



TOXTALK®

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PRESIDENT'S MESSAGE

Submitted by Bruce Goldberger, Ph.D., F-ABFT

As I prepare my final message to the membership of the Society of Forensic Toxicologists, I find myself reflecting upon the past year. SOFT has experienced many important milestones, but most importantly, the SOFT Office is now managed by Executive Director Beth Olson and Administrative Assistant CC Watson. All organizational business is facilitated in a timely, professional and responsible manner.

Days prior to the joint meeting of SOFT and TIAFT, Hurricane Irma formed near the Cape Verde Islands, rapidly intensified, and impacted the U.S. as a devastating Category 4 hurricane. The path of the hurricane was difficult to predict and was initially forecast to impact Boca Raton directly. After many hours of discussion amongst the SOFT leadership and meeting hosts, it was decided that the meeting must be postponed to ensure the safety of our attendees.

Beth Olson led the negotiations with the Waldorf Astoria Boca Raton Resort & Club successfully rescheduling the annual meeting for the second week of January, an ideal time to visit Florida. In addition, meeting hosts Dan Anderson and Ruth Winecker, meeting treasurer Marc LeBeau, scientific chairs Robert Johnson and Robert Kronstrand, workshop chairs Diane Boland and Frank Peters, and vendor liaison Jarrad Wagner worked diligently, and after many hours of preparation, were able to successfully replicate the meeting. I would like to express my gratitude to the entire SOFT-TIAFT Planning Committee for committing to an additional four months in their volunteer roles without hesitation. The revised program is nearly identical to the originally planned meeting. The meeting

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PRESIDENT'S MESSAGE (CONTINUED)

will be well attended and offer an exceptional variety of scientific presentations and social events.

It has been the utmost honor and privilege to serve as the President of SOFT, and I am looking forward to continued association with and service to our esteemed organization. Finally, I wish our incoming President, Michelle Peace, abundant success in her future endeavors.

Best wishes for a safe journey to Boca Raton.

Passing the Baton

Submitted by Dwain Fuller, Editor

When you run a part of the relay and pass on the baton, there is no sense of unfinished business in your mind. There is just the sense of having done your part to the best of your ability.

~ N. R. Narayana Murthy

Sometimes the timing is just right. That time is now in respect to transitioning ToxTalk® to new Editors and production staff. Laura Lid-dicoat has been the Associate Editor of ToxTalk® for 5 years and has expertly guided me through my term as Editor for the last 4 years. She has made my job easy and graciously allowed me to take much of the credit. I think I can safely speak for both of us when I say that we have both enjoyed our time at the helm of ToxTalk®. However, now the time is right in many ways to pass the baton.

Laura is now retired, as if a toxicologist ever really retires, and it is time for her to enjoy her retirement without a quarterly deadline to attend to. As for me, I am poised, if so approved by the membership, to move up to Vice President and then perhaps President of SOFT, therefore I will be assuming other responsibilities. For these reasons, combined with the hiring of Beth Olson as Executive Director and CC Watson as Administrative Assistant, makes this the perfect time to hand ToxTalk® to new stewards.

Beginning with the March 2018 issue, Robert Johnson and Chris Heartsill have graciously agreed to become the new Editor and Associate Editor, respectively, of ToxTalk®. Additionally, Beth and CC will take on the responsibility of the actual production of the publica-tion.

Speaking of the actual production, kudos and many thanks to Patty Pisana and Kayla Ellefsen for their considerable skill and patience in turning articles, announcements, tables, graphs, photographs, and ads into a finely crafted and professional publication.

Hopefully you will find that Laura, Patty, Kayla and I have done our part as we pass the baton of ToxTalk® into these new hands.

With great appreciation for the opportunity to serve the SOFT membership,

Dwain and Laura



SOFT is now on Facebook! Like our page to keep updated on the latest SOFT news.





SOFT-TIAFT 2017

JAN. 6-11, 2018

Rescheduled Meeting Update

Dear Friends and Colleagues:

All the preparations were complete (or nearly complete) and we were eager to welcome you all to the 2017 joint meeting of the Society of Forensic Toxicologists and The International Association of Toxicologists in September. But Hurricane Irma interfered and for the safety of our attendees, we decided to postpone the meeting. We will be pleased to see you all there January 6-11, 2018 as we have been told there are no Hurricanes in January! Perhaps we will all have to order a 'Hurricane' at the local tavern in remembrance of the first (and hopefully last!) postponed meeting in the history of the two organizations. If you were unable to attend the meeting in September due to conflicts and find yourself with an open schedule to fill in January, new registrations are still being taken on the website. After all its South Florida in January, the weather should be beautiful!

The program will follow the already published format with preconference meetings on January 6, 2018, then two days of workshops, opening ceremony and welcoming reception. Following the workshop days will be three days of the scientific and social program. This will be the fifth joint

meeting of our two scientific organizations, the 55th meeting of TIAFT and 48th meeting of SOFT. All in all, SOFT and TIAFT have been committed to education, fellowship, scholarly pursuits and collaboration of toxicological scientists for more than half a century. As always, the joint meeting will present many opportunities for these activities and we hope that you embrace it fully in the beautiful setting of the Waldorf Astoria Boca Raton Club and Resort. The week concludes Thursday evening with the Presidents' Banquet and Closing Ceremony and the much anticipated roll call of nations followed by live band entertainment and dancing.

Many thanks are due to the brilliant volunteers who will help run the meeting and helped with all the meeting preparations including the planning committee, scientific committee, social committee, SOFT office and the BOD's of both SOFT and TIAFT. Of course, the meeting would not happen without the fantastic support from our exhibitors so we encourage you to drop by their booths and say thanks. On behalf of the organizing committee we hope everyone enjoys the mix of traditions unique to SOFT and TIAFT meetings. We hope we will see you all soon after the New Year.

Ruth E Winecker
Co-Chair 2017 Planning Committee

Dan Anderson
Co-Chair 2017 Planning Committee

Planning Committee

Meeting Hosts

Dr. Ruth Winecker
Dan Anderson

Scientific Program Chairs

Dr. Robert Kronstrand
Dr. Robert Johnson

Workshop Chairs

Dr. Frank Peters
Dr. Diane Boland

Opening Ceremony Chair

Dr. Jeri Roper-Miller

Treasurer

Dr. Marc LeBeau

Exhibitor Liaison

Dr. Jarrad Wagner

Food and Beverage

Ann Marie Gordon
Denice Teem

YFT/SSEP

Andre Sukta

Volunteer Coordinators

Tate Yeatman
Joe Kahl

Website Liaison/ Mobile Application

Dr. Rusty Lewis

Silent Auction

Marissa Finkelstein
Erin Walsh

Fun Run

Nicholas Tiscione

Audio Visual

Frank Wallace

Nominating Committee Offers 2018 Slate of Officers

Please be advised we are re-running the 2018 slate of officer nominees due to the annual meeting being postponed.

The Nominating Committee's task is to provide a slate of Officers and Directors to the full membership of SOFT at least 30 days prior to the annual Business Meeting, to be held January 11, 2018 in Boca Raton, FL.

The President and Vice President each serve one year terms, while the Secretary serves a two year term which expires on alternate years with the Treasurer. Directors are elected for a three year term.

The 2017 SOFT Nominating Committee comprised of Joe Saady, Jeri Roper-Miller and Chair, Jen Limoges respectfully submit the following slate of Nominations for consideration by the membership:

President
Michelle Peace, Ph.D.

Vice President
Dwain Fuller, B.S., F-ABFT,
TC-NRCC

Secretary (2 years)
Amy Miles, B.S.

Director (1 year)
Matthew Juhascik, Ph.D.,
F-ABFT

Director (3 years)
Tate Yeatman, M.S., F-ABFT



Michelle Peace
Ph.D.
President
(one year term)

Dr. Peace received her B.A. in Chemistry from Wittenberg University, a Master of Forensic Science from George Washington University, and her Ph.D. from the Medical College of Virginia at Virginia Commonwealth University (VCU). The focus of her doctoral work was to study entomological evidence as an alternative matrix for toxicological analyses.

Dr. Peace is a faculty member in the Department of Forensic Science at VCU (FEPAC-accredited). She is one of the founding faculty for the Department, and has served as Associate Chair for 6 years. She also served as the Interim Chair for 4 years, expanding the faculty, physical space, and research initiatives in the Department. Dr. Peace has also served as a manager in a private SAMHSA-accredited forensic urine drug testing laboratory and has worked as a scientist for Procter & Gamble, where she holds 3 patents.

Dr. Peace served on the Scientific Working Group for Forensic Toxicology (SWGTOX) for 4 years to develop standards for the practice of forensic toxicology. She is a member of the Society of Forensic Toxicologists (SOFT) and is its current Vice President, and is a member of the Toxicology Section of the American Academy of Forensic Sciences. She is a member of the National Safety Council's Alcohol, Drugs, and Impaired Driving Division and sits on a new national task

force established by the CDC and DEA to develop solutions to combat the opioid epidemic gripping the United States.

Dr. Peace is currently the PI for an NIH grant studying the efficacy of electronic cigarettes, particularly as they pertain to illicit substance use, and has served as the PI for a sub-grant from NIH's Forensic Technology Center of Excellence at RTI, in which she managed a complex evaluation of crime scene scanners, collaborating with 4 law enforcement agencies.

Dr. Peace has conducted continuing education workshops for professionals internationally and has been a faculty member for 12 years in Virginia's Forensic Science Academy which is a codified program to train law enforcement regarding the identification, collection, and preservation of evidence from a crime scene. She has also developed workshops for primary and secondary education and a community engagement enterprise to address STEM education in middle schools.



Dwain Fuller
B.S., F-ABFT,
TC-NRCC
Vice President
(one year term)

Mr. Fuller is the Technical Director of the Toxicology and Clinical Mass Spectrometry Laboratories at the Veterans Affairs North Texas Healthcare System in Dallas, Texas, in addition to maintaining an active private consulting practice in forensic toxicology.

Nominating Committee Offers 2018 Slate of Officers (CONTINUED)

Mr. Fuller holds a Bachelor of Science degree in Chemistry from the University of Oklahoma.

Mr. Fuller began his career in forensic toxicology in 1984 as a bench chemist at the Office of the Chief Medical Examiner for the State of Oklahoma. In 1987 he accepted a position as the Assistant Director of Toxicology with Sierra Nevada Laboratories, Inc. Through a series of corporate purchases and mergers, Sierra Nevada Laboratories, Inc. became a Laboratory Corporation of America laboratory. In 1993, Mr. Fuller was promoted to the Director of Toxicology, and became the Responsible Person (RP) for the SAMHSA lab, positions he held until accepting his present assignment in 1998.

Mr. Fuller is certified as a Fellow of the American Board of Forensic Toxicology (ABFT) and a Toxicological Chemist by the National Registry of Certified Chemists (NRCC).

Mr. Fuller is a member of the Society of Forensic Toxicologists (SOFT), where he has twice served as a member of the Board of Directors as well as currently serving as the Secretary. Mr. Fuller is a Fellow of the American Academy of Forensic Sciences (AAFS), where he has served as the Toxicology Section Chair. Mr. Fuller is also a member of the Southwestern Association of Toxicologists (SAT).

Mr. Fuller has served on the Committee for Testing for Intoxication for the State of Nevada and as a panel member on the Governor's

Conference on Safety for the State of Nevada. He has served on the faculty of the University of Texas Southwestern Medical Center at Dallas, as well as a faculty member for numerous courses for the National Judicial College in Reno, Nevada. Additionally, Mr. Fuller has served as a consultant to the Nevada Attorney General and to the U.S. Attorney's Office.

Mr. Fuller has authored or co-authored many papers and articles for both peer-reviewed and popular publications. Mr. Fuller has served as a reviewer for several of the special SOFT, and other editions of the Journal of Analytical Toxicology and currently serves on the SOFT Editorial Board of the Journal of Analytical Toxicology. Mr. Fuller has served as a member of the Document Development Committee on Toxicology and Drug Testing in the Clinical Laboratory of the Clinical Laboratory Standards Institute (CLSI) and currently serves as the Editor of ToxTalk®.

Mr. Fuller has chaired, co-chaired, and lectured at several workshops at annual meetings of AAFS and SOFT as well as presenting technical papers at SOFT, and SAT. Mr. Fuller has extensive experience in consulting and expert testimony in both criminal and civil matters in numerous states.



Amy Miles
B.S.
Secretary
(two year term)

Amy Miles is the Director of the

Forensic Toxicology Program at the Wisconsin State Laboratory of Hygiene (WSLH) and has almost 18 years of experience in forensic toxicology. In addition to managing the Forensic Toxicology Program, Amy provides expert court testimony and interpretation of laboratory reports for coroners, medical examiners, attorneys and law enforcement officers. Amy also provides expert consultation for drug impaired driving cases both locally and nationally. Amy attended the Drug Recognition Expert (DRE) school held in Wisconsin in 2004 and provides training and support for the DRE program not only in Wisconsin but across the country. In 2005 Amy received an award from Citizens Against Drug Impaired Drivers (CANDID) for her outstanding dedication to the DRE program. In the spring of 2017, Amy was awarded the DRE Emeritus Award from the Wisconsin DRE Program for her over 12 years of leadership and dedication to the DREs of Wisconsin. Amy is the toxicology representative on the IACP DRE Technical Advisory Panel.

Amy has given hundreds of presentations on the topic of drugs, alcohol and human performance at state and national conferences and in-service trainings and has contributed several newsletter articles to national publications. Amy is a faculty member of the Robert F. Borkenstein Course: The Effects of Drugs on Human Performance. Amy has been appointed by the Illinois Supreme Court as a Guest Faculty member of the Illinois Judicial Conference Committee on Education. In 2016, Amy testified in front of the Cana-

Nominating Committee Offers 2018 Slate of Officers *(CONTINUED)*

dian Parliament regarding proposed laws pertaining to drug impaired driving. She is a member of several professional organizations and committees that pertain to alcohol, drugs and human performance and is the Chair of the SOFT/AAFS Drugs and Driving Committee and sits on the Board of Directors for the Society of Forensic Toxicologists. Amy is an Associate for the Justice Speakers Institute and in 2010 and 2011 she was given the "Speaker of the Year" Award by the American Association for Clinical Chemistry.



Matthew Juhascik
Ph.D., F-ABFT
Director
(one year term)

Matthew Juhascik is the Chief Toxicologist for the Montgomery County Coroner's Office/Miami Valley Regional Crime Laboratory. His current duties include oversight of the toxicology laboratory which handles casework involving drug-facilitated sexual assault, vehicle operation while under the influence of alcohol and/or drugs, and postmortem testing. He was previously the Deputy Director of Chemistry for the Massachusetts State Police overseeing toxicology, drug chemistry testing for controlled substances seized in the field, and the certification of breathalyzers used in the Commonwealth. He also previously worked as the Deputy Director/QA Officer for the postmortem forensic toxicology laboratory at UMass Memorial Hospital Laboratories in Worcester, MA. He received a B.S. in Chemistry from the Univer-

sity of Dayton in Ohio, and an M.S. degree in Forensic Sciences from the University of Illinois-Chicago. His Ph.D. was also from the University of Illinois-Chicago with a thesis on drug-facilitated sexual assault. His current research interests include method development/validation, LC/MS/MS and epidemiology of drug use.



Tate Yeatman
M.S., F-ABFT
Director
(three year term)

Tate Yeatman is the Chemistry and Toxicology Unit Manager for the Palm Beach County Sheriff's Office Crime Laboratory where he has worked since 2005. Previously, he was employed by the Florida Department of Law Enforcement Crime Laboratory as a Forensic Toxicologist for over 8 years and has testified as an expert in Forensic Toxicology and Forensic Drug Chemistry in over 200 DUI trials throughout Florida. He also works as a teaching assistant and instructor for the University of Florida's Forensic Science Online Program offering Master's degrees in Forensic Science, Forensic DNA & Serology, Forensic Toxicology, and Forensic Drug Chemistry.

Mr. Yeatman earned a Bachelor's degree in Chemistry from the University of Central Florida and a Master of Science degree in Forensic Toxicology from the University of Florida. He is board certified as a Fellow in Forensic Toxicology by the American Board of Forensic Toxicologists and as a Fellow in Drug Chemistry by the American

Board of Criminalists. Mr. Yeatman is also a certified technical assessor for the ANSI-ASQ National Accreditation Board (ANAB).

Mr. Yeatman has co-authored numerous peer-reviewed papers in scientific journals and his work has been presented at national meetings including the American Academy of Forensic Scientists (AAFS) and the Society of Forensic Toxicologists. In addition to SOFT, he is a member of The International Association of Forensic Toxicologists, the American Society of Crime Laboratory Directors, and a member of the Toxicology Section of AAFS. Mr. Yeatman has been appointed to numerous State and National Forensic Science committees including appointments to the Organization of Standard Area Committees (OSAC) Toxicology Subcommittee, the National Commission on Forensic Science (NCFS) Human Factors Subcommittee, and the AAFS Academy Standards Board Toxicology Consensus Body.



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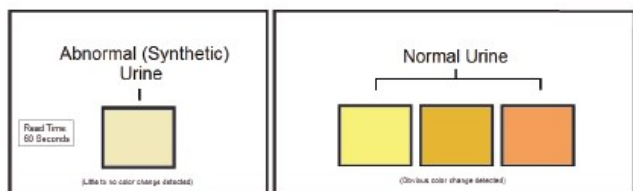
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1. Dip reagent end of strip in FRESH, well-mixed, uncentrifuged urine and remove immediately.
2. Run the edge of the strip against the rim of the container to remove excess urine.
3. Alternatively, wet reagent pads with urine using a pipette or pour urine directly from sample cup onto strip. Blot excess urine off pads by placing edge of dipstick on a clean paper towel.
4. Compare the test areas with corresponding color chart.
5. Value in "Abnormal" test areas indicated, are suggestive of Synthetic Urine.
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SOFT 2018 Meeting

Oct. 7-12, 2018

Minneapolis, MN

The Society of Forensic Toxicology (SOFT) will be holding its 2018 annual meeting in Minneapolis October 7-12.

Minneapolis, along with St Paul, forms the major metropolitan area known as the "Twin Cities", which is built around the Mississippi River just north of the river's confluence with the Minnesota River. The name Minneapolis is thought to be a combination of "mni", a Dakota Sioux word for water, and "polis", the Greek word for city.

The Twin cities were once the world's flour milling capital and a hub for timber. More recently it has become an epicenter of folk, funk, and alternative rock music. The city also served as the launching pad for several of the 20th century's most influential musicians, including Bob Dylan and Prince.

In addition, you'd be hard pressed to find an area of the country that displays its passion for hockey like Minnesota does. The first hockey teams in Minnesota were formed a couple of decades before Henry Ford's Model-T, and the University of Minnesota first organized a hockey team in 1895. Minnesota has produced the largest number of American-born National Hockey League players; nearly 60 more NHL players than the next closest state, Massachusetts, and nearly 100 more than the third place state of Michigan. In Minnesota, the "State of Hockey"

Loralie Langman
Co-Chair 2018 Planning Committee

moniker is revered as a symbol of our heritage and our passion for the game. You can see why hockey is so prominently feature in this SOFT meeting's logo.

The SOFT meeting itself will be held at the [Hyatt Regency Minneapolis](#) located in Downtown Minneapolis. It is located steps from US Bank Stadium, Target Field, and the Target Center which serve as the home to the Minnesota Vikings, Twins, Timberwolves and Lynx. In 2018, US Bank Stadium will serve as the host for Super Bowl LII.

We are encouraging abstracts (for posters and oral) presentation in the following topics:

- Inhalants
- Heavy metals
- Designer opioids
- NPS

And Workshops:

- Alternate matrices
- QC/QA programs
- Death Scene investigations
- THC decriminalisation

Registration will be offered in the spring of 2018 through the SOFT Website (<http://www.soft-tox.org>).

Hope to see you all in the Twin cities in October.

Loralie and Paul

Paul Jannetto
Co-Chair 2018 Planning Committee

Planning Committee

Meeting Hosts

Loralie Langman
Paul Jannetto

Scientific Program Chairs

Erin Spargo
Phil Kemp

Workshop Chairs

Colleen Scarneo
Curtis Oleschuk

Exhibitor Liason

Liz Kiely

Food and Beverage

Ann Marie Gordon
Denice Teem

Social Chairs

Sarah Schreiber
Jennifer Greene

YFT Chair

Courtney Wardwell

Volunteer

Coordinators

Sarah Urfer
Sara Love

Mobile Application

Rusty Lewis

Audio Visual

Frank Wallace

SOFT Staff

Beth Olson
CC Watson

Journal of Analytical Toxicology Special Editor and Deadlines

Submitted by Michelle Peace

One of the most important tasks for an incoming President is to appoint new and affirm current committee members who will support and advance the mission for SOFT. One of the special honors for a new President is the naming of the Special Editor for the SOFT Issue of the Journal of Analytical Toxicology. Since we have not held our elections to select the leadership for 2018, the Special Editor will be announced at our annual conference in Boca during the business meeting. If you are preparing your manuscript for this volume of JAT, know that the deadline for your abstract is March 2, 2018 and the deadline for your manuscript is March 16, 2018. Should you have any questions prior to January 11, 2018 when the Special Editor will be announced, please direct your questions to Bruce Goldberger. And, if you are considering a submission, thank you for your investment in this important work. Never has it been more important than now for the forensic toxicology community to publish the results of our good work.



Deadline for abstract submission: **March 2, 2018**
 Deadline for manuscript submission: **March 16, 2018**

Workshop Proposals for Minnesota 2018 Meeting



Calling all fellow Toxicologists!! The 2018 SOFT meeting in Minneapolis is taking shape and Workshop Co-Chairs, Colleen Scarneo (colleen.scarneo@dos.nh.gov) and Curtis Oleschuk (coleschuk@dsmanitoba.ca) are looking forward to reviewing your Workshop Proposals for the Minnesota meeting. Forensic Toxicologists are continually challenged in areas of analytical testing and interpretation involving illicit and prescription drugs, inhalants, heavy metals and new psychoactive substances. We're also often asked to consider testing alternative matrices, such as oral fluid in DUID investigations. The opioid crisis has heightened our awareness of the important aspects of a death scene investigation. These are just a few of many topics you may consider for a proposed workshop. Now that you're really inspired and excited, go to the SOFT website and look under the "Annual Meetings" tab to locate a Workshop Proposal form. Once you've completed the form you can submit it electronically. **Please submit your completed proposal by March 15, 2018.**

Feel free to contact us with any questions. We look forward to working with you!
 Colleen and Curtis

AAFS-ASB Announcement

The re-circulation public comment period has opened for the following documents (Comment periods close Monday, January 22, 2018):

Re-circulation – ASB Standard 017, Standard Practices for Measurement Traceability in Forensic Toxicology, First Edition, 2017

Re-circulation – ASB Standard 020, Standards for Validation Studies of DNA Mixtures, and Development and Verification of a Laboratory's Mixture Interpretation Protocol, First Edition, 2017

Please note that comments on a re-circulation will only be accepted on revised sections of a document, comments made to text not revised from the original public comment period will not be accepted. Please visit the Notification of Standard Development and Coordination area of the AAFS Standards Board website to view the comment resolutions from the initial public comment periods, the updated documents, and redline versions of the documents. The comment template can also be downloaded from the website.

Please send any questions to asb@aafs.org.

AAFS Annual Meeting News February 19-24th, 2018 — Seattle, WA

Submitted by Toxicology Section Officers and Program Committee

Please double check your calendars and make arrangements to attend the 70th Annual Meeting, February 19-24, 2018 in Seattle, WA. Dedicated to this year's theme of "Science Matters", we have another science-filled program in store for all attendees. Thanks again to the Toxicology Section officers, chairs, co-chairs, moderators, abstract reviewers, and volunteers for your tremendous efforts towards another successful meeting.

We are looking forward to a vast array of quality workshops, posters and scientific sessions, breakfasts, and luncheons in 2018 and will also continue the traditional special sessions on Drugs and Driving, Postmortem Pediatric Toxicology and our joint session with the Pathology/Biology Section. We have foregone the annual Toxicology lectureship to accommodate the "The Synthetic Opioids Epidemic and Forensic Science"

Multidisciplinary Session on Thursday, February 22 and encourage all members to attend.

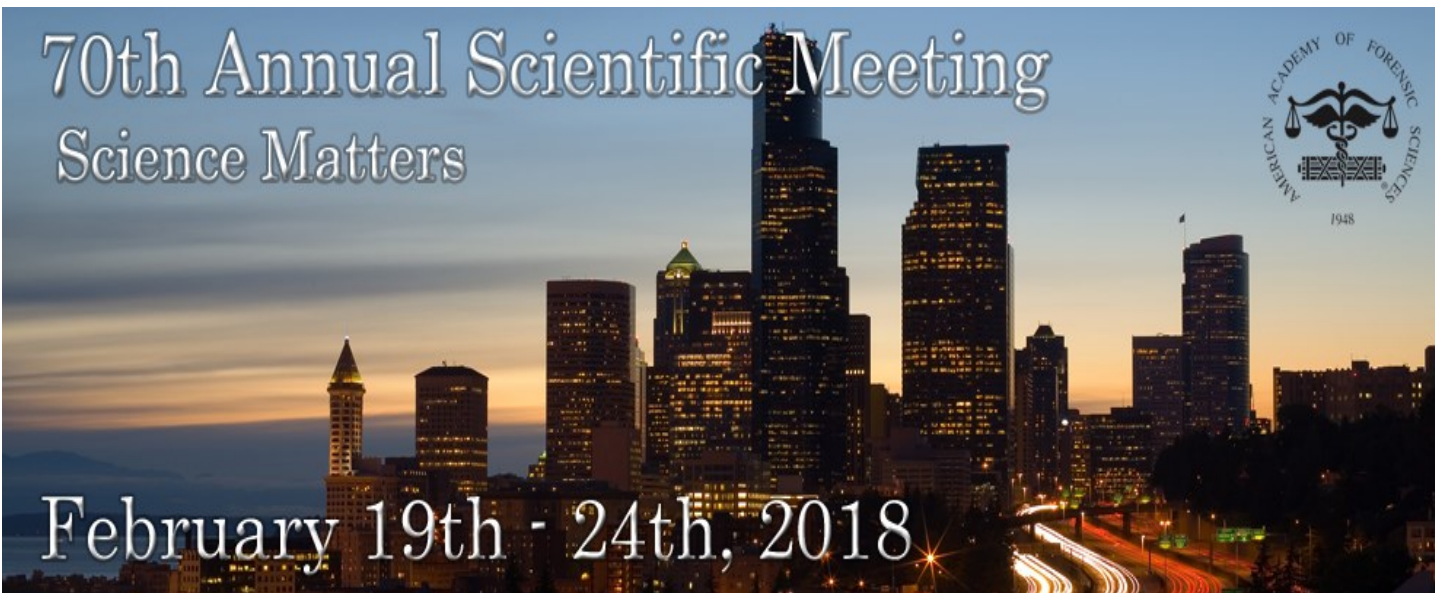
The annual **Toxicology Section Luncheon** will take place immediately prior to the Toxicology Section Business Meeting on Wednesday, February 21, 2018. Members choosing to attend the Toxicology Section Luncheon **must register and pay for it during pre-registration** as this luncheon is not included in the regular registration and on-site registration is unavailable.

During our Toxicology Section Business Meeting we will acknowledge the following award winners: **Fred Fochtman** (Alexander O. Gettler Award); **Sarah Kerrigan** (Rolla N. Harger Award); **Karl Scheidweiler** (Ray Abernethy Award); and **Erin Karschner** (Irving Sunshine Award). Unfortunately, no nominations were received for the June K.

Jones Scholarship this year.

Finally, we cannot overemphasize our gratitude to those generous vendors who have committed financial sponsorship towards the Toxicology Section Program: Agilent Technologies, Inc; Cayman Chemical Company; Center for Forensic Science Research and Education; Immunalysis Corporation; Lemos Toxicology Services, LLC; Lipomed, Inc; NMS Labs; PinPoint Testing, Inc; UCT; UTAK Laboratories, Inc; Waters Corporation.

Thanks again and see you all in beautiful Seattle!





NEW DRUGS AND TECHNOLOGY TIDBITS

Send interesting “*New Drugs and Technology Tidbit*” articles to
Section Editor **Sherri Kacinko, Ph.D.**
Sherri.Kacinko@NMSLABS.com

Cyclopropyl/Crotonyl Fentanyl and Methoxyacetyl Fentanyl

Submitted by **Jolene Bierly** (Jolene.bierly@nmslabs.com)
and **Kristopher Graf** (Kristopher.Graf@nmslabs.com)
NMS Labs, Willow Grove, PA

Recently, scientists have been challenged by an ever-changing array of designer drugs appearing in forensic casework. This trend continued throughout 2017. Two notable designer fentanyl analogues that appeared on the market are cyclopropyl fentanyl and methoxyacetyl fentanyl. Cyclopropyl fentanyl made headlines in Georgia in June of this year when the Georgia Bureau of Investigation Crime Laboratory identified it, in addition to U-47700, in counterfeit pills. These pills had an appearance similar to Percocet® tablets and were responsible for the death of multiple individuals (1). Since then, cyclopropyl fentanyl has been linked to numerous fatalities in various states in the Eastern and Midwestern United States including Pennsylvania and Wisconsin. This prompted the Drug Enforcement Agency (DEA) to recently announce its intent to temporarily place cyclopropyl fentanyl into Schedule I (2). While not as publicized as cyclopropyl fentanyl, methoxyacetyl fentanyl has also been linked to fatalities and was temporarily placed into Schedule I by the DEA in October 2017 (3).

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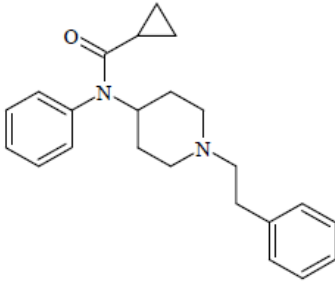
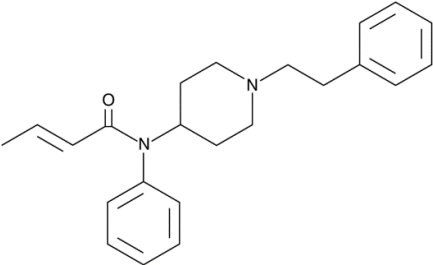
Pharmacokinetic information is not available in humans for either of these fentanyl analogues since they are not intended for human use. Methoxyacetyl fentanyl has been tested in mice and was shown to produce analgesia (4). Both drugs have structures similar to fentanyl and are believed to elicit central nervous system depressant effects. Patients presented with severe respiratory depression and/or loss of consciousness in the Georgia incident (5).

Since their emergence on the drug scene, toxicology labs have been working to validate methods to detect the new fentanyl analogues. These efforts have been hindered by the appearance of multiple fentanyl analogs which all have the same molecular weight and similar mass spectrum. Another challenge is that some of the fentanyl related compounds have the same molecular weight as minor fentanyl metabolites and care must be taken to not report a novel fentanyl in cases where fentanyl is present without ensuring it is not actually a fentanyl metabolite. Often the retention times and ion ratios of these compounds are within the normal window of acceptance as defined by the laboratory SOP. For example, crotonyl fentanyl has the same molecular weight as cyclopropyl fentanyl and it may not be possible to distinguish the analytes by traditional mass spectrometric methods.

Cyclopropyl/Crotonyl Fentanyl and Methoxyacetyl Fentanyl (CONTINUED)

For this reason, cyclopropyl fentanyl is referred to as crotonyl fentanyl/cyclopropyl fentanyl in the table and figures below.

Table 1: Chemical Characteristics of Cyclopropyl Fentanyl (A)/ Crotonyl Fentanyl (B)

Nomenclature	A. N-(1-phenethylpiperidin-4-yl)-N-phenylcyclopropanecarboxamide B. (2E)-N-phenyl-N-[1-(2-phenylethyl)-4-piperidiny]-2-butenamide
Formula	C ₂₃ H ₂₈ N ₂ O
Molecular Weight	348.48 g/mol
Exact Mass	348.22 g/mol
λ_{max}	203 nm (Cayman)
Structure	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>A</p> </div> <div style="text-align: center;">  <p>B</p> </div> </div>

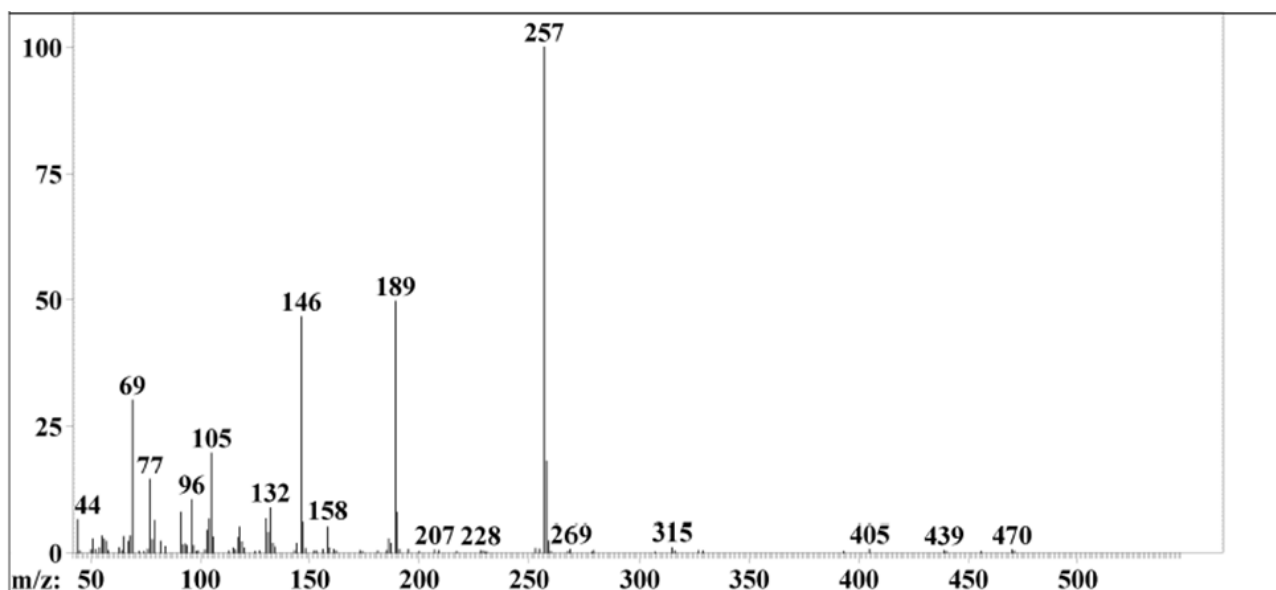


Figure 1: GC-MS EI Full Scan Mass Spectrum of Crotonyl Fentanyl/Cyclopropyl Fentanyl acquired on an Agilent 6890/5973 GCMS (70 eV)

Cyclopropyl/Crotonyl Fentanyl and Methoxyacetyl Fentanyl (CONTINUED)

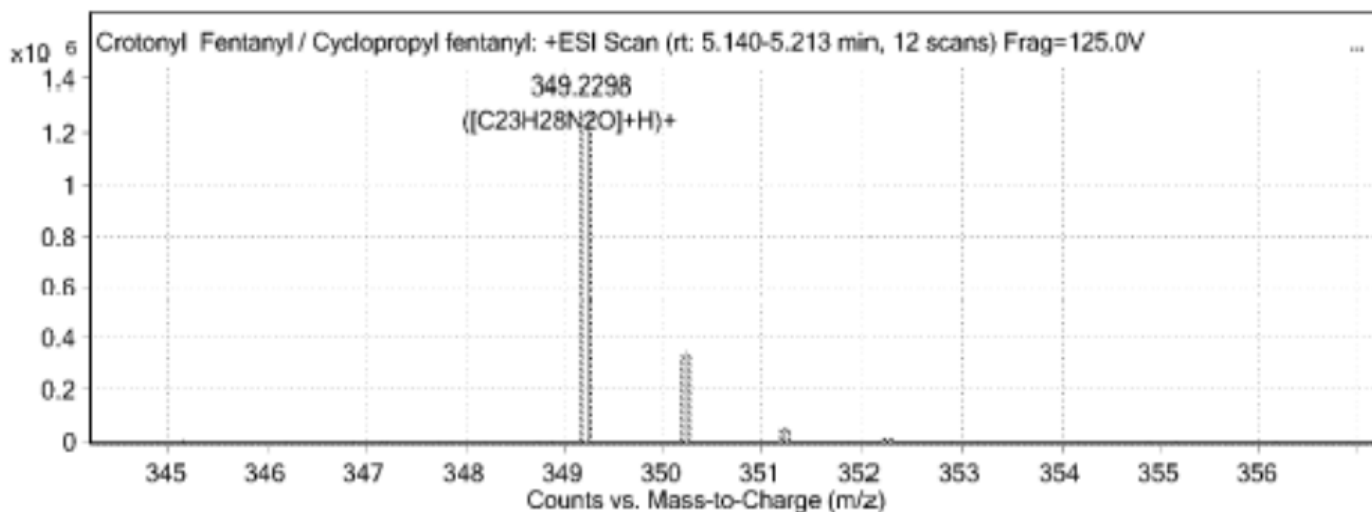


Figure 2: LC/TOF-MS Mass Spectrum of Crotonyl Fentanyl/Cyclopropyl Fentanyl acquired using

Table 2: Chemical Characteristics of Methoxyacetyl Fentanyl

Nomenclature	2-methoxy-N-phenyl-N-[1-(2-phenylethyl)-4-piperidiny]-acetamide
Formula	C ₂₂ H ₂₈ N ₂ O ₂
Molecular Weight	352.9 g/mol
Exact Mass	352.21 g/mol
λ_{max}	Not determined
Structure	

Cyclopropyl/Crotonyl Fentanyl and Methoxyacetyl Fentanyl (CONTINUED)

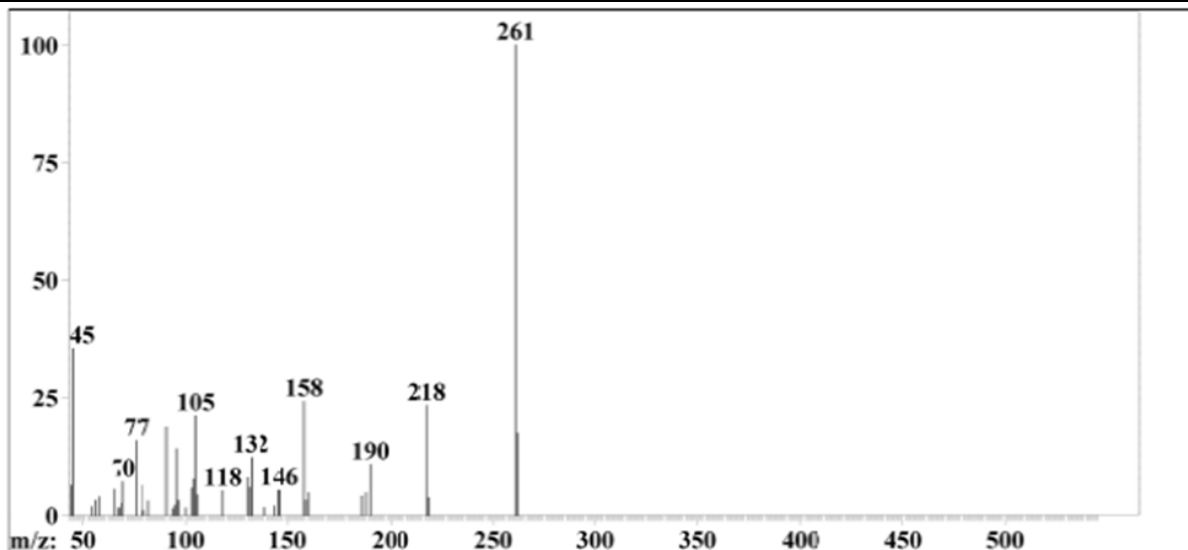


Figure 3 GC-MS EI Full Scan Mass Spectrum of Methoxyacetyl Fentanyl acquired on an Agilent 6890/5973 GCMS (70 eV)

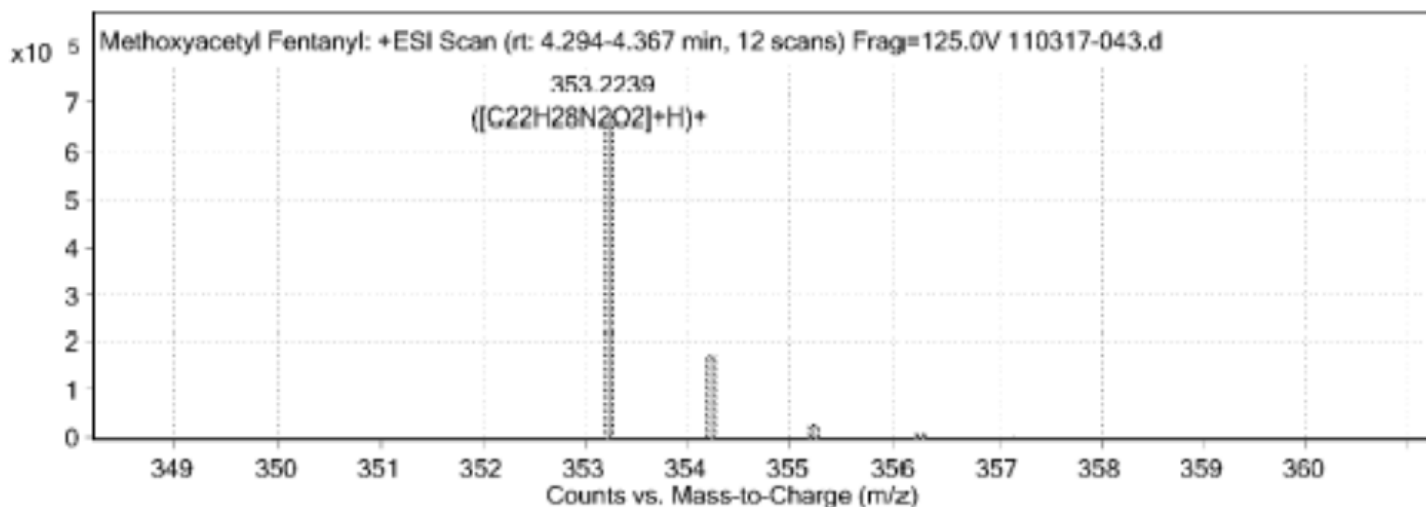


Figure 4: LC/TOF-MS Mass Spectrum of Methoxyacetyl Fentanyl acquired using an Agilent Jet Stream 6230

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In Memoriam of Kurt Dubowski

Submitted by Robert Forney, Jr.



We have lost one of the last members of the Greatest Generation of forensic scientists and a close personal friend. *Kurt M. Dubowski, Ph.D., LL.D., DABCC., F-ABFT*, George Lynn Cross Distinguished Professor Emeritus of Medicine, the University of Oklahoma died on October 23, 2017 in Oklahoma City at the age of 95. Kurt was brave (though a Jew, he volunteered to serve in Europe during WWII), generous (it has been said, "You've really never been introduced, until you've been introduced by Kurt), meticulous ("It's not a level! Carpenters use levels. It's a *concentration!*") innovative and a tenacious and prolific scientist with over 180 publications in peer-reviewed journals.

He was famous for the imprint "dbd" ("Done by Dubowski") on his teaching slides. Truly much in forensic science was *dbd*. He was a Founding Fellow and Past President of the American Academy of Forensic Sciences (AAFS). He was also a Founding Member of the International Association of Forensic Sciences and a Charter member of the Society of Forensic Toxicology and the American Society of Crime Laboratory Directors. His contributions were in both medical and forensic sciences, encompassing the development of innovative methodology, human studies, and clinical and forensic applications of chemistry and toxicology for which

he received numerous awards including the 12th R. B. H. Gradwohl Laurette (2011) and the first Rolla N. Harger Award (1983) for outstanding contributions to forensic science and forensic toxicology, and designation as a Distinguished Fellow of the American Academy of Forensic Sciences (1991). Of his numerous other awards, the Distinguished Service Award, American Board of Clinical Chemistry in 1978, the Robert F. Borkenstein Award in 1992 and the Distinguished Service to Safety Award, National Safety Council in 1995, and, the Widmark Award of the International Council on Alcohol, Drugs and Traffic Safety in 1980 are most notable. Dr. Dubowski introduced the first proficiency test program in forensic toxicology, established the first Registry of Human Toxicology for postmortem toxicology findings and chaired the Committee on Certification of AAFS which proposed and helped establish certification programs in forensic sciences in 1974-75. He organized and served as the Founding President of the American Board of Forensic Toxicology.

He was involved in many notable forensic cases including the investigation in the death of Marilyn Monroe (1982), Kentucky v Mahoney the greatest death toll in a drinking driver crash (1988), USA v Exxon Valdez the greatest environmental disaster at that time ((1990), Amtrak v Conrail, the highest number of wrongful deaths in a train crash (1987), and New Jersey v Downie the most extensive litigation on breath-alcohol testing in drinking drivers in US history (1990). Last year Dr. Dubowski was listed in both WHO'S WHO IN SCIENCE AND ENGINEERING, 12th ed., and WHO'S WHO IN AMERICA, 70th ed.

His obituary can be found at:

[http://www.johnirelandfuneralhome.com/announcements/dr-kurt-m-dubowski?
A=SearchResult&SearchID=30985880&ObjectID=176972&ObjectType=7](http://www.johnirelandfuneralhome.com/announcements/dr-kurt-m-dubowski?A=SearchResult&SearchID=30985880&ObjectID=176972&ObjectType=7)

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Future SOFT Meeting Destinations:

2017: Boca Raton, FL.....Jan. 6-11, 2018.....Ruth Winecker/Dan Anderson

2018: Minneapolis, MN.....Oct. 7-12, 2018.....Loralie Langman/Paul Jannetto

2019: San Antonio, TX.....Oct.13-18, 2019.....Veronica Hargrove/Brad Hall

2020: San Diego, CA.....Sept. 20-25, 2020.....Denice Teem/Dani Mata

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