect for sharing if the room rate is too high. for government employees. October in Phoenix is a premier travel destination when rates are highest. This resort features a water park, an 18 hole golf course, lighted tennis courts, biking, hiking, horseback riding, spa services, six unique on-site restaurants, and more.

For those who want to extend your stay into a family vacation, there are many destination tours available to the Grand Canyon, Sedona, etc.

After March 1, the on-line registration will be up and operable for attendee registration and workshop sign-ups..

Society of Forensic Toxicologists, Inc.

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ToxTalk **Deadlines** for Contributions:
February 1 for March Issue
May 1 for June Issue
August 1 for September Issue
November 1 for December Issue

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.

Future S.O.F.T. Meeting Info

2008:	Phoenix, AZ…….....Oct. 27-31, 2008…….	Vickie Watts, Norman Wade
2009:	Oklahoma City, OK……Oct. 18-23, 2009……...……..	Phil Kemp
2010:	Richmond, VA…….……..	Michelle Peace, Lisa Tarnai Moak
2011:	San Francisco, CA……..…..……	Nikolas Lemos
2012:	Boston, MA……...…….…….	Michael Wagner

S.O.F.T. 2008: Phoenix, Arizona

Above: *Downtown Phoenix viewed from South Mountain.*
Upper Right: *Phoenix is a valley surrounded by mountains.*
Right: *Visitors may tour the 8,000 sq. ft. Mystery Mansion built into the base of South Mountain.*

We're on the Web!
www.soft-tox.org

2008 S.O.F.T. Officers & Committee Chairs

President - Christine Moore, Ph.D., DABCC
V. Pres. - Anthony Costantino, Ph.D., DABFT
Secretary - Sarah Kerrigan, Ph.D.
Treasurer - Bradford Hepler, Ph.D., DABFT

Directors -
Ashraf Mozayani, Ph.D., DABFT
Marc LeBeau, Ph.D.
Peter Stout, Ph.D., DABFT
Dan Anderson, M.S., ABFT
Dwain Fuller, B.S., DFTCB

Any S.O.F.T. member interested in serving on a committee should contact the S.O.F.T. President or the Committee Chair.

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 Vickie Watts, M.S.
ByLaws	Yale Caplan, Ph.D., DABFT
Publications (JAT Special Issue)	Dan Anderson, M.S., ABFT
Awards	Philip Kemp, Ph.D., DABFT
Drugs & Driving	Sarah Kerrigan, Ph.D.
Meeting Resource	Anthony Costantino, Ph.D., DABFT
Policy 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.

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Society of Forensic Toxicologists Inc.®