

# TOXTALK



VOLUME 44 • ISSUE 1

## PRESIDENT'S MESSAGE



It is an extreme honor and privilege to serve as your President in the 50th year since SOFT's inception. I want to take this opportunity to

thank the membership for trusting me with this important role. SOFT, as you know, started as an informal gathering of forensic toxicologists in Long Island, NY in 1970. The first annual SOFT meeting was conducted by the first elected President Jane Speaker in 1974. It gives me goose bumps to think how 50 years ago a few passionate individuals thought about the value of collaboration for the scientific advancement in the field of forensic toxicology, and to see the end result of that initiative in SOFT organization as we see it today. While we celebrate the 50<sup>th</sup> anniversary of SOFT this year, it is time to reflect on our achievements and to recognize all the hard work put in by people before us who made SOFT such a special organization. ***Understanding of the past is one of the most powerful tools for shaping the future.***

I joined SOFT in 2007, when we had 824 members; not a small organization at the time but we have grown significantly, and

now have 1,528 members - nearly twice as many. During my first SOFT meeting in Raleigh I was star struck and felt like I did not belong in this elite group of highly intelligent and passionate professionals. I met wonderful people in SOFT who welcomed me with open arms, accepted me with all my flaws and encouraged and mentored me through their advice, critique, friendship and support. This is what SOFT is about - welcoming new people with open arms, providing a platform for growth and support through the process, and making lifelong friendships while serving the primary purpose of advancing the discipline of forensic toxicology.

Last year President Fuller stood up the Professional Mentoring Program Committee of SOFT with the intent of expanding the mentorship that was essentially occurring organically (as in my case) and to provide more opportunities for members to draw upon the experience and strength of others in a more formal manner. The committee was tasked with creating a platform to (i) develop and nurture future leaders of the organization, (ii) provide a forum for one-on-one career advice, and (iii) provide a forum for mutually beneficial knowledge transfer for the purpose of supporting and advancing the organization and the forensic

## TOXTALK

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# PRESIDENT'S MESSAGE CONTINUED

toxicology practice.

I am thrilled to inform you that currently there are 49 official mentor-mentee pairs in the program. The committee held their first annual breakfast in 2020 during the AAFS meeting in Anaheim, which was very successful with 40 people in attendance. The purpose of this breakfast was to create an opportunity for mentor and mentee pairs to meet face-to-face and provide a chance for informal mentoring for those who have not registered for the program yet but want to support the program and see how it will work. Highlight discussion topic was the power of personal brand, and building an authentic and appropriate brand for career advancement. I encourage you to both support this program and to take advantage of its benefits.

## **SOFT Board Activities**

The SOFT Board of Directors held the first board meeting via teleconference in Jan 2020 during which the BOD voted on accepting a Letter of Agreement to be signed by each board member affirming to their responsibilities for ensuring effective governance of fiscally sound programs as well as strategic direction of the organization.

The interim board meeting was held in-person in Anaheim during AAFS. The budget for 2020 was unanimously approved by the board during this meeting. I encourage you to review the budget presented in this newsletter. The board also approved a proposal from the History Committee to institute four new SOFT awards to recognize the following:

- 1) **SOFT Research in Forensic Toxicology Award** – This annual award will recognize a member of SOFT who has conducted contemporary scientific research with a significant impact on the practice and knowledge of forensic toxicology.
- 2) **SOFT Young Forensic Toxicologist Service Award** - This annual award will recognize a young member of SOFT ( $\leq 40$  years old) for exceptional service to the organization who demonstrates leadership potential.

- 3) **SOFT Teaching and Mentoring Award** - This annual award will recognize a member of SOFT who has actively taught and mentored students in the field of forensic toxicology.
- 4) **SOFT Service Award** - This annual award will recognize a member of SOFT who has provided exemplary service to the Society of Forensic Toxicologists

We will be soliciting nominations shortly for these awards for 2020 so put your thinking hats on for nominating the deserving candidates and stay tuned for further info! The awards will be presented during the annual meeting in San Diego.

The board also discussed the report from membership survey that was conducted mid-last year. Highlights from the survey are:

- 1) Top choice of participants for future continuing education offerings is online courses and webinars. 78% of the respondents prefer online courses and 69% prefer webinars.
- 2) Majority of the participants are neutral or find it unimportant for SOFT to continue to maintain a printed meeting program. 32.2% find it very important or somewhat important to maintain a printed program.

I want to thank everyone who participated in the survey because it provides the board valuable feedback on what is important to our members. As a result of the survey findings, the BOD charged the Continuing Education Committee to expand its scope and include online workshops for our members. The BOD also voted to provide an option to request an online or printed program during the upcoming anniversary meeting. Please read further in the bulletin about the exciting scientific and social program that the San Diego meeting hosts Denice and Dani are putting together for our special anniversary meeting.

As an organization we are growing, getting stronger and more diverse. With it comes our responsibility to maintain a culture,

values and professional conduct that is respectful to all. We need to ensure that the SOFT-sanctioned events are safe, supportive and collaborative. To that end, this year the board has charged the Culture, Values and Diversity committee to create a Code of Conduct Policy for SOFT members.

## **Shaping the Future**

The Presidents before me, members of the board and the SOFT staff have done a fabulous job in bringing SOFT to its current level of scientific and professional excellence while maintaining the caring and giving family culture. I intend to maintain that tradition of continuous advancement in scientific and cultural experiences for SOFT members and to advance the current initiatives around membership needs for online education, mentorship program as well as an improved Code of Conduct document for SOFT membership. As we optimize our processes to better fit the current needs and charge the committees with expanded or changed responsibilities, it is also imperative to document the change. We have undergone a tremendous amount of change in the last few years with SOFT hiring an Executive Director, institution of new committees including Finance Committee, Culture, Values and Diversity Committee, Professional Mentoring Program Committee. As a result we need to update our procedures to reflect and to account for the change. This year's focus will include completing the revision of SOFT's Policies and Procedure with annual review/revision requirements going forward. Committee chairs will be tasked with updating committee handbooks on an annual basis to support SOFT Business Continuity.

Lastly, I would like to welcome the new board members Fiona Couper, Phil Kemp and Andre Sukta and our new Counselor Mick Smith to the SOFT Board. I look forward to a fantastic and rewarding year ahead!

**Sumandeep Rana, Ph.D.**  
**SOFT President**



# 2020 SOFT Budget

<b>Revenue</b>	
Membership	\$144,000
Annual Meeting	\$1,331,166
Merchandise Sales	\$200
Advertising	\$0
Continuing Education	\$10,000
Contributions	\$3,000
Interest	\$750
<b>Total Revenue</b>	<b>\$1,489,116</b>
<b>Expense</b>	
Payroll	\$146,157
Occupancy	\$4,000
Office	\$1,800
Administrative Expenses	\$72,500
Membership	\$5,000
Insurance	\$8,000
Appreciation Gifts	\$500
Legal and Professional Services	\$15,850
Meals and Entertainment	\$500
Awards	\$10,000
Annual Meeting	\$1,242,765
Merchandise	\$0
Board and Committees	\$57,000
Bank Charges	\$5,000
<b>Total Expense</b>	<b>\$1,569,072</b>
<b>Net Income/(Loss)</b>	<b>(\$79,956)</b>



We would like to extend a warm, sunny, Southern California welcome and invite everyone to join us for the 2020 SOFT annual meeting in San Diego, CA. We also want to remind everyone that this is the 50<sup>th</sup> anniversary of the initial annual meeting, and we could not be more excited. The scientific meeting, exhibit hall, and hotel are at the [Marriott Marquis San Diego Marina](#), which is just steps from **San Diego's Gaslamp Quarter**. This area is home to many bars and restaurants where you can catch up with your colleagues from around the country and overseas.



During the meeting, we plan to shine a spotlight on the history of SOFT in several ways. There will be slide shows of pictures from meetings past (upload your photos [HERE](#)) and an opening ceremony where we will honor the past presidents and charter members with the help of the newly formed History Committee. It's been a real joy gathering these facts and photos to share with you. Did you know that in 1974 in Chapel Hill, NC, at the first meeting with recorded attendance figures, the meeting was one-day long and had only 55 attendees? Now, we regularly have around 1,000 attend each year!

We have listened to your **feedback from the meeting surveys**, and there were several requests to increase opportunities for networking with other attendees. A little over half of the attendees already use the meeting mobile app for things such as schedules, maps, important information, speakers, and the game. We are excited to **introduce an enhanced version of the app game** that will encourage interaction among attendees as well as our **generous exhibitors and sponsors**. A notification will be sent out as the meeting gets closer with instructions on how to download the mobile app and more information about the new scavenger hunt-like game.



Now is the **time to start planning workshops and presentations** as the [deadlines](#) will approach quickly. We are interested in presentations covering all areas of toxicology including, but not limited to, **designer drugs, analytical methods, driving under the influence, drug facilitated crimes, quality assurance, drug trends, case reports and more!** Don't forget with this being the historic 50<sup>th</sup> meeting that the classic drugs such as alcohol, alprazolam, and tricyclic antidepressants aren't going away and make great topics to re-visit for presentations as well. Your participation makes SOFT the educational, fun, and successful meeting it has always been. So, start thinking of ways you can join in the scientific sessions or volunteer to help the meeting run smoothly.

### 2020 Meeting Hosts



Denice Teem



Dani Mata

### Scientific Program Chairs

Bill Johnson  
Lauren Marinetti

### Workshop Chairs

Jennifer Limoges  
Sue Pearring

### Exhibitor Liaison

Liz Kiely

### Food and Beverage

Ann Marie Gordon  
Denice Teem  
Delisa Downey  
Carl Wolf

### YFT Chair

Kevin Shanks

### Volunteer Coordinators

Vanessa Meneses  
Andre Sukta

### Mobile Application

Rusty Lewis  
Roxane M. Ritter  
Sunday Saenz

### Audio/Visual

Frank Wallace  
Chris Vance

### Fun Run Coordinators

Eucen Fu  
Phyllis Mallet

### Social Event Coordinators

Alanna de Korompay  
Jay Vargas  
Javier Velasco

### Opening Ceremony Coordinators

Delissa Downey  
Bruce Goldberger

### JAT Special Issue Editor

Luke Rodda

### SOFT Staff

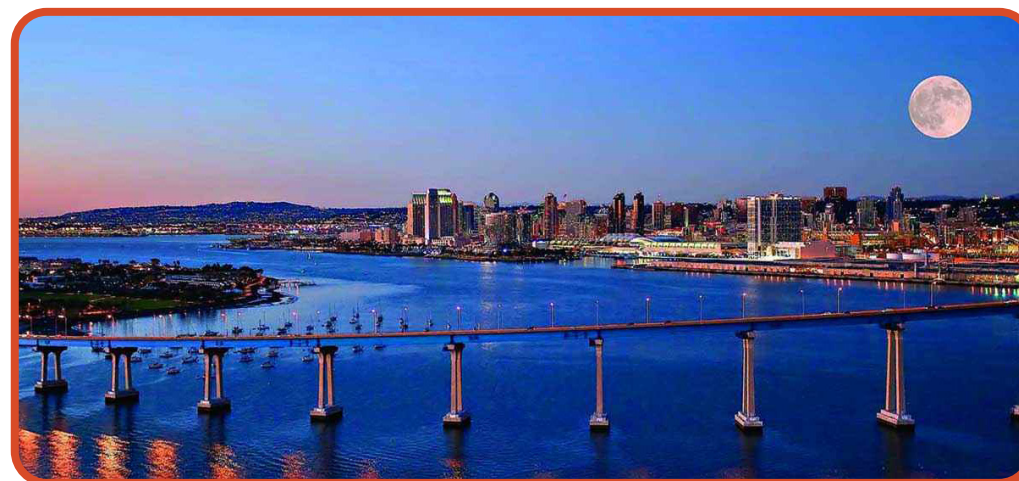
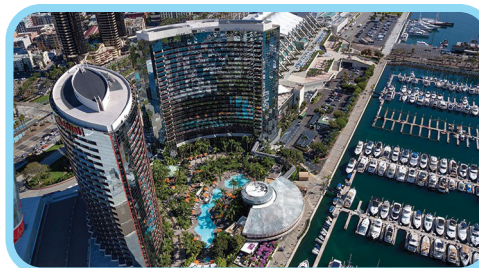
Executive Director  
Beth Olson  
Operations and Social Media Manager  
CC Watson



In keeping with our tradition of having a night out away from the conference hotel, our **Wednesday evening event will also focus on history** as we explore the USS Midway (<https://www.midway.org/>).

Many of your fellow attendees have served their country. We even met an exhibitor at last year's meeting who was actually stationed on this very ship! Mingle over drinks and food on the top flight deck with military planes that were flown throughout history. Tour the middle hangar deck. Even go below deck to see how those stationed aboard lived for months at a time.

Please continue to check the SOFT website <http://soft-tox.org/> for updates to our meeting page including registration dates, abstract submission dates, hotel room block, sight-seeing, and local activity information. **We are excited to host everyone in San Diego September 21 – 25, 2020 for the 50<sup>th</sup> Anniversary of SOFT!**



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The Scientific Program Chairs for SOFT 2020 are requesting abstracts for all topics relating to forensic toxicology for the SOFT Annual Meeting to be held in San Diego, CA. The Scientific Sessions will be held Wednesday, September 23, 2020, through Friday, September 25, 2020.

Beginning this year, SOFT will be utilizing a new system for managing abstract submissions. The new system will simplify the process for submitters, reviewers, and the program committee. When submitting your first abstract, you will be prompted to create an account.

Thank you,  
Bill Johnson and Lauren Marinetti  
SOFT 2020 Scientific Program Chairs



**CLICK HERE TO  
SUBMIT YOUR ABSTRACT!**  
Submission Deadline is May 1, 2020!

## WORKSHOP FLASHBACK

**Jen Limoges:** My first SOFT meeting was in Denver in 1996. Dan Isenschmid and Denny Crouch were the Workshop Coordinators. For analytical topics, there was a “Capillary Chromatography” seminar. Had we even figured out how to connect an LC to a Mass Spec yet? Apparently, technology was new and novel – we had workshops on the “Use of LIMS in a Forensic Tox Lab” and “Toxicology and the Internet”, which started with the presentation “History and Introduction to the Internet”!!! How times have changed.

**Sue Pearring:** My first SOFT workshop was at my second SOFT meeting. Talk about intimidating! Nonetheless, with Jen and the other chairs of the Method Validation workshop in Orlando in 2013, I found some added confidence and a niche where my skills fit into the bigger SOFT community. I also found a group of folks to bounce ideas off of as I learned

more and more about forensic toxicology. I’d love to see some new names chairing and presenting in workshops in 2020 – fresh ideas keep each of us sharp!

Workshops have always been our favorite part of the meeting, so please help us give SOFT 2020 attendees a fantastic set of options to develop and advance our expertise, expand our peer network, and broaden our knowledge.

Thank you,  
Jen Limoges and Sue Pearring  
SOFT 2020 Workshop Program Chairs

**CLICK HERE TO  
SUBMIT A WORKSHOP!**  
Submission Deadline is March 27, 2020!

### 2020 Meeting Hosts



Denice Teem



Dani Mata

### Scientific Program Chairs

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### Workshop Chairs

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CC Watson





Marilyn Huestis, Ph.D. and Irving Sunshine, PhD DABFT, DABCC  
SOFT 2004, Washington, D.C.

The SOFT History Committee in collaboration with the SOFT San Diego 2020 Planning Committee is soliciting share-worthy photos from all previous SOFT meetings so that we may boost our historical capture of society events and also share our photo history with you at the 50th Anniversary SOFT meeting in San Diego. The photos we collect will be displayed throughout the meeting in the form of slide shows. Submit your electronic photos by clicking below.

If you have hard copies (polaroid, negatives, microfiche, etc.) and would like to participate you may send them into us and we will digitally scan them and send back to you. Make sure you give us your return address and send such items to:

Dani Mata  
Toxicology  
320 N Flower St  
Santa Ana, CA 92703

**[CLICK HERE TO SUBMIT YOUR PHOTOS!](#)**

## **SOFT 2020 IMPORTANT DATES AND DEADLINES!**

**ERA/YSMA Deadline: April 1, 2020**

**Workshop Submission Deadline: March 27, 2020**

**ERA/YSMA Winners Announced: April 27, 2020**

**Registration and Hotel Room Block Open: April 30, 2020**

**Abstract Submission Deadline: May 1, 2020**

**Registration Deadline to Avoid Late Fee: July 24, 2020**

**Registration Deadline to Avoid On-Site Registration Fee: September 4, 2020**

**SOFT 2020: September 20-25, 2020**

# 2019 Annual Business Meeting Minutes

## Society of Forensic Toxicologists, Inc.

Business Meeting Agenda  
San Antonio, TX

3:30-5:00 pm Thursday, October 17, 2019

1. Call to Order at 3:35 pm, CST by President Fuller Dwain Fuller  
A quorum was established by Secretary Miles
2. Approval of Agenda Dwain Fuller  
Motion to approve agenda: So moved, Second, Approved by all
3. Approval of Annual Business Meeting Minutes (10/11/19) Dwain Fuller
  - a. Motion to approve meeting minutes: So moved, Second, Approved by all
4. President's Report Dwain Fuller
  - a. President Fuller welcomed the attendees to the meeting and San Antonio. Fuller thanked the BOD for their service and reflected on the previous year so far. Beth Olson and CC Watson were instrumental in the success of the year. Fuller briefly reviewed the financial plan for the organization, discussed the SOFT Office changes and the survey, which will be discussed in detail by Olson. The YFT group has become a driver for cultivating future members and Toxicologists. The CVD Committee has been stood up as a new Ad hoc Committee and is an important addition to the organization. Fuller reflected on the tight knit nature of SOFT and appreciates the support of all of its members.
5. Executive Director's Report Beth Olson
  - a. Olson reviewed this year's registration and this is the largest meeting in the organization's history. The physical SOFT Office has closed and Watson and Olson are now working from home which is a large cost saving for SOFT. The membership survey results were reviewed at a high level. (See slide deck at the end of the Minutes for full report)
6. Secretary's Report Amy Miles
  - a. The members of the Membership Committee were recognized and thanked for the work on this Committee over the last year. Special recognition was given to Watson for all of her support of the Committee. (See slide deck at the end of the Minutes for full report)
7. Treasurer's Report Robert Sears
  - a. Treasurer Sears reviewed the current budget and projected organization budget. Sears travelled to the SOFT Office this year to work on the Treasurer's duties transition and to further explore investment opportunities for SOFT funds. (See slide deck at the end of the Minutes for full report)
8. President-Elect (Committees/Liaisons) Report Suman Rana  
Erin Spargo
  - a. Awards
    - i. ERA Masters Awardee - Tiara Evans: Rapid Method by LC-QTOF-MSE for the Addition of Prevalent Synthetic Cannabinoids in a Forensic Toxicology Laboratory
    - ii. ERA Masters Awardee – Victoria Mei: Validation of Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) Method for the Quantification of 13 Designer Benzodiazepines in Postmortem Blood
    - iii. ERA PhD Awardee – Michael Truver: 5F-MDMB-PINACA and 5F-MDMB-PICA Metabolite Identification and Cannabinoid Receptor Activity
    - iv. YSMA Awardee - Jacob Samuel: Comparison of Spectrophotometric Methods for the Determina-



# 2019 Annual Business Meeting Minutes

- tion of Carboxyhemoglobin in Post-Mortem Blood
- b. Publications/EDIT Award Justin Poklis
    - i. Joint session with YFT during the Professional Development Fair. The CE opportunities are available for JAT on the SOFT website.
    - ii. The EDIT Awardee - Svante Vikingsson: LCQTOSMS Identification of Major Urinary Cyclopropylfentanyl Metabolites Using Synthesized Standards
    - iii. Special Editor Award: Kayla Ellefsen
  - c. Bylaws Bruce Goldberger
    - i. The Bylaws Committee was tasked to reinstate the Retired Member status in addition to the Emeritus Member status. (See slide deck for description of the Retired Member)
  - d. Continuing Education Robert Johnson
    - i. In 2019 there were 2 Regional Workshops in April in Reno, NV and in Dallas, TX. The Committee would like to hear from the membership for volunteers for hosts.
  - e. Culture, Values and Diversity Tate Yeatman
    - i. The Committee is working on a Code of Conduct and has asked for volunteers from the SOFT membership to become a Committee member.
  - f. Designer Drugs Dani Mata
    - i. The Committee sponsored a workshop at this annual meeting and have a workshop planned for 2020. There is an open forum style meeting during the SOFT Conference and all members are encouraged to stop in. The Committee is also looking to partner with Simon Elliott as the Chair of the TIAFT Designer Drugs Committee.
  - g. Drug Facilitated Crimes Laureen Marinetti
    - i. Members of the Committee are looking to refocus and continue to work in the coming year. The Committee sponsored content at a recent California Association of Toxicologists meeting.
  - h. Drugs & Driving Curt Harper/Dayong Lee
    - i. There was a Special Scientific Session for drug impaired driving during this conference as well as a focused workshop on the topic. During the AAFS meeting earlier in the year there was a combined workshop with the National Transportation Safety Board and another workshop during the annual International Association for Chemical Testing conference. In the coming year workshop topics will likely include a focus on marijuana, CBD and driving. The SOFT website has a location for this Committee in which there are relevant literature citations. Committee members have been busy throughout the year reviewing publications for inclusion on the SOFT website.
  - i. Ethics Jennifer Limoges
    - i. There were 2 complaints for the Committee in 2019. The Committee investigated the first matter and resolved it within the Committee and issued a report to the President. The second complaint did not contain enough information for review and was subsequently withdrawn.
  - j. History Bruce Goldberger
    - i. The Committee has been busy collection history of the organization and creating awards and other recognition for SOFT moving forward.
  - k. Meeting Resource Committee Suman Rana
    - i. St. Louis, MO has been chosen as the 2024 location for the annual meeting.
    - ii. 2019 San Antonio, TX Brad Hall / Veronica Hargrove
      - The Hosts thanked the Planning Committee for all of their work and reminded members to provide feedback on the meeting.
    - iii. 2020 San Diego, CA (50<sup>th</sup> Anniversary) Denice Teem and Dani Mata
      - The members were provided with a preview of the meeting in September 21-25, 2020
  - l. Mentoring Task Group Michelle Peace
    - i. The launch of the Task Group occurred during Sunday evening's YFT event. The upcoming year will be busy with many activities which will include pairing Mentors with Mentees.
  - m. Nominating Michelle Peace

# 2019 Annual Business Meeting Minutes

- i. The Committee puts forward the following Officers and Board of Directors slate for membership consideration:
  - President-Elect: Amy Miles
  - Secretary: Erin Spargo
  - Director: Fiona Couper
  - Director: Phil Kemp
  - Director: Andre Sukta

n. Oral Fluid

Christine Moore/Curt Harper

- i. This Committee an Ad Hoc Committee through both SOFT and AAFS. There have been number workshops in the last year including one during the annual SOFT meeting. The SOFT Con Ed workshop in Dallas, TX and a presentation during the DRE DAID conference also occurred. The Committee sent out a survey to the membership to gauge testing in the forensic laboratories for oral fluid and is pleased to see more labs validating oral fluid testing methods.

o. ToxTalk

Robert Johnson/Chris Heartsill

- i. Thank you to CC Watson for organizing the publication, without her support the work would not be possible. Members are encouraged to contact the ToxTalk Editors and/or Watson to provide content to the publication.

p. Young Forensic Toxicologists

Kim Samano

- i. Sunday the Committee held a Symposium with the Professional Development Fair and Mentoring Task Group. The Student Enrichment Program was early in the week of the annual meeting and there were 16 students this year. The Committee also provides the reviews for the Del Cortivo Award and has been working on this throughout the week.

q. CFSO Liaison

Tim Rohrig

- i. The group lobbied against matching funds for the Coverdell grant and requested increased funding. The group gave a presentation at the American Bar Association meeting to provide information on forensic science. The CFSO and OSAC are working together to find a path forward for OSAC.

r. FSSB Liaison

Laurel Farrell

- i. The Toxicology Subcommittee OSAC volunteers were acknowledged for their hard work and commitment to forensic toxicology.

9. Announcements

Dwain Fuller

- a. MATT – 4/22-4/24/2020 co-host with SAT in Kansas City, MO
- b. AAFS – 2/17-2/22/2020, Anaheim, CA. Theme is “Crossing Borders” with 2 toxicology related workshops on the slate. Members are encouraged to join AAFS Toxicology Section and, if applicable, promote up through the membership statuses.
- c. TIAFT – 10/31-11/5/ 2020 in Cape Town, Africa
- d. CAT – 11/4-11/5/2020, Oxnard, CA. Spring meeting will be held in San Francisco
- e. MSACL – 3/29-4/2/2020, Palm Springs, CA
- f. IACT – 4/24/2020 week in Tuscon, AZ.

10. Unfinished Business

Dwain Fuller

- i. NONE

11. New Business

- Bylaws Revision

Dwain Fuller

- o Motion to approve the revision to the Bylaws to reinstate the Retirement Membership status:  
So moved, Second, All

12. Elections

Dwain Fuller

- a. Amy Miles – President- Elect

# 2019 Annual Business Meeting Minutes

- i. Motion to approve: So moved, Second, All
- b. Erin Spargo - Secretary
  - i. Motion to approve: So moved, Second, All
- c. Fiona Couper – Director
  - i. Motion to approve: So moved, Second, All
- d. Phil Kemp – Director
  - i. Motion to approve: So moved, Second, All
- e. Andre Sukta – Director
  - i. Motion to approve: So moved, Second, All

## 13. Recognition of Outgoing Officers

Dwain Fuller/Suman Rana

- a. Outgoing Officers:
  - i. Past-President Peace
  - ii. President-Elect Rana
  - iii. Secretary Miles
  - iv. Director Team

## 14. Incoming President's Remarks

Suman Rana

- a. Rana recognized President Fuller's work, support and friendship not only during his year as President but throughout his time in SOFT. Rana is extremely honored to become the President of SOFT for 2020 and remarked on the first meeting of SOFT in 1970 and how she is the 46<sup>th</sup> President in the 46<sup>th</sup> year of her life. Rana reflected on her life and career and those that have mentored and assisted Rana during her career were recognized. Rana's reflection included thoughts of the community of SOFT and specific individuals were mentioned as mentors and supporters through the years. Rana thanked the hard work and support of the SOFT Office, Beth Olson and CC Watson. In the coming year Rana will work to support the Mentoring Working Group and other initiatives laid out by the Board. An individual for the vacant Counselor position has been chosen and will be filled by Mick Smith. The next Editor of JAT Special Edition has been appointed and it will be Luke Rodda. Rana thanked the organization again for the opportunity to serve as President in 2020.

## 15. Meeting registration for the 2020 annual meeting winner: Susan Bybee

## 16. Adjournment

Dwain Fuller

- a. Motion to adjourn (at 4:50 pm CST): So moved, Second, All

# Treasurer Report



Robert Sears, M.S., F-ABFT  
SOFT Treasurer 2019-2020  
SC Law Enforcement Div.  
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As I begin my second year as SOFT Treasurer, I would like to take a moment to thank the SOFT membership for this opportunity to serve our organization. I look forward to a continuing to work with the Finance Committee and the Board to search for ways to strengthen SOFT's financial position.

The Finance Committee made up of myself, Suman Rana, Michelle Peace, Jennifer Limoges, Laurel Farrell, Joe Saady and Bill Johnson, continues to refine our process and documentation of quarterly reviews. **Accomplishments for 2019 include:**

- The SOFT Board of Directors approved a proposal for a new investment strategy that will begin putting our money to work for us.
- Consolidated all accounts at one financial institution
- Negotiated for reduced credit card processing fees
- Closed SOFT office in November resulting in a projected savings of approximately \$2,000 per month

As we begin 2020, SOFT remains in a strong financial position. As of February 7, 2020, SOFT's bank accounts total \$1,036,742.28

## Revenue

### Annual Meeting

2019 Meeting revenue was slightly better than expected due to an increased number of attendee registrations and increased workshop attendance.

### Continuing Education

The Continuing Education Committee has continued to meet the need for high quality regional workshops offering two in 2019.

### Net Revenue

Our previously approved budget for 2019 included a projected loss of \$18,561. Through the diligent work of our meeting hosts, workshop chairs, SOFT Board and the entire SOFT family, SOFT finished 2019 with a positive cash flow.

## Expense

### Office

As previously mentioned, the physical office has been closed thus resulting in a significant savings to the organization (approximately \$2,000 per month). This savings will be reflected in the proposed 2020 organizational budget.

## Administrative Expenses

The administrative expenses line is primarily used for JAT subscriptions for SOFT members (approximately \$45,000 per year). The rest of this category includes expenses related to computer maintenance, software subscriptions, and professional development for staff.

## Budget

The Board is currently preparing the 2020 organizational budget and will meet during the upcoming AAFS meeting for further discussion. The budget projections will take into account the significant cost of hosting our annual meeting in San Diego.

For your convenience, a copy of SOFT's 2019 budget vs actual is below. **If you have any questions, please do not hesitate to contact me.** Thank you for the opportunity to serve SOFT.

Budget vs. Actuals: FY2019 Budget		
REVENUE		
	Actual	Budget
Membership Dues	\$140,040	\$140,000
Annual Meeting Revenue	\$1,172,121	\$1,167,379
Continuing Education	\$12,585	\$10,000
Merchandise	\$1,292	\$3,000
Contributions	\$3,527	\$2,700
Interest	\$1,428	\$750
<b>Total Revenue</b>	<b>\$1,330,993</b>	<b>\$1,323,829</b>
EXPENDITURES		
	Actual	Budget
Payroll	\$139,198	\$136,250
Occupancy	\$23,310	\$28,000
Office	\$1,941	\$1,800
Administrative Expenses	\$53,731	\$55,000
Insurance	\$7,812	\$8,000
Merchandise Expense	\$0	\$500
Annual Meeting Expense	\$986,666	\$1,030,990
Board and Committees	\$47,776	\$46,000
Legal & Professional Fees	\$6,330	\$10,850
Membership	\$15,000	\$10,000
Awards	\$8,000	\$8,000
Meals & Entertainment	\$35	\$0
Appreciation Gifts	\$326	\$1,000
Bank Charges	\$5,981	\$6,000
<b>Total Expenditures</b>	<b>\$1,296,107</b>	<b>\$1,342,390</b>
<b>Net Revenue</b>	<b>\$34,887</b>	<b>(\$18,561)</b>

# Responsibility.org recognizes Dr. Curt Harper



Erin Holmes, Responsibility.org Vice President of Criminal Justice Programs & Policy, presents Dr. Curt Harper (ADFS) with the 2019 Kevin E. Quinlan Award for Excellence in Traffic Safety in Washington, DC.

Each year, [Responsibility.org](https://responsibility.org) recognizes leaders and agents of change who, through their work, have made a significant contribution to the field. The Kevin E. Quinlan Award for Excellence in Traffic Safety is the highest honor the organization bestows, and it is reserved for individuals who have demonstrated both commitment and passion for reducing impaired driving and saving lives. Recipients of this award strive to make roadways and communities safer through their innovative approaches to developing programming, improving practice, or advocating for policy change. These dedicated individuals are leading the way in our shared mission of eliminating impaired driving and Responsibility.org acknowledges and celebrates their life-saving work.

Among Responsibility.org's 2019 honorees is Dr. Curt E. Harper, a nationally recognized forensic toxicologist and leader in the area of impaired driving. Dr. Harper was appointed Toxicology Discipline Chief for the [Alabama Department of Forensic Sciences](https://www.adfs.alabama.gov/) (ADFS) in 2012 and continues to serve in this role where he is responsible for overseeing technical operations, method development and validation, and the quality assurance/control program.

He also manages productivity, serves as training coordinator, and develops and maintains standard operating procedures. Dr. Harper holds board certification as a Fellow of the American Board of Forensic Toxicology and participates as an active member of the Society of Forensic Toxicologists (SOFT) where he co-chairs the [Drugs and Driving Committee](#). Over the course of the past decade, he has testified on the effects of alcohol and other drugs in over 175 criminal and civil cases and he routinely serves as faculty and as an expert resource for many organizations.

Dr. Harper brings a unique perspective to the field of toxicology due to his background in law enforcement. In addition to his current role, Curt also serves as an Alabama Peace Officer and he has been certified as a Drug Recognition Expert (DRE) since 2015. He acts as a member of the Alabama Impaired Driving Prevention Council to inform DUI/D initiatives in his state and offer guidance on ways to strengthen practice and address challenges.

In recent years, Dr. Harper has merged his experience in both toxicology and law enforcement to advance strategies to identify drug and polysubstance-impaired drivers. His willingness to innovate has placed Alabama at the forefront of drug detection in impaired driving investigations and other jurisdictions are now positioned to learn from Alabama's experience to inform their own efforts. Curt was responsible for instituting and overseeing a multi-year [oral fluid](#) pilot program to validate the use of oral fluid screening in the field by trained law enforcement officers as well as oral fluid confirmation testing at ADFS. Upon analysis of data from the pilot, it was found that the use of roadside oral fluid screening combined with either blood or oral fluid confirmation testing can improve impaired driving investigations and lead to the identification of more drug and polysubstance-im-

paired drivers. Following the successful pilot study, Alabama became the first state to transition to a [permanent oral fluid program](#). ADFS opted to create a program that utilizes both oral fluid screening at roadside and evidentiary confirmation testing using a separate oral fluid sample.

As every state continues to grapple with the complex problem of drug-impaired driving, Alabama now has an established testing protocol that can serve as a benchmark. On account of Dr. Harper's leadership, vision, and willingness to blaze trails, more impaired drivers will be removed from the roadways and the criminal justice system will have key information about drug use to assist in the adjudication process and better inform sentencing, supervision, and treatment decisions. For these reasons and many more, Dr. Harper embodies the spirit of the Kevin E. Quinlan Award and Responsibility.org asks that you join us in recognizing the sizable impact that Dr. Harper has made and will continue to have in the fields of traffic safety and criminal justice. Congratulations, Curt!

*Congratulations, Curt!  
We are proud to have  
you as a member of  
SOFT and we thank you  
for your commitment to  
our field.*

# SOFT Hosts First Mentoring Breakfast at AAFS!



# Continuing Education Opportunities



This 1-day, 8-hour course aims to make scientists familiar with the issues surrounding various classes of drugs and their role in forensic toxicology scenarios. Current drug use trends in the United States will be discussed, along with drug pharmacology, analytical recommendations, and issues within forensic sciences. It is presented at the intermediate to advanced level and is ideal for attendees that wish to gain more advanced knowledge about forensic toxicology analytes.

	Early Bird Deadline Jan 31, 2020	Regular Deadline Feb 19, 2020	After Feb 19, 2020
Student / Post-Doc (Trainee)	\$40	\$48	\$75
Academic / Non-Profit	\$120	\$144	\$200
Commercial / Industry	\$250	\$300	\$350

*\*Short Course Registration is separate from Conference Registration.*

**REGISTER HERE**

Holiday Inn Golden Gateway  
1500 Van Ness Avenue  
San Francisco, CA 94109

## ORAL FLUID WORKSHOP

April 29, 2020  
San Francisco, CA

**ABSTRACT:**  
This 8-hour SOFT Continuing Education Regional Workshop will focus on the use of oral fluid testing to support driving while under the influence of drugs (DUID) investigations. Both roadside and lab based evidential testing will be discussed. The training is designed for toxicologists, law enforcement, attorneys, and other traffic safety partners to successfully investigate and prosecute DUID in their communities.

**INSTRUCTORS:**  
 Dr. Luke Rodda  
Chief Toxicologist, Director  
San Francisco Office of the Chief Medical Examiner  
  
 Dr. Jochen Beyer  
Head of Forensic Toxicology  
Institute of Forensic Medicine St. Gallen  
  
 Dr. Barry Logan  
Chief of Forensic ToxicologyNMS Labs  
  
 Amy Miles  
Forensic Toxicology Section Director  
Wisconsin State Laboratory of Hygiene

**LEARNING OBJECTIVES:**  
 1. Be knowledgeable on the current state of oral fluid testing  
 2. Understand the role of the DRE in the DUID investigation  
 3. Be better prepared for courtroom testimony  
 4. Be aware of testing recommendations in DUID cases



**REGISTER HERE  
FOR THE ORAL FLUID  
WORKSHOP!**

**Workshop Chairs:**  
  
 Dr. Luke Rodda  
luke.rodde@sfgov.org  
  
 Sue Pearring  
sue.pearring@sfgov.org

**Cost:**  
 SOFT Members: \$75  
 Students with ID: \$75  
 Non SOFT Members: \$125

# High Etizolam Concentrations Reported in Drivers

Submitted by: Michelle Duffus, D-ABFT, Elizabeth Smalley, MS  
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ESmalley@mt.gov - MDuffus@mt.gov

## Introduction

Designer benzodiazepines are a growing trend that can be seen in forensic laboratories across the country. Since 2017 etizolam has continually made the Drug Enforcement Agency's "Emerging Drug Threats" report (1) and in 2015 etizolam emerged in the American Association of Poison Control Center data. (2)

Benzodiazepines are commonly prescribed as an anti-anxiety, anticonvulsant, or muscle relaxant. Etizolam is a thienodiazepine which is structurally related to benzodiazepines and has similar signs/symptoms to benzodiazepine drugs. For clinical uses, etizolam has been prescribed as a sedative-hypnotic. (3) Etizolam is not currently prescribed in the United States or Europe but can be purchased online as a "research chemical" and is used in other countries, such as Japan, Korea, and Italy. (4)

There are few reports of whole blood etizolam concentrations in fatalities and drivers. Polydrug use is common with etizolam, further complicating drug level interpretation (toxic, lethal). Two fatalities were reported where etizolam was the only drug detected, with concentrations of 263.7 ng/mL and 25.8 ng/mL. (4) Another study found polydrug deaths with etizolam concentrations of 351 ng/mL and 16 ng/mL (5).

The following are a selection from the Montana State Crime Laboratory driving under the influence of drugs (DUID) cases involving high levels of etizolam and their case histories. The etizolam concentrations were reported using validated confirmation and quantitative methods for etizolam following the SWGTOX guidelines at the Montana State Crime Laboratory.

## Case Histories

Case 1: A 43-year-old male driver was found crashed into a telephone pole and tree. Upon contact with the subject, the arresting officer observed the man staring into space and appearing very sleepy. The officer also noted that the subject swayed back and forth, had slow, slurred speech, and was slow to respond to questions. During the arrest process a syringe and bottle containing a clear liquid was found on the subject. The bottle was labeled as "Etizolam" and specified "for research use only". When the subject was asked his date of birth, he gave it correctly, but then incorrectly stated his age by 8 years.

The driver had difficulty with divided

attention tasks, as shown by his performance on the Standardized Field Sobriety Tests (SFSTs). During the instruction phase of the Walk and Turn (WAT) test the subject both lost his balance and started too soon. During the walking portion of the test the subject took eleven steps instead of nine, stepped off the line, missed heel to toe, stopped walking, and did not perform the turn as instructed. The arresting officer also noted that the subject failed to count out loud during the test. Throughout the One Leg Stand (OLS) test the subject continued to put his foot down, used his arms for balance, and failed to finish the test. The driver also displayed all six clues of the Horizontal Gaze Nystagmus (HGN) test.

The subject was arrested for 1<sup>st</sup> offense DUI and Possession of Dangerous Drugs. Preliminary Breath Test (PBT) showed no alcohol. Blood was collected from the subject and submitted for drug testing to the Montana State Crime Laboratory. Only etizolam was found at a concentration of 495 ng/mL.

Case 2: A 26-year-old male driver was called into police by private citizens who witnessed poor driving behavior. They described the driver as driving all over the roadway, not maintaining lane position, striking a curb, and stopping for no reason in the roadway. The callers later witnessed the driver gradually drive off the road and into an irrigation ditch. The witnesses then checked on the wellbeing of the driver and suspected that something was wrong with him because he was unable to speak clearly.

Once the arresting officer arrived on scene, he noted the subject had slurred, slow, and at times difficult to understand speech. The officer conducted SFSTs with the driver. He saw four clues during the HGN test and observed the driver's inability to converge his eyes during the Lack of Convergence exercise. During the eye tests the driver had to be directed on the instructions multiple times and would not follow the stimulus without prompting. The officer also notice that the subject had bloodshot and glassy eyes. Before completing the walking portion of the SFSTs, the driver attempted to tie his own shoe and nearly fell forward. He then thought that his shoe was tied, when he had not done so. During the instruction phase of the WAT test, the subject was unable to maintain his balance and was unable to understand the officer's instructions in order to perform the test. Due to those factors, the WAT was not adminis-

tered. During the OLS test the subject put his foot down multiple times and swayed. The officer noted that the driver did not keep his hands at his sides nor have his foot at the proper height for the exam.

During the arrest a glass dropper bottle was found on his person that the subject indicated was for candle-like incense.

The subject was arrested for 3<sup>rd</sup> offense DUI and a blood sample was sent to the Montana State Crime Laboratory for drug and alcohol testing. No Alcohol was detected, but mirtazapine (0.067 mg/L) and etizolam were found in the subject's blood sample. Etizolam was found at a concentration of 636 ng/mL.

Case 3: A 19-year-old male driver was involved in a multi-car crash. The arresting officer noticed the subject had very delayed responses and was lethargic. In the field, the arresting officer conducted the HGN test and saw four out of six clues before the driver failed to complete the remainder of the test.

During the instruction phase of the WAT test the subject could not keep his balance. While performing the WAT the driver stopped walking, stepped off the line, raised his arms for balance, took nine steps down the line but ten steps back, and failed to do the turn as instructed. During the OLS test the driver put his foot down, swayed from side to side, hopped on one foot, and raised his arms for balance. The subject was also asked to recite the alphabet and was unable to do so correctly.

When the arresting officer looked into the driver's history, he found that the subject had been in other motor vehicle crashes, gone to the emergency room for uncontrolled convulsions, and had previously admitted to ordering drugs off the internet.

During the investigation the driver took a PBT, and the results were negative for alcohol. The subject was charged with a DUI and a blood sample was submitted to the Montana State Crime Laboratory for drug testing. The subject's blood sample was found to contain amphetamine (0.049 mg/L), mirtragynine (not quantitated), THC (1.2 ng/mL), THC-COOH (29 ng/mL), and etizolam at a concentration of 618 ng/mL.

## Summary

In summary, these three cases show high levels of etizolam in DUI drivers and



# High Etizolam Concentrations Reported in Drivers

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reported behaviors. When compared to the current literature for drug fatalities, these values of etizolam are all above the referenced concentrations.

## References

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- (2) J. Mowry, D. Spyker, D. Brooks, A. Zimmerman, J. Schauben, 2015 Annual Report of American Association of Poison Control Centers' National Poison Data System: 33<sup>rd</sup> Annual Report, Clinical Toxicology 1556-3650 (2016)
- (3) R. Baselt, Disposition of Toxic Drugs and Chemicals in Man, Eleventh Edition, 848-849 (2017)
- (4) T. Nakamae, (et. al.) T. Shinozuka, C. Sasaki, A. Ogamo, C. Murakami-Hashimoto, W. Irie, M. Tereda, S. Nakamura, M. Furukawa, K. Kurihara, Case Report: Etizolam and its major metabolites in two unnatural death cases, Forensic Science International 182 (2008)
- (5) C. Miller, J. Lintemoot, T. Montero, D. Anderson, Etizolam: There's a new Benzodiazepine in Town, Presented at the Annual meeting of the Society of Forensic Toxicologists (2014)

## Summary Table

Information	Case		
	1	2	3
<b>Gender/Age</b>	M/43	M/26	M/19
<b>Reason for stop</b>	Crash - tree and telephone pole	Crash - ditch	Crash - multi-vehicle
<b>HGN</b>	6/6	4/6	4/6
<b>WAT</b>	8/8	unable to complete	7/8
<b>OLS</b>	3/4	2/4	4/4
<b>Notes</b>	Slow, slurred speech	Slow, slurred, difficult to understand speech	Lethargic
	Glassy eyes	Bloodshot/glassy eyes	Eyes not noted
	Slow response time	Slow response time	Slow response time
	Sways, puts foot down on OLS	Sways, puts foot down on OLS	Sways, puts foot down on OLS
	Gave incorrect age, but correct birthdate	Difficulty tying shoe	Recited alphabet incorrectly

# ERA AND YSMA APPLICATIONS ARE DUE FRIDAY APRIL 3rd, 2020!

The SOFT Awards Committee is requesting applications for the Educational Research Award (ERA) and the Young Scientist Meeting Award (YSMA). These awards recognize students and young scientists performing outstanding forensic toxicology research. Awardees will present their findings at the annual meeting. Each award consists of a basic meeting registration and a \$2000 stipend to be used to cover the cost of travel expenses.

## **Eligibility:**

**ERA:** Applicants for the award must be enrolled in a Master's, Pre-Doctoral, Post-Doctoral or Medical Residency academic program and performing research related to forensic toxicology.

**YSMA:** Applicants must be bench level scientists (B.S., M.S., or Ph.D.) with 5 years or less experience in the field of forensic toxicology and complete a research project related to forensic toxicology.

## **Award Categories:**

In order to fairly evaluate candidates for these competitive awards, applicants in a master's program will be judged separately from those applicants enrolled in a PhD, Post-Doctoral, or MD program. Typically one award will be granted in each of the following categories:

\*Educational Research Award: enrolled in a Master's Program

\*Educational Research Award: enrolled in a Pre-Doctoral, Post-Doctoral, or Medical Residency Program

\*Young Scientist Meeting Award

In the event that there are two outstanding applicants in one of the above categories, one additional award may be given. A maximum of four award winners will be selected. It is not required that an award be granted in all categories.

## **To apply:**

For instructions on the application process, go to the 'Features' tab on the SOFT website. Select Awards and then ERA or YSMA, as applicable. Application materials must be received by the Committee Chair no later than Friday April 5<sup>th</sup>. Winners will be notified by June 1<sup>st</sup>.

If you apply for an award, you should not submit an abstract for consideration in the scientific program via the SOFT website; in the event that you are not selected to receive an award, the committee will ensure that your abstract is provided to the Scientific Committee.

**Applications and questions regarding the application process should be directed to the SOFT Awards Committee Chair, Erin Spargo, at [erin.spargo@dallascounty.org](mailto:erin.spargo@dallascounty.org).**

**We received so many excellent applicants last year and were not able to award all deserving candidates. We greatly encourage those of you that may not have been selected previously to apply again this year with your current research!**

**CLICK HERE TO APPLY FOR ERA**

**Submission Deadline is April 3, 2020!**

**CLICK HERE TO APPLY FOR YSMA**

**Submission Deadline is April 3, 2020!**

## **Awards Committee Chair**

Erin A. Spargo, Ph.D., F-ABFT  
[erin.spargo@dallascounty.org](mailto:erin.spargo@dallascounty.org)

## **Committee Members:**

Erin Karschner, Ph.D.

Dani Mata, M.S.

Jason Hudson, Ph.D.

Mary Jones, B.S.

Bill Johnson, D-ABFT-FT

Lauren Marinetti, Ph.D.

AWARDS COMMITTEE

# Difluoroethane Exposure

Submitted by: Nicholas B. Tiscione, M.S., D-ABFT-FT  
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## Background/Introduction:

1,1-Difluoroethane (DFE, HFC-152a, Freon® 152) is a hydrofluorocarbon commonly used as a propellant in air duster products and is also a refrigerant, although it is not commonly used for that purpose. DFE is a volatile compound that can cause central nervous system (CNS) depression and related impairment to human performance. Onset of CNS effects is within seconds (1-4) and the duration may only last minutes (1-8). With heavy use or in combination with other CNS depressants extended periods of drowsiness or loss of consciousness may occur (1,5). In a series of 16 impaired driving case reports involving DFE, 81% involved a traffic crash and impairing effects noted included confusion, lethargy, impaired judgement, loss of motor coordination, and loss of consciousness (5). Three case reports involving impaired driving in which DFE was the only impairing compound identified or indicated, but not confirmed, noted little to no effects immediately after a collision preceded by erratic driving (See Table I) (5). In one reported traffic fatality a surviving passenger described the driver to inhale air duster containing DFE while driving followed by erratic driving at a high rate of speed, loss of control of the vehicle and final impact with a telephone pole (9).

Limited studies have been published describing the pharmacokinetics of DFE, however they indicate a short window of detection after occupational exposure or abuse (4,10). In a controlled study of occupational exposure to DFE in humans the average peak concentrations reached were only 2.3 µg/mL after two hours of sustained exposure at the higher exposure condition of 1000 ppm (10). Elimination was observed to have two phases, and after the initial rapid phase concentrations dropped to below 0.7 µg/mL after approximately 12 minutes. During the slower phase the concentration dropped to below approximately 0.0007 µg/mL by 22 hours after expo-

sure (10).

In an animal study with rats, dosages designed to mimic abuse were used and the average blood peak concentration was 352 µg/mL (4). Signs of intoxication were observable within 20 seconds and included lethargy, prostration, and loss of righting reflex (4). At 4 minutes post-dose average blood concentrations dropped to 21 µg/mL and less significant signs of sedation were observed until 8 minutes (4). After 8 minutes blood levels dropped further to 10 µg/mL and no discernable signs were observed (4).

DFE has been identified in postmortem cases from 0.14 to 460 µg/mL and in impaired driving cases from 0.16 to 140 µg/mL (6,7). DFE has been detected in impaired driving cases up to 2.5 hours after the crash or traffic stop, at or above approximately 2.6 µg/mL (5). In impaired driving case reports with sufficient case history, DFE has been detected in blood specimens up to approximately 3 hours after indicated use (5-8, 11). DFE is lipophilic and it has been theorized that it may accumulate in adipose tissue of chronic users (12). This may result in slower elimination rates and longer lasting effects when compared to acute users (4).

Given the research that has been conducted for DFE it does not seem plausible that occupational type exposure would lead to detectable levels of DFE in blood (above ~2.6 µg/mL) several hours after exposure.

## Objective:

To study the plausibility of detecting DFE in blood (above ~2.6 µg/mL) several hours after an extreme occupational exposure scenario.

## Method:

A 40 year-old, 150 lb, male volunteer discharged air duster products containing DFE while inside a confined space of a 2006 Ford F-150 Extended Cab pickup truck. The author was the volunteer. In the United States institutional review board approval

is not explicitly required for scientific self-experiments (13). All windows and doors were closed and the engine and ventilation system were not engaged. Two canisters were discharged in an alternating fashion using short bursts for a period of 15 minutes until the canisters became inoperable due to freezing over. Canister discharge was observed for safety and objectivity. Canister 1 was a 10 oz. (283g) net weight Dust-Off brand air duster. Canister 2 was a 7 oz. (198g) net weight Dust-Off brand air duster.

Standardized Field Sobriety Tasks (SFSTs) were conducted by a DRE officer approximately 70 minutes after exposure. A whole blood specimen was collected approximately 3 hours and 20 minutes after exposure. Urine specimens were collected at approximately 85 minutes and 4 hours after exposure. The blood and urine specimens were analyzed by headspace gas chromatography with simultaneous flame ionization and mass spectrometric detection using a previously described method with a limit of detection of approximately 2.6 µg/mL (11). Standards prepared at 44 µg/mL and the limit of detection (dilution of the 44 µg/mL control to 2.2 µg/mL), air blanks and an internal standard blank were analyzed along with the collected specimens.

## Results:

Approximately 162g of the 283g (57%) in canister 1 and 113g of the 198g (57%) in canister 2 was used during the 15 minutes exposure.

The volunteer described a slight feeling of being light-headed and throat irritation immediately after the exposure period, but no other signs or symptoms. The SFSTs did not result in any observations of impairment or observable clues.

DFE was not identified in the blood specimen or either urine specimen collected. The urine specimen collected 85 minutes after exposure did show an indication of the presence of DFE,

# Difluoroethane Exposure

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but with a weak response that was below the limit of detection of the method and could not be identified (See Figures 1-4).

## Conclusion:

DFE is a central nervous system depressant that, when abused, can cause impairment to faculties required for the safe operation of a motor vehicle. Driving cases in which DFE is detected often involve collisions (5, 8, 9, 11, 14-16). Occupational exposure, even under extreme conditions, did not result in detectable levels (above ~2.6 µg/mL) in blood collected 3.3 hours after exposure or urine collected 1.4 and 4 hours after exposure.

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# Difluoroethane Exposure

Submitted by: Nicholas B. Tiscione, M.S., D-ABFT-FT  
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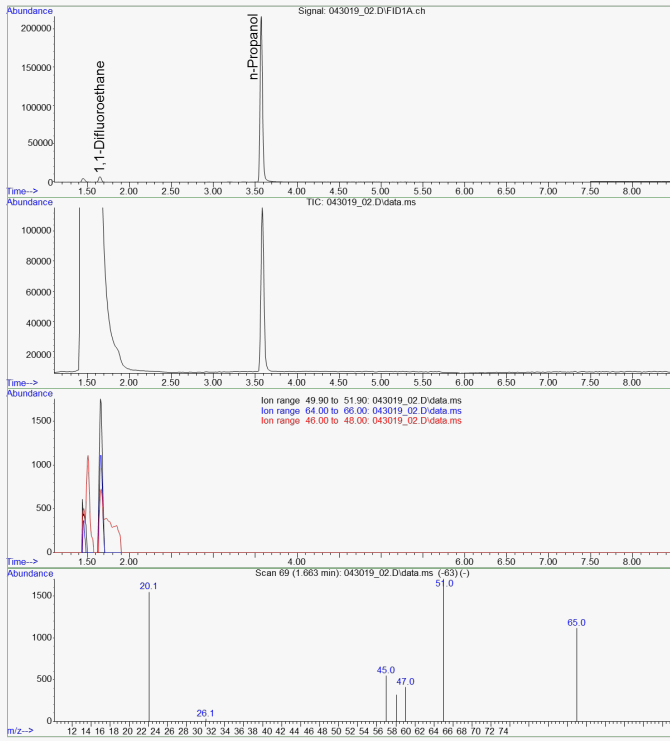


Figure 1: Data from a 2.2 µg/mL control: Top, FID; Middle, TIC and EIC; Bottom, Subtracted scan spectra

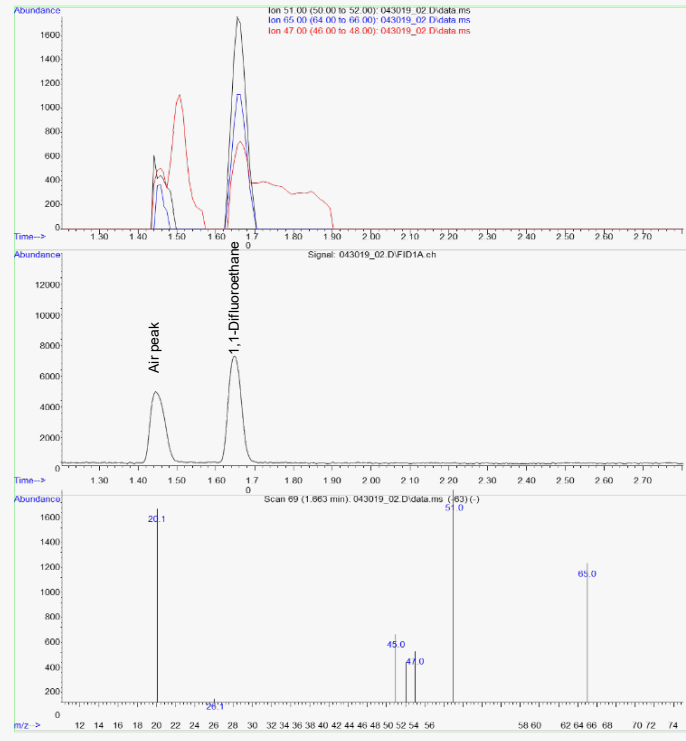


Figure 2: Data from a 2.2 µg/mL control (zoomed): Top, EIC; Middle, FID; Bottom, Subtracted scan spectra

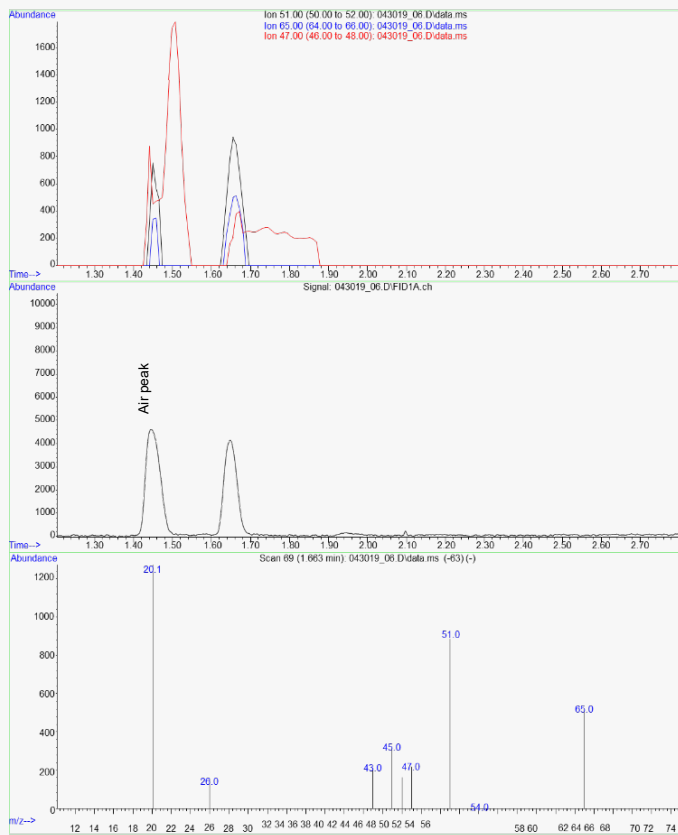


Figure 3: Data from a urine specimen (zoomed) collected 85 minutes after exposure: Top, EIC; Middle, FID; Bottom, Subtracted scan spectra

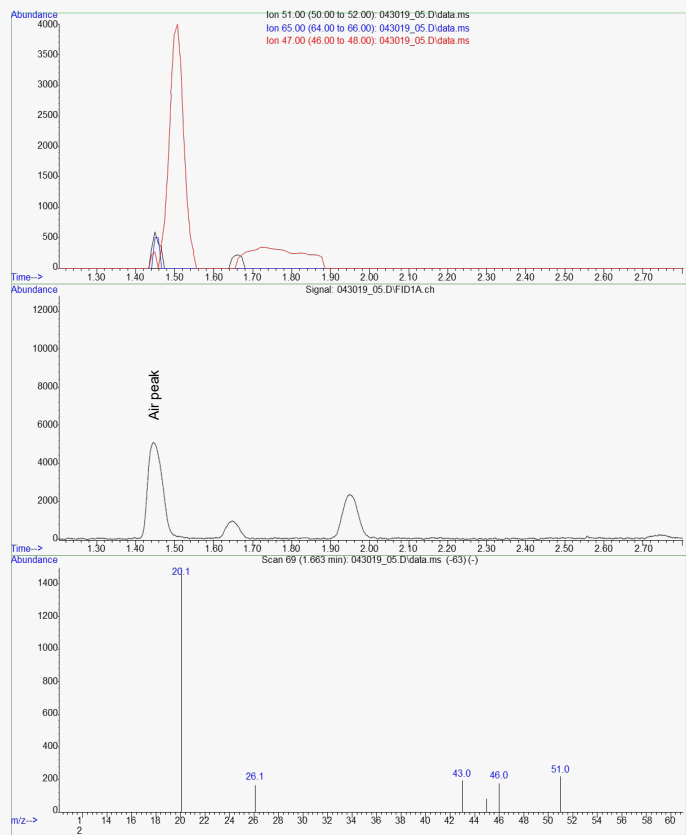


Figure 4: Data from a blood specimen (zoomed) collected 3.3 hours after exposure: Top, EIC; Middle, FID; Bottom, Subtracted scan spectra

# Difluoroethane Exposure

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Table I. Case history and Toxicology Testing Results of 3 Impaired Driving Cases involving 1,1-Difluoroethane

Case History	Toxicology Analysis Results*
Case 1	1,1-Difluoroethane (qualitative)
Case 2	1,1-Difluoroethane (qualitative)
Case 3	Weak 1,1-Difluoroethane (not confirmed) Citalopram (qualitative)

\*Toxicology Analysis included volatile and drug testing as described previously in Tiscione, N.B., Miller, R., Shan, X., Yeatman, D.T. (2017) Cost/Benefit Analysis of Case Management Policies in a DUI Lab. *Journal of Analytical Toxicology*, **41**, 530-535.

## Clinical Toxicology (Philadelphia)

Volume 58

DOI: 10.1080/15563650.2019.1613548

### Fentanyl and Fentanyl Analog-Related Deaths Across Five Counties in Central New York Between 2013 and 2017

Vohra *et al.* analyzed all unintentional drug deaths across five counties in New York during the time frame 1/1/2013 to 12/17/2017. A total of 417 deaths involved fentanyl and/or fentanyl analogs during the studied time period. Each successive year, deaths involving these compounds increased: 2013 (10 deaths), 2014 (23 deaths), 2015 (51 deaths), 2016 (149 deaths), and 2017 (184 deaths). Fentanyl analogs appeared in casework starting with acetylfentanyl in 2015. Fluorobutyrylfentanyl and furanylfentanyl appeared in 2016. Cyclopropylfentanyl and methoxacetylfentanyl emerged in 2017. Interestingly, the authors also reported that the number of cases in which heroin was co-detected with fentanyl or an analog rose to 77 cases in 2016, but decreased to 35 cases in 2017. The authors conclude that the significant increase in deaths associated with fentanyl or analogs in central New York is congruent with national trends and is a public health crisis.

## Journal of Forensic Sciences

Volume 65

DOI: 10.1111/1556-4029.14098

### Forty-Three Fatalities Involving the Synthetic Cannabinoid, 5-Fluoro-ADB: Forensic Pathology and Toxicology Implications

Boland *et al.* reported a series of 43 deaths which involved the synthetic cannabinoid 5-fluoro-ADB or 5F-ADB. They analyzed for both the parent drug and the ester hydrolysis metabolite, 5-fluoro-ADB butanoic acid. In all cases, central blood concentrations were 0.01-2.2 ng/mL (mean, 0.34 ng/mL) for 5F-ADB and 2.0-166 ng/mL (mean, 41 ng/mL) for 5F-ADB butanoic acid metabolite. Peripheral blood concentrations were 0.01-0.77 ng/mL (mean, 0.15 ng/mL) for 5F-ADB and 2.0-110 ng/mL (mean, 21 ng/mL) for 5F-ADB butanoic acid me-

tabolite. Postmortem redistribution was observed in a large number of cases. Findings at autopsy included increased cardiac weight and gastric volume. All decedents were men and were 20-68 years old (mean, 48 years). The authors concluded that the use of 5F-ADB may precipitate a cardiac dysrhythmia and lead to sudden death.

## Clinical Toxicology (Philadelphia)

Volume 58

DOI: 10.1080/15563650.2019.1591432

### Analytically Confirmed 4-Methyl-N-Ethyl-norpentedrone (4-MEAP), a Synthetic Cathinone, in Cases Presenting to an Emergency Department

In this letter to the editor, Weng *et al.* present a series of 10 cases where people presented to the emergency department in Taiwan and the cathinone, 4-methyl-N-ethylnorpentedrone or 4-MEAP, was detected in urine samples. LC-MS/MS was used to analyze urine specimen. A total of 758 urine specimens were included in the study with 10 patients having positive results for 4-MEAP. 90% of the 4-MEAP positive patients were men and ranged in age 17-31 years (mean, 22.2 years). Observed behavior included delirium, violent behavior, and hallucinations. Rhabdomyolysis and acute kidney failure were observed in two patients. 4-MEAP urine concentrations ranged 1.1-2,296 ng/mL. In all ten cases, 4-MEAP was not the sole substance detected in urine – other compounds included (but were not limited to) ketamine, nimetazepam, 4-chloroethcathione, 4-chloromethacthinone, methylone, mephedrone, and ethylone.

## Forensic Toxicology

Volume 38

DOI: 10.1007/s11419-019-00492-z

### Attempt of Scopolamine-Facilitated Robbery: An Original Case of Poisoning by Inhalation Confirmed by LC-MS/MS and Review of the Literature

Dufayet *et al.* report a scopolamine-related robbery case which happened in Paris, France in 2017. A 58 year old man

became agitated and incoherent just prior to meeting his sister for dinner. He lost consciousness. Emergency personnel observed bilateral mydriasis, hypertension, clonic movements, and tachycardia. He was admitted to the hospital with a Glasgow coma scale score of 13/15. He regained consciousness after 5 hours and was discharged after 24 hours. Blood and urine were analyzed and scopolamine was detected in both matrices (blood, 7 ng/mL; urine, 510 ng/mL). Upon further investigation, the man explained that while he was waiting for his sister on the street, an unknown man blew a powder contained within a cloth in his face. The man inhaled the powder. The man had no other recollection of what occurred until he became conscious in the hospital.

## Forensic Toxicology

Volume 38

DOI: 10.1007/s11419-019-00501-1

### Identification of the Designer Benzodiazepine 8-chloro-6-(2-fluorophenyl)-1-methyl-4H-[1,2,4]triazolo[4,3-a][1,4]benzodiazepine (flualprazolam) in an Anesthesia Robbery Case

Qian *et al.* report flualprazolam-related robbery case which happened in China in 2017. A 21 year old woman reported to authorities after she experienced dizziness after drinking tea the previous night. She woke up several hours later in a hotel room – her wallet and cell phone were stolen. The police arrested the suspect a few days later. Two bottle of unlabeled liquid were found in his home. He made a statement to police that he added some of the liquid to the woman's drink. The liquid was analyzed by LC-QToF, GC-MS, and NMR. Flualprazolam was detected in the liquid

## Forensic Toxicology

Article in Press

DOI:10.1007/s11419-019-00518-6

### Evaluation of 4-fluoroisobutyrylfentanyl in Blood Samples from 247 Authentic Cases Submitted to the New York City Office of the Chief Medical Examiner in 2017-2018

In this report from Pardi et al., a series of 247 cases was presented in which the fentanyl analog 4-fluoroisobutyrylfentanyl (4-FIBF) was detected in postmortem toxicology in the New York City Office of the Chief Medical Examiner during 2017-2018. Analysis for 4-FIBF, along with a multitude of other fentanyl analogs and designer opioids, was completed by

solid phase extraction and a quantitative LC-MS/MS method. Postmortem blood concentrations of 4-FIBF ranged <0.1-331 ng/mL. In the vast majority of cases (76%), femoral blood was analyzed. 4-FIBF was the sole substance detected in only 2 cases – concentrations were 2.1 and 44 ng/mL. Other common drugs detected alongside 4-FIBF were opioids,

benzodiazepines, cocaine, cannabinoids, and ethanol. 83% of cases were male. Ages ranged from 19-71 years. 235 cases were coded as accidental manner of death, five cases were suicide, four cases were homicide, and three cases were natural.

## New Psychoactive Substances (NPS)

Submitted by: Simon Elliott, TIAFT NPS Committee Chair and Dani Mata, SOFT Designer Drug Committee Chair

New Psychoactive Substances (NPS) have posed toxicological challenges for many years but especially in the last decade due to their proliferation and associated evolving chemistry and pharmacology. This has resulted in the formation of national and international monitoring systems assisted by the various laboratories worldwide that encounter such substances, including the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and the United Nations Office on Drugs and Crime (UNODC). However, initial detection and subsequent identification (particularly when dealing with biological fluids) can only be made if laboratories employ non-targeted screening methods and protocols or are aware of substances to include in targeted methodologies. Over the last few years, in order to assist toxicologists as to the situation and developments within the NPS field, various professional organisations have formed NPS Committees. As the analytical challenges are the same worldwide and in the spirit of collaboration and intent to combine and share resources, the NPS Committees of The International Association of Forensic Toxicologists (TIAFT) and the Society of Forensic Toxicologists (SOFT) have come together in a project to assist laboratories with these challenges. The project is to provide to the respective organisational members suggestions as to which NPS should be included in screening protocols as a drug of concern due to common detections as part of internationally monitored drug trends (including the UNODC Tox Portal; [www.unodc.org/tox](http://www.unodc.org/tox)) and laboratory experiences. We continue to encourage laboratories to contact the UNODC to register and contribute to

the Tox Portal by e-mailing [unodc-lab@un.org](mailto:unodc-lab@un.org).

The prospective articles will provide or cite relevant analytical data for detection of the suggested NPS in biological fluid. Due to the widespread use of LC-MS/MS and high resolution mass-spectrometry (HRMS) for the analysis of NPS, the data will focus on these techniques. Furthermore, based on analytical publications and case reports, concentration data will be included to assist laboratories in determining appropriate limits of detection (LOD) and lower limits of quantification (LOQ) as part of any analyte inclusion. It should be noted that such data are not meant to be used as a “reference range” or otherwise for interpretation of any subsequent quantitative findings.

As a result of increased detections across regions of the world, the first suggested drugs for organisational members to consider within their methodologies are;

- 4F-MDMB-BINACA
- Flualprazolam
- mitragynine (and 7-hydroxymitragynine)
- N-ethylpentylone

These analytical reference guides will be published in future ToxTalks and TIAFT Bulletins and on the SOFT Designer Drug Committee and TIAFT Novel Psychoactive Drugs Committee webpages. If you have a drug in which you are looking for analytical information on, please feel free to reach out to either Committee.





## TOXTALK

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August 1 for September Issue

November 1 for December Issue

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# FUTURE SOFT MEETINGS

2020

Marriott Marquis San Diego Marina, San Diego, CA  
September 21–25, 2020  
Denice Teem and Dani Mata

2021

Gaylord Opryland, Nashville, TN  
September 26–October 1, 2021  
Jennifer Colby and Erin Karschner

2022

Huntington Convention Center, Cleveland, OH  
October 30–November 4, 2022  
Doug Rohde and Michele Merves Crosby

2023

Gaylord Rockies, Denver, CO  
October 29–November 3, 2023  
TBD

2024

Union Station, St. Louis, MO  
Oct 27–Nov 2

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Awards	Erin A. Spargo, Ph.D., F-ABFT
Communications	Matthew P. Juhasik, Ph.D., F-ABFT
Culture, Values and Diversity	Samantha Tolliver, Ph.D. & Gail Cooper, Ph.D.
Continuing Education	Robert D. Johnson, Ph.D., F-ABFT
Designer Drugs	Dani Mata, D-ABFT-FT
Drugs & Driving	Curt E. Harper, Ph.D., F-ABFT
Drug Facilitated Crimes	Lisa Reidy, Ph.D.
Ethics	Jennifer Limoges, M.S., DABC
Finance	Robert Sears, M.S., F-ABFT
History	Bruce Goldberger, Ph.D., F-ABFT
JAT Special Issue	Luke Rooda, Ph.D.
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Nominating	Dwain C. Fuller, B.S.Chem, F-ABFT, TC-NRCC
Oral Fluid	Christine Moore, Ph.D., DABCC
Policy & Procedures	Erin Spargo, Ph.D., F-ABFT
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YFT	Kevin Shanks, M.S., D-ABFT-FT