



## **SAT Newsletter**

**News of the Southwestern Association of Toxicologists**

Volume 22 , Number 1

Spring 2000

### **Estes Park, Colorado**

### **A Scenic Experience in Toxicology**



You are cordially invited to attend and participate in the 2000 Spring Meeting of the Southwestern Association of Toxicologists. The meeting will be held in Estes Park, CO at The Stanley Hotel and Conference Center on May 4<sup>th</sup> through the 6<sup>th</sup> . The following meeting agenda is tentative at this time. A finalized schedule will be available in your registration packet upon your arrival at the hotel.

The theme of the Spring 2000 SAT Meeting will focus on the New Millenium and the direction the field of Toxicology will take in the next 100 years. We welcome any papers and/or presentations regarding this topic or any other topic related to Toxicology. Please fill out the "Call for Papers" form and submit it to us with your 200 word or less abstract by March 15<sup>th</sup>.

## **HOTEL INFORMATION:**

The meeting will be held at The Stanley Hotel and Conference Center, 333 Wonderview Ave., PO Box 1767, Estes Park, CO 80517 (Phone: 970-586-3371). Many of you may be familiar with the Stanley Hotel from the movie "The Shining", based on the novel by Stephen King. (There is a videotape of the recent ABC miniseries on hand at the hotel for your viewing pleasure.) You should know that, although the hotel served as an inspiration for the book, the hotel shown in the movie is not what the actual Stanley Hotel looks like. There are no dead people roaming the halls in this facility!

Rooms are available to meeting attendees at a special rate of **\$69.00** (7.75% tax not included) per night single or double occupancy. Reservations must be made no later than April 3, 2000 in order to obtain this special rate. You must inform the hotel reservation staff that you are attending the Southwestern Association of Toxicologists Meeting.

Transportation arrangements from Denver International Airport (DIA) to The Stanley may be made with the Emerald Shuttle Service. This shuttle leaves every 2 hours from the airport and the cost is \$55.00 round trip or \$30.00 one way. The trip from DIA to Estes Park will be approximately 2 hours, and will take you from the high plains through curvy, winding mountain canyons. You may find it advantageous to look into a rental car, so that you can explore the Rocky Mountains at your own leisure.

The city of Estes Park offers more than 300 shops and nearly 60 restaurants to cater to every imaginable taste. There are activities such as fishing, hiking, horseback riding, golfing and for the adventurous sort, whitewater rafting and rock climbing. Estes Park is 10 minutes from Rocky Mountain National Park and is a spectacular sight to behold. Herds of elk are known to roam through the outskirts of town. If you would like to venture into Rocky Mountain National Park, you may do so for a \$10 per vehicle fee. Driving through the park, with its magnificent scenery and wildlife, you will find it hard to believe that a sprawling city is only 60 miles away. The weather in May in the high country can be a bit on the unpredictable side, and a late spring snow is not out of the realm of possibility. Please pack accordingly.

**QUESTIONS?: Please contact Petra Hartmann or Marcia Loveless at 303-287-9691, 303-287-9695, or e-mail at [llabs58261@aol.com](mailto:llabs58261@aol.com)**

**SOUTHWESTERN ASSOCIATION OF TOXICOLOGISTS  
2000 Spring Meeting  
May 4-6, 2000**

**The Stanley Hotel  
Estes Park, Colorado**

**TENTATIVE MEETING SCHEDULE**

**Thursday, May 4, 2000**

3:00 p.m. – 6:00 p.m.      Registration  
6:30 p.m. – 8:30 p.m.      President's Reception  
8:30 p.m. -                      Dinner & Entertainment on your own

**Friday, May 5, 2000**

8:00 a.m. – 4:30 p.m.      Scientific Sessions  
   Workshop (several interested vendors)  
   General Business Meeting

**Saturday, May 6, 1999**

8:00 a.m. – 12:00 p.m.      Scientific Sessions  
   Workshop?

For anyone interested in the veterinary drug testing operations at Industrial Laboratories in Denver, we would be happy to show you around! Please call Marcia or Petra at 303-287-9691 and we'll try to work around your schedule.

**SOUTHWESTERN ASSOCIATION OF TOXICOLOGISTS**

2000 Spring Meeting

**May 4-6, 2000**

The Stanley Hotel

**Estes Park, Colorado**

**REGISTRATION FORM**

Name (As it will appear on badge) \_\_\_\_\_

Phone: \_\_\_\_\_ FAX: \_\_\_\_\_ Email: \_\_\_\_\_

Title: \_\_\_\_\_

Agency: \_\_\_\_\_

Address: \_\_\_\_\_

SAT Member: \_\_\_\_\_ Non-Member: \_\_\_\_\_

Law Enforcement: \_\_\_\_\_ Attorney: \_\_\_\_\_

**MEETING REGISTRATION:**

Please register by April 1, 2000 to avoid late fees! Registration includes admission to all scientific sessions, workshops, exhibits, and the President's Reception.

	Member	Non-member	Student	Total
Prior to 4-1-00	\$35.00	\$45.00	\$15.00	_____
After 4-1-00	\$45.00	\$55.00	\$ 25.00	_____

**TOTAL ENCLOSED:** \_\_\_\_\_

Please make payment by check or money order, payable to SAT, and mail to:

**Petra Hartmann or Marcia Loveless**  
1450 East 62<sup>nd</sup> Avenue  
Denver, CO 80216

**HOTEL INFORMATION:**

**The Stanley Hotel and Conference Center**  
333 Wonderview Avenue  
P.O. Box 1767  
Estes Park, CO 80517  
970-586-3371

**SOUTHWESTERN ASSOCIATION OF TOXICOLOGISTS**  
**2000 Spring Meeting**  
**May 4 – 6, 2000**  
**The Stanley Hotel**  
**Estes Park, Colorado**

**CALL FOR PAPERS**

Please complete the following form and submit along with a copy of your abstract (200 words or less). Please submit form and abstracts prior to March 20, 2000.

Please Print or Type:

Author(s): \_\_\_\_\_

Title: \_\_\_\_\_

Agency: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

AV Equipment Required:    \_\_\_\_\_ 35 mm Slide Projector  
  \_\_\_\_\_ Overhead Projector  
  \_\_\_\_\_ LCD Projector (Power Point PC Presentation)  
  \_\_\_\_\_ Other (please specify)

Time slots will be 20 minutes unless otherwise requested.

Please return completed form and abstracts to:

Petra Hartmann  
Industrial Laboratories Co.  
1450 East 62<sup>nd</sup> Avenue  
Denver, CO 80216

303-287-9691  
303-287-0964 (FAX)

**Southwestern Association of Toxicologists  
Meeting Grants Application**

**The SAT Meeting Grant may be awarded to two individuals per meeting. This grant is to cover the total expense of the meeting (at the approval of the board). And may be applied toward the current meeting or one of the next two meetings.**

Guidelines for Meeting Grant:

- SAT Member in good standing.
- Presenting paper at meeting.
- Non-supervisory position.
- Sponsoring letter from laboratory or section manager.

Application for the SAT Meeting Grant should be forwarded to:

Michael Carlo, Ph.D.  
124 Kilt Road  
San Angelo, TX 76901-9512

Phone: (915) 942-0263  
FAX: (915) 942-0777

Applicant's

Name: \_\_\_\_\_

Position: \_\_\_\_\_

MailingAddress: \_\_\_\_\_

Phone: \_\_\_\_\_

Sponsor: \_\_\_\_\_ Title: \_\_\_\_\_

**NOTE: Title and abstract must be received by program chair prior to application.**

Applicant Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Date Application received: \_\_\_\_\_

SAT member verified: \_\_\_\_\_

Recommendation of committee: \_\_\_\_\_ Approve \_\_\_\_\_ Disapprove

Action of Board: \_\_\_\_\_ Fund \_\_\_\_\_ Do Not Fund

Date: \_\_\_\_\_

Southwestern Association of Toxicologists  
Board of Directors:

President:  
1999-2000

Robert Rodriguez  
Bexar Co. Medical Examiner  
7337 Louis Pasteur Dr.  
San Antonio, TX 78229  
210-335-4033

President-Elect:  
1999-2000

Michael Carlo, Ph.D.  
124 Kilt Road  
San Angelo, TX 76901-9512  
(915) 942-0263

Past President:  
1998-1999

Nancy Gowen Kropp  
St. Anthony's Toxicology Lab  
1000 N. Lee, Box 205  
OKC, OK 73151  
405-272-6952

Secretary:  
1999-2001

Sheryl Peyton  
TX Department of Public Safety  
P.O. Box 4143  
Austin, TX 78765  
512-424-2105

Treasurer:  
1997-1999

Robert G. Schoenfeld, Ph.D.  
7204 Aztec Road, N.E.  
Albuquerque NM 87110  
505-884-4997

Counselor:  
1997-1999

Lori Flores  
5550 Hollyview Dr.  
Apt. 1107  
Houston, TX 77091  
(713) 796-6830

Membership Chair:

Brenda Snodgrass  
519 Fleetwood Dr.  
Norman, OK, 73072  
Wk 405-360-6103 hm. (405) 521-3864

## Presidents Message

It might be hot and dry in San Angelo but they have Miss Hattie's Bordello.....Museum, of course. Dr. Carlo did a great job in hosting the SAT Fall Meeting in the Concho Valley of West Texas. The meeting covered an interesting range of topics, starting with a Capillary Electrophoresis Workshop on Thursday and ending with a Drug Recognition Evaluation (DRE) Workshop on Saturday. In between these two fine workshops an array of interesting and informative scientific papers were presented. Our many thanks to the exhibitors, sponsors, and of course, to all the presenters.

Our next meeting will be in Estes Park, Colorado, near Rocky Mountain National Park. Petra Hartman, from Industrial Labs in Denver, will be hosting the Spring Meeting on May 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup>. A possible millennium theme is on the agenda. A historical review of drug testing and/or its future might be covered. I'm sure, in the tradition of all SAT Meetings a good educational and professional experience will be provided. I am looking forward to this meeting and hope that many of you will be able to attend.

You should be receiving ballots soon for the SAT Board elections. Please take note and exercise your right to vote. On this ballot we have Lori (Speaker) Flores from DPS Austin as President-Elect, and several outstanding candidates for counselor. They are Mike Frontz, Chris Heartsill, and Brad Hall, all top guns in their respective labs. Please let us know if you have any suggestions for future elections so that we may discuss them at our Board/Business meetings.

Happy New Century to all! See you in beautiful Colorado!

Robert Rodriguez

### ATTENTION FELLOW S.A.T. MEMBERS

Do you find yourself hopelessly lost on the information highway? Yearn for the good ole' days of typing reports out by hand? Many will agree that too much technology has resulted in a reliance on other (usually non-laboratory) personnel to design and maintain ways to keep track of all of your data. If these methods are outdated for your current needs, or poorly designed, or amaze you with their flexibility, I'd like to hear about it. Be on the lookout at the Colorado meeting for a brief questionnaire about your current data-handling situation. The survey will be appropriate for both managers and bench chemists. If you can't attend the Colorado meeting, please go to the S.A.T. web site and print out your own copy. I'd like to summarize the answers and present at our Fall 2000 meeting in OKC.

Thanks for your help.


Mike Frontz  
Bexar County Medical Examiner's Office  
7337 Louis Pasteur  
San Antonio, TX 78229

[mefron@stic.net](mailto:mefron@stic.net)  
[mefron@co.bexar.tx.us](mailto:mefron@co.bexar.tx.us)  
(210) 335-4031

## TOXICOLOGY EXCHANGE

Today's topic: Charles Tripp Millennium Award

**Charles Tripp Millennium Award**



**The Southwest Association of Toxicologists is privileged to announce that**

**Fred Forensic**

**Is being honored for his/her many contributions to the field of Toxicology  
and is being named as the:**

**SAT Member of the Year 2000!**

The board of SAT has recommended that an award be established to honor at least one member a year (at the discretion of the board) for outstanding service. This award is named after Charles Tripp, the noted Toxicologist and historian for the Southwestern Association of Toxicology.

Criteria:

- a. Professional Contributions to the field of Toxicology
- b. Contributions and Service to SAT
- c. Years of Membership
- d. "Coming through in a Pinch"

We are asking the membership to submit the name(s) of any member(s) deserving of this honor. Consider our membership and choose a person who has most impressed you in this last year with their loyalty, service, innovation etc. Think of a member who has published pertinent papers, who has lead the field with his/her knowledge, who has come through in a pinch when we needed a last minute speaker, who has inspired the membership with their innovation! Please submit potential candidates before the spring board meeting in May. We will announce the first recipient of the SAT Member of the Year Certificate at the Fall 2000 meeting in Oklahoma City.

Charles Tripp Millennium Award



Nomination Form

Candidates Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Position: \_\_\_\_\_

Years of SAT membership: \_\_\_\_\_

Please detail in the space below the contributions the above candidate has made in the field of Toxicology and in service to the Southwestern Association of Toxicology:

Please submit this form to any board member or at the next formal business meeting.

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## POINTS OF REFERENCE

1. To submit information, newsletter articles, want ads, or answers and discussion for the current Toxicology Exchange Topic:

Nancy Gowen Kropp (405) 272-6951  
St. Anthony's Toxicology Lab Fax: (405) 231-8875  
1000 N Lee Box 205 email: krop@qns.com  
OKC, OK 73102

2. Web page address: <http://www.pobox.com/~sat>  
Web page email: [sat@pobox.com](mailto:sat@pobox.com) Web Page administrator:

Glenn Harrison 512-424-2105 (ph)  
TX Dept of Public Safety 512-424-2869 (fax)  
PO Box 4143  
Austin, TX 78765

3. To Update addresses, phone numbers, and employment for member records:

Sheryl Peyton 512-424-2105 (ph)  
TX Department of Public Safety 512-424-2869 (fax)  
P.O. Box 4143  
Austin, TX 78765 email: fsipey@aol.com

4. To submit email addresses for member records:

Perry Jenkins 405-297-1747 (ph)  
311 Vickie Drive 405-297-1370 (fax)  
Yukon, OK 73099 email: [equine@ionet.net](mailto:equine@ionet.net)

5. To subscribe to the list server:

Send an e-mail to the address: [majordomo@listbox.com](mailto:majordomo@listbox.com) with no subject, and with the following body: "subscribe sat-tox yourname".

6. To participate in the discussion on the list server, send your comments, questions, or replies to :

[sat-tox@listbox.com](mailto:sat-tox@listbox.com)

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## ACKNOWLEDGEMENTS

This newsletter is published biannually for the benefit of the members of the Southwestern Association of Toxicologists.

The publishing of this newsletter was made possible with the help of the following:

Robert Rodriguez, Michael Frontz, Michael Fowler, Ph.D., Sheryl Peyton,  
Mike Carlo Ph.D. and Petra Hartman. Nancy Gowen Kropp (editor)

## SAT Business Meeting

San Angelo, Texas, Fall Meeting at Holiday Inn Convention Center Hotel

November 11<sup>th</sup> - 13<sup>th</sup>, 1999

Minutes taken by Sheryl H. Peyton, Secretary

### I. Introduction

The meeting was called to order by President, Robert Rodriguez. Gratitude was expressed to Dr. Carlo for hosting the meeting. There was an introduction from Dr. Carlo.

### II. Secretary Report

A. Dr. Schoenfeld moved we waive the reading of the minutes from our last meeting since they had been published in the newsletter. Dr. Carlo seconded the motion; all were in favor.

### III. Treasurer Report

A. Report presented by Dr. Schoenfeld

- 1) We are applying for tax exempt status. This requires an indication of distribution of our assets upon dissolution of our organization. We decided to distribute to the state universities of the following states: TX, AK, NM, OK, LA, CO, KS. It was noted that we should add a letter using SAT stationary and the moneys awarded to the Dean of the college of the Arts and Sciences for scholarships. Robert Rodriguez moved we send this letter and Dr. Schoenfeld seconded the motion; all in favor.
- 2) Rod McCutcheon, Lori Speaker, and Dawn Cole audited the Treasurer's Books and found that Dr. Schoenfeld is still in the black and all looks good. (*announced in General Mtg.*)
- 3) Education fund - mostly fidelity mutual funds.
- 4) Dr. Carlo moved we accept the Treasurer's Report; it was seconded, all were in favor.

B. No one applied for a meeting grant for this meeting

C. Mr. Rodriguez would like to honor deserving members with a *Membership Appreciation Award* in the year 2000 for all they have done and to continue to do this type of award in the future as there are individuals deserving of its merits. Nancy Gowen Kropp moved we establish a *Membership Appreciation Award*; Lori Speaker seconded the motion; all were in favor.

- 1) At the *General Meeting* this new award was announced by the President, Robert Rodriguez, as a *Membership Appreciation Award* for members who had been with the SAT for over 10 years.

C. Membership Appreciation Award (cont.)

- 1) It was moved by Dr. Schoenfeld, and seconded by Dr. Carlo.
- 2) Phil Kemp suggested during the *GM* we that we call it the **Charlie Tripp Appreciation Award**. Corbin Young moved that we accept this name and it was seconded.

### IV. Committee Reports

A. Membership Committee

Brenda Snodgrass, Chairperson, was not at the San Angelo meeting. Lori Speaker, Counselor, presented the Committee Report which recommended the following applicants. Dr. Carlo moved that all be accepted for membership. Dr. Schoenfeld seconded the motion.

- 1) Lori Bates, Director, Jefferson Co. Regional Crime Laboratory
- 2) Cara Beserra, Air Force Base
- 3) Dan Rios, Texas DPS Crime Lab, Austin
- 4) Charla Jenkins (reinstate) St. Anthony's Hospital, OK

B. Meeting Grants

- 1) No one applied for a meeting grant for this meeting.

C. Rescind Motion for Dissolution

- 1) Dr. Carlo moved and Lori Speaker seconded that we rescind the previous motion for Dissolution of Assets since Sheryl Peyton noted in our SAT Constitution and by-laws under Article X that provision for Dissolution had already been made. All were in favor.

D. Membership Committee

The President appoints the Membership Chairman during the Fall Meeting and Robert Rodriguez decided to continue with Brenda Snodgrass as the Membership Chairman along with two counselors to review membership applications and SAT status.

E. Audit Committee

The Audit Committee is normally appointed by the President during the Spring Meeting to provide an independent, nonprofessional review of SAT financial records, but in this case, since Dr. Schoenfeld will not be at our Spring meeting, Robert Rodriguez appointed Dawn Cole, Rod McCutcheon, and Lori Speaker at this meeting for the next audit committee.

F. Nominations Committee

Makes recommendations and provides ballot of names of candidates for each office:

**IV. Committee Reports (cont.)**

F. Nominations Committee (cont.)

- a) Dr. Schoenfeld nominated Lori Speaker as President Elect for the term 2000-2001. Dr. Carlo seconded the motion.
- b) For Counselor, Lori Speaker nominated Mike Frontz, Dr. Carlo nominated Chris Heartsill, and Dr. Carlo nominated Brad Hall. The Counselor will work with the *Membership Committee* and approve membership.
- c) The Treasurer will remain Dr. Bob Schoenfeld and the Secretary will remain Sheryl Peyton for the 2000-2001.
- d) Dr. Carlo moved that the above nominations be accepted. Nancy Gowen Kropp seconded the motion. All in favor.

G. Teller Committee

The *Teller Committee* will provide blind counting of votes for election of officers or other issues. These are three members of SAT appointed by the President during the Fall Meeting. Robert Rodriguez appointed: Dawn Cole, Dan Rios, and Glenn Harrison. Glenn Harrison was designated as the Chairman by the President. Dr. Carlo moved that these three appointees be on the *Teller Committee* and Lori Speaker seconded the motion. All in favor.

H. Ad Hoc Committee presented issues on technical information regarding newsletter and webpage.

- 1) Nancy Gowen Kropp presented concerns about complete elimination of print format of newsletter.
- 2) See Glenn Harrison for suggestions and options for Web page.
- 3) Need to recognize the Ad Hoc Committee and formulate a committee.
- 4) From *GM* We will try e-mail for the Spring mailing and continue using the newsletter in as we have in the past. May eventually phase out the newsletter in the fall or later if see that it is not needed if all members have access to electronic mail.

I. It was moved and seconded that the Ad Hoc Committee be turned into a *Communication Committee* with all existing Ad Hoc members as initial members.

- 1) It was recommended that one member be present at all board meetings. Mike Frontz for list and internet, Glenn Harrison for the SAT website, and Nancy Gowen Kropp for the newsletter.

## **SAT Business Meeting**

San Angelo, Texas, Fall Meeting at Holiday Inn Convention Center Hotel

November 11<sup>th</sup> - 13<sup>th</sup>, 1999

Minutes taken by Sheryl H. Peyton, Secretary

### **V. Old Business**

- A. Electronic Mailing List on SAT - Mike Frontz recommended we let service for listbox.com run out and let advertisements pay (see CAT)
- B. Confirmation on *Communication Committee*.
- C. Options for web page discussed, handout given with price options.

### **VI. New Business**

- A. Spring, 2000 Meeting in Denver, Colorado, May 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup>. [Petra Hartman]
- B. Future Meetings
  - Fall, 2000 - Oklahoma City, Oklahoma; November 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup>.  
[Nancy Gowen Kropp/St. Anthony's Hospital]
  - Spring, 2001 - Dallas, Texas [Chris Heartsill/SWIFS]
  - Fall, 2001 - San Antonio, Texas [Gary Kunsman/Bexar Co ME]
- C. Student Rate
  - Open discussion of student rate and objective to encourage student participation. Dr. Schoenfeld moved to invite all students to attend SAT meetings with no registration fees. Lori Speaker seconded the motion. At *GM* Rod McCutcheon moved we waive registration fee for students for the next meeting.
- D. Meeting Host Room
  - Robert Rodriguez moved SAT should provide one room to the SAT meeting host if they need it. Lori Speaker seconded the motion. At the *GM* Ken Peck moved we cover one room for the Host of the meeting if they need it. Phil Kemp seconded the motion.
- E. Waiving of Registration Fees for Presenters
  - Members presenting papers of workshops should not have to pay registration fees as a token of gratitude from the Host and SAT. Ken Peck pointed out that CAT pays each presenter \$50.00. At the *GM* Skip Oertli moved we waive registration fees for presenters. Corbin Young seconded the motion. All were in favor.
- F. Honorarium
  - The idea was presented that the name of the meeting grant be changed to honorarium so that members might not lose their grants to employers. This idea did not get much feedback. Most people thought they would still lose the money.

### **VII. Close**

Nancy Gowen Kropp moved to adjourn the meeting. Lori Speaker seconded the motion and all were in favor. Dr. Carlo moved we adjourn the *General Business Meeting*. The meeting was adjourned.

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**Southwestern Association of Toxicologists**

Treasurer's Report

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Financial information is available to any SAT member upon request.

R.G.SCHOENFELD, PH.D.

Abstracts  
from the  
SOUTHWESTERN ASSOCIATION OF TOXICOLOGISTS  
Fall Meeting  
November, 1999  
San Angelo, TX

CAPILLARY ELECTROPHORESIS IN FORENSIC TOXICOLOGY:  
THEORY AND PRACTICE

BILL A WILLIAMS, Ph.D., SEPARATIONS SPECIALIST  
Beckman coulter, Inc.

Drug screening using gas chromatography with nitrogen phosphorous detection (GC-NP) and confirmation by gas chromatography with mass spectrometric detection (GC-MS) has been the drug identity method of choice for several decades. There are a few potential problems with this approach. One is the legal issue of using non-complementary separation techniques for both the screening separation and confirmation separation (in this case GC). Another problem, scientific in nature, is the handling of putrefied samples. That is, the introduction of many drug metabolites that will complicate the chromatogram screen. In addition the reproducibility of GC-NP, both from column to column as well as sample to sample is lacking (5-10% in most cases). This wide error around the retention time of unknown analytes necessitates the confirmation of many more possible hits. These problems are significantly minimized or eliminated by using capillary electrophoresis with photo diode array detection (CE-PDA). CE relies on a high voltage source to drive the charged analytes of interest down a capillary. The analytes are separated by their different mass to charge ratios and are detected with a diode ray detector. The precision of the analyte migration is less than 0.2%. This precision combined with a saved spectral library for standard drugs, allows for a screening protocol that eliminates most, if not all, of the false positives that would show up in a GC-NP screen. Because only the charged "parent" drugs are injected into the separation capillary, the mostly neutral metabolites (resulting from putrefied samples) are not even injected, and, therefore, will not interfere with the screen. The theory and practical use of this revolutionary technology will be presented.

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APPROACHES FOR THE ANALYSIS OF SILDENAFIL  
(VIAGRA) AND ITS MAJOR METABOLITE IN  
BIOLOGICAL SPECIMENS BY GC-NPD AND GC-MS

BRAD J. HALL, Ph.D. AND ROD MCCUTCHEON, B.S.  
Travis County Medical Examiner's Office  
Austin, Texas

Introduced to the general public in 1997, the citrate salt of sildenafil has become a widely prescribed medicine for the treatment of erectile dysfunction. Sildenafil is known to potentiate the hypotensive effects of organic nitrates, and serious cardiovascular events especially among patients with pre-existing cardiovascular disease have been reported. Therefore, in cases where sildenafil may be an issue to cause death, it is important to have a methodology for its detection.

While running routine drug screens, a peak eluting late in the GC-MS chromatogram, identified as sildenafil by the Academy of Forensic Sciences mass spectrum library, was traced to a sample occurring two injections prior. Sildenafil is amenable to gas chromatography, however it elutes at approximately 30 minutes during the routine drug screen GC program and has moderate to poor GC peak characteristics. Sildenafil possesses five nitrogen atoms, thus making its analysis by GC-NPD attractive. In addition, its late elution characteristics provide minimal background noise and interferences. For this presentation, specific methodologies for the analysis of sildenafil will be discussed including a derivatization method which markedly improves the chromatographic properties and achieves a detection limit of approximately 50 ng/ml. In addition, identification of sildenafil and a sildenafil metabolite in a case bile drug screen will be presented.

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DILUTION EFFECTS OF IV FLUIDS ON ALCOHOL CONCENTRATIONS  
ROD MCCUTCHEON, B.S.  
Travis County Medical Examiner's Office  
Austin, Texas

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PHARMACOKINETICS OF PHENYLBUTAZONE AND ITS METABOLITE  
OXYPHENBUTAZONE IN MINIATURE DONKEYS

KENNETH E. PECK, MS. NORA S. MATTHEWS, DVM,  
KATRINA L. MEALEY, DVM, ALLEN C. RAY, PH.D.  
AND T.S. TAYLOR, DVM

Texas Veterinary Medical Diagnostic Laboratory  
College Station, Texas

In clinical observation it was noticed that injectable anesthetics were not as potent in miniature donkeys. This made us interested in investigating whether the miniature donkey metabolizes drugs differently than that of the standard donkey. Our laboratory has compared the pharmacokinetics of phenylbutazone in the horse and standard donkey. From previous work, we have shown that the metabolism (mean residence time, area under the curve and total body clearance) of phenylbutazone in the donkey is significantly different that the horse.

Phenylbutazone is the most commonly used non-steroidal anti-inflammatory drug used for pain management in Equidae. In this study, six gelded miniature donkeys were administered and IV bolus of 4.4 mg phenylbutazone/kg of body weight. Samples were collected prior to administration (time 0) and after administration at 5, 10 20, 30, 45 min then at 1, 1.5,2,3,4,5,6 and 8 hr. After centrifugation, serum was harvested and stored at -20C until time of analysis. All samples were analyzed in triplicate.

Phenylbutazone was extracted from serum by adding 200 mg NaCl, 8.66 mg of probenecid (as internal standard), and 2 ml acetonitrile. After vigorously mixing (vortexing) and centrifugation, the acetonitrile layer is recovered and phenylbutazone and oxyphenbutazone (major metabolite) were analyzed by HPLC. The HPLC was a Hewlett-Packard 1090 equipped with a diode-ray detector using an Alltech C-18 econosphere column (4.6 X 250 mm). The solvent was acetonitrile: 0.6 N phosphoric acid (58:42) at 1 ml/min. Wavelengths monitored were 254 and 240 nm (240 nm was used for quantification). Differences between the miniature donkey and the standard donkey were seen.

OLANZAPINE DISTRIBUTION IN POSTMORTEM CASES  
ROBERT G. RODRIGUEZ, B.S. AND GARY W. KUNSMAN, Ph.D  
Forensic Toxicology Laboratory  
Bexar County Medical Examiner's Office  
San Antonio, Texas

Eleven postmortem cases are reported in which Olanzapine (Zyprexa), an atypical antipsychotic, was identified. Olanzapine was detected using a standard alkaline drug screen with gas chromatography/flame ionization detection analysis, chromatographed well and was well separated from other drugs of interest on an HP-1 column, and was quantitated without derivatization. Olanzapine is extensively metabolized in vivo, but GC/MS analysis revealed the presence of only two N-desmethyl metabolites. Quantitation was performed on all available postmortem specimens from cases collected over an 18 month period in which olanzapine had been identified and quantitated in postmortem blood as part of the initial toxicological analysis. Initial concentrations ranged from 38 to 1,100 ng/ml with only a single case reported as an Olanzapine intoxication. This study revealed that Olanzapine concentrations decreased by up to 70% in blood specimens stored refrigerated between 6 and 18 months. Quantitations using an extracted drug tablet for preparation of calibrators were also performed on all specimens. Concentrations correlated well with those based on calibrators prepared from a pure reference material suggesting that the use of such a standard is feasible if a pure standard is unavailable.

## FETAL CARBON MONOXIDE POISONING: A TALE OF TWO CASES

PHILIP M. KEMP, CORD E. GEORGE, LARRY E. BALDING  
AND JOHN S. VOGEL  
Office of the Chief Medical Examiner  
Oklahoma City, Oklahoma

Carbon monoxide continues to be one of the most frequently encountered toxic agents seen in forensic laboratories. There are few reports attributing fetal death to carbon monoxide. This presentation reports two cases.

The first case involves the stillbirth of a 35-week gestational age child born to a mother who survived an accidental exposure to carbon monoxide. Spectrophotometric analysis of the fetal blood with an IL-482 CO-Oximeter indicated a 61% carboxyhemoglobin saturation. The confirmatory procedure involving microdiffusion resulted in a finding consistent with only a 20-24% saturation. Gas Chromatographic analysis showed a 27% saturation, the finding that was reported.

In the second case, a 16 year old mother was trapped in a house fire. Neither she nor her unborn child survived. Samples from both were sent to the toxicology laboratory for analysis. Analysis of the mother's blood by co-oximetry showed a 57% carboxyhemoglobin saturation. Analysis of the fetal blood by co-oximetry indicated a 19% carboxyhemoglobin saturation. Gas chromatographic analysis showed a 16% saturation.

This presentation will discuss the analytical aspects of testing fetal blood for carbon monoxide as well as the toxic effects of carbon monoxide on the unborn child.

## A TWO YEAR SURVEY OF DRUG RECOGNITION EXPERT CASES SUBMITTED FOR TOXICOLOGICAL ANALYSES

**GARY W. KUNSMAN, Ph.D., CYNTHIA M. KUNSMAN, N.D.,  
CAROLY L. PRESSES, B.S. AND PAOLA RODRIGUEZ, B.S.**  
Forensic Toxicology laboratory  
Bexar County Medical Examiner's Office  
San Antonio, Texas

Over a two-year period, 153 cases were submitted by Drug Recognition Experts (DRE) from areas in and around Bexar County, TX to the Forensic Toxicology Laboratory, Bexar County Medical Examiner's Office for toxicological analyses. The Drug Influence Evaluation (DIE) Form and the drug category suspected, based upon the 7 DEC categories, were usually included with specimens submitted by the DRE. This survey compared the Drug/Drug Category requested, drug-use information provided by the suspect, and the results of toxicological analyses. A total of 269 analyses were performed on 140 of the submitted cases. Of those 140 cases, 78% were positive for some drug, whether identified by the DRE or not. For cases in which the subject admitted to the use of a particular drug(s), the DRE concurrence rate with toxicological analysis was approximately 85%. When comparing DRE requests to toxicological analysis for those cases in which no information regarding substance use was supplied or no DIE Form provided with the specimen, the concurrence rate dropped to approximately 45%. Notable exceptions to these statistics were the approximate 70% concurrence rate for Cannabinoid requests and the 100% concurrence rate for Cocaine requests. This survey reinforces that the most valid and important aspect of the DEC Program is the subjective evaluation and documentation of impairment provided by the DRE and not the ability to determine which DEC Drug Category accounted for that impairment.

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## **DRE WORKSHOP – PHARMACOLOGY BASIS**

**JAMES C. GARRIOTT, Ph. D.**

San Antonio, Texas

The DRE program is intended to classify the drugs of abuse into categories, based on the pharmacology of the individual drugs and/or drug categories. The seven categories consist of: CNS depressants, CNS stimulants. Each drug or category has certain pharmacologic characteristics which may enable diagnosis of intoxication by a trained expert. Accurate identification may present problems due to the over lapping effects of some groups, and multiple drug use in some circumstances. The pharmacology of the categories will be discussed in conjunction with the ability to detect use based on recognition of expected symptoms.

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## **DRE: THE TOXICOLOGIST'S ROLE**

**CRIS HEARTSILL**

Southwestern Institute of Forensic Sciences

Dallas, Texas

As the use of Drug Recognition Experts (DRE) is becoming more widespread throughout Texas and the United States, the DRE and the toxicologist need to be more aware of the role that each plays. The classification of drugs as seen by the DRE versus the classification of drugs and ability to detect the drugs by the laboratory sometimes causes conflict or confusion. This final section of the DRE Workshop will clarify the seven classes of DRE drugs and their analysis in the laboratory. The workshop will also include statistical information regarding occurrence of DRE drugs and the use of DRE throughout Texas and the United States. A short section on court testimony will also be discussed.

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Southwestern Association of Toxicologists, Inc.  
Application for Membership



Please type or print neatly.

Name: _____				
	Last	First	Middle	
Home Address: _____				
	Street	City	State	Zip
Date of Birth: _____		Place of Birth: _____		
		City	State/Country	
Citizenship: U.S. <input type="checkbox"/> Other: <input type="checkbox"/> Occupation: _____				
Firm Name: _____				
Title: _____				
Address: _____				
_____				
Business Phone: _____			FAX: _____	
Home Phone: _____			FAX: _____	
Preferred Mailing Address: (check one) <input type="checkbox"/> Business <input type="checkbox"/> Home				

**EDUCATION**

Institution:	Dates Attended:		Degree	Major Field
	From	To		
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Dissertation Title and Advisor, if any: _____
_____
Publications and Patents: (append additional sheets if necessary): _____
_____
Specialization, Board Certification, Honors, and Award: _____
_____
_____

-Please complete the other side-

# Professional Experience

(Present position first – use additional sheets if necessary.)

Organization/ Address:	Position	From	To	Supervisor Reference:
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

I certify that the above information is correct to the best of my knowledge.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

The two SPONSORS listed below, who are full members of the Southwestern Association of Toxicologists, recommend the applicant and recognize that one major objective of the Association is the development of technical knowledge and furthering of the professional standing of technical people in the field of Toxicology. If the applicant does not know two full members of the Association, a curriculum vitae or resume with the names of two professional references, should be submitted to the Membership Chairman for review by the Executive Board of the Association.

Sponsor #1

Sponsor #2

Name:

Position:

Organization:

Signature:

Phone Number:

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This application will be presented to the SAT Board of Directors and membership at the next semi-annual meeting. After acceptance of membership by SAT members, annual dues will begin with the next fiscal year (July).

Return this completed application and a non-refundable application fee of \$20.00 to:

**Brenda Snodgrass**  
519 Fleetwood Dr.  
Norman, OK, 73072