



# FIRE & INVESTIGATOR

## ARSON

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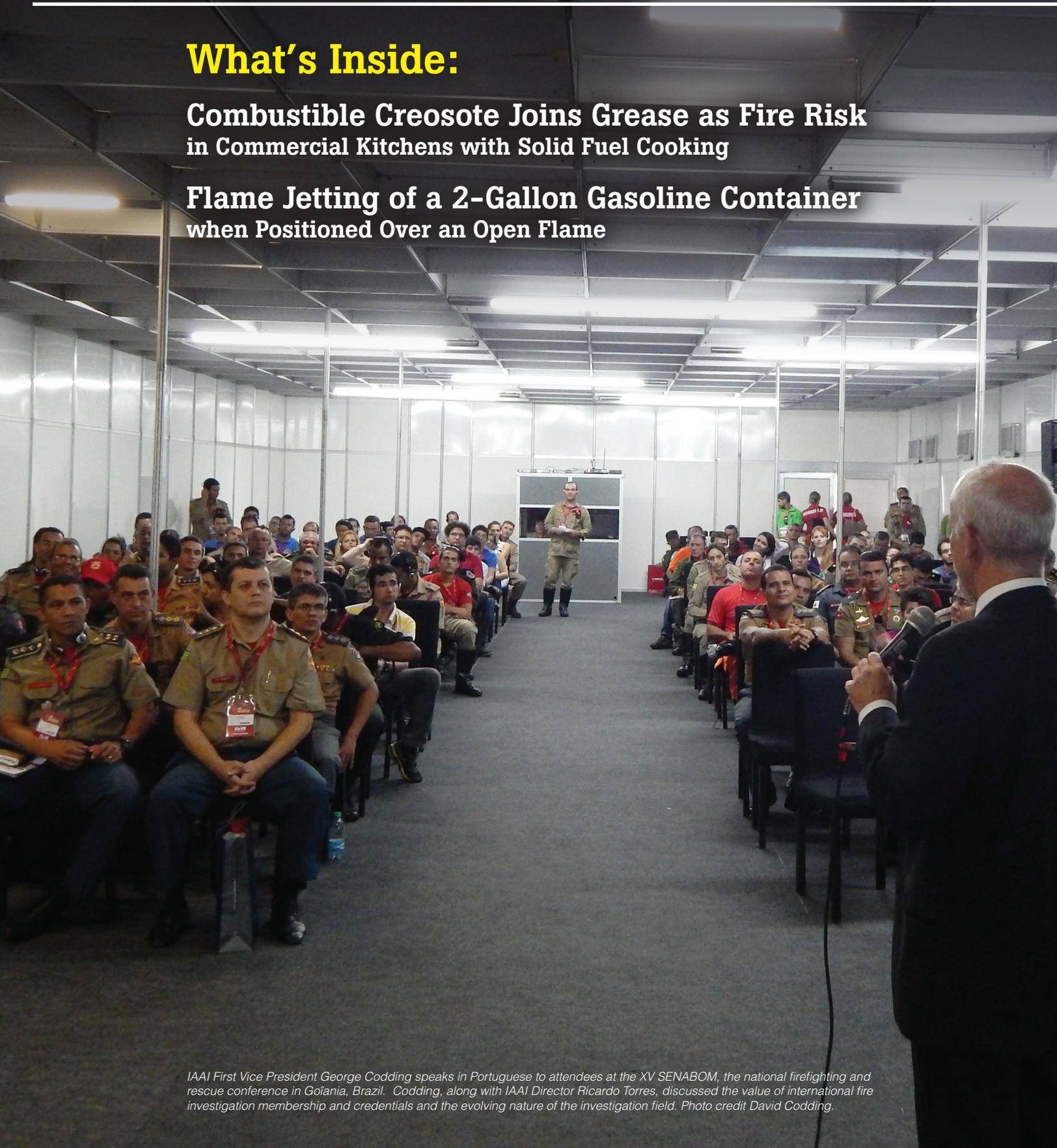
Volume 66

Issue 3

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**Combustible Creosote Joins Grease as Fire Risk  
in Commercial Kitchens with Solid Fuel Cooking**

**Flame Jetting of a 2-Gallon Gasoline Container  
when Positioned Over an Open Flame**



*IAAI First Vice President George Codding speaks in Portuguese to attendees at the XV SENABOM, the national firefighting and rescue conference in Goiania, Brazil. Codding, along with IAAI Director Ricardo Torres, discussed the value of international fire investigation membership and credentials and the evolving nature of the investigation field. Photo credit David Codding.*

## Definition: Appanista, ???

Fashionista is a term used to define someone with a penchant for shopping and a natural flair for combining both current and vintage fashionable trends.

Sketching with a finger (or stylus) at the scene may sound arduous and less than refined, but the app takes the worry out about accuracy, clarity, and time.

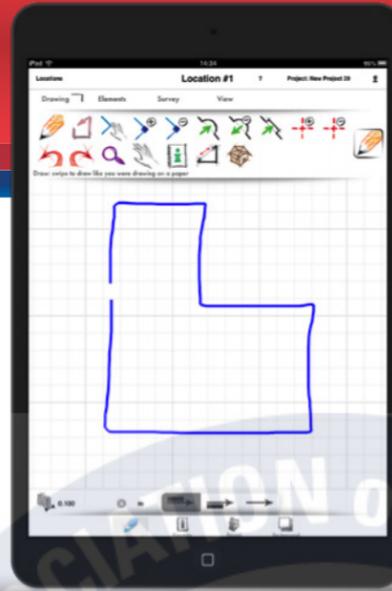


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## global member news

The national firefighting and rescue conference in Goïania, Brazil

Photo credits George Codding and David C...



IAAI First Vice President George Codding and IAAI Director Ricardo Torres pose with attendees at a half-day fire investigation conference in Vitoria, Espirito Santo, Brazil. Codding and Torres spoke by invitation to firefighters, commanders, investigators and community members about the value of IAAI membership, training and credentials.



Attendees view exhibits at the XV SENABOM, the national firefighting and rescue conference in Goïania, Brazil. Over 10,000 attendees were expected to attend the event. IAAI First Vice President George Codding, IAAI Second Vice President Scott Bennett, and IAAI Director Ricardo Torres manned a stand at the conference to distribute information about the IAAI and the value of IAAI membership, training, and credentials. Codding and Torres also gave a presentation during the conference.



IAAI Director Ricardo Torres speaks about the IAAI and the scientific method to a group of firefighters from the Corpo de Bombeiros Militar do Espirito Santo (Espirito Santo Military Fire Corps) in Vitoria, Brazil, during a half-day fire investigation conference.



IAAI Second Vice President Scott Bennett talks about the value of IAAI membership, training and credentials to attendees at the XV SENABOM, the national firefighting and rescue conference in Goïania, Brazil.

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### 67th IAAI International Training Conference

Orlando, Florida  
April 24-29, 2016

TIME	Track A	Track B	Track C	
<b>MONDAY, APRIL 25</b>				
<b>Opening Ceremonies</b>				
8am-10am				
10am - 12pm	<b>Open Panel Discussion Showing Your Work: Evaluating Expert Testimony Through the Court's Varying Lenses</b> David E. Bridges, Esq.      Hon. Donovan W. Frank      Hon. Mark L. Hornsby Paul H. Jepsen                      Matthew J. Smith, Esq.      Chad J. Stepan, Esq.			
LUNCH on your own noon to 1pm				
1pm - 5pm	Case Study: West, TX Fertilizer Plant Fire & Explosion Brian Hoback, IAAI-CFI & Kelly Kistner, IAAI-CFI	Selecting the Fire Science Expert in the New Millennium Matthew Smith, Esq.	<b>32 HRS</b> of Instruction Barry Grimm IAAI-CI Jason Karasinski IAAI-CFI Dixon Robin IAAI-CFI, IAAI-CI	
<b>TUESDAY, APRIL 26</b>				
8am - 12pm	Investigation of Marine Vessel Fires Donald Perkins, IAAI-CFI	Reliability Challenge for Fire Investigators John Lentini, IAAI-CFI, D-ABC	<b>32 HRS</b> of Instruction	
LUNCH on your own noon to 1pm				
1pm - 3pm	Thermodynamics Dr. Thomas Eaton, IAAI-CFI, PE	<b>IAAI Annual General Meeting</b>		
3pm - 5pm	Soil Gas Migration in Natural Gas Fires & Explosions David Heldenbrand, PE			
<b>WEDNESDAY, April 27 All Wednesday classes are in the EXPO</b>				
8:00am	New Equipment and Technology for the Fire Investigator	Jason McPherson & Mark Svare, PE	<b>32 HRS</b> of Instruction	
9:00am	Forensic Laboratories	Panel Scott Melville, IAAI-CFI		
11:00am	Alternative Fuel Vehicles	Darren A. Solomon		
LUNCH on your own noon to 1pm				
1:00pm	Analysis and Interpretation of Ventilation in Relation to HVAC	Derek J. Hill, IAAI-CFI		
2:00pm	COHb Levels in Fire Victims and Origin Analysis			

# Flame Jetting of a 2-Gallon Gasoline Container when Positioned Over an Open Flame

Adam D. St. John, P.E., ATF Fire Research Laboratory, USA

**INTRODUCTION**  
The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) Fire Research Laboratory (FRL) performed experiments to determine whether a 2-gallon gasoline container filled with a diesel/gasoline mixture could produce a flame jet from the open mouth of the container when poured over an open flame. The purpose of the testing was to evaluate witness statements regarding a fire that resulted in the death of young girl playing in the vicinity of an outdoor fire pit. The only witness to the incident was the father, who stated that he was pouring diesel from a 2-gallon gasoline container onto flaming wooden logs in a fire pit. As the father was pouring gasoline container onto flaming wooden logs in a fire pit, the gasoline container did not have a flame jet and became engulfed in flames. The gasoline container did not have a flame jet and became engulfed in flames. The gasoline container did not have a flame jet and became engulfed in flames. The gasoline container did not have a flame jet and became engulfed in flames.

**APPROACH**  
Seventeen tests were conducted at the FRL in the Large Burn Room (LBR) on December 8th through December 10th 2010. For safety purposes, an apparatus was constructed that allowed the gasoline container to be remotely poured from an enclosure. A similar Blitz® 2-gallon gasoline container, model #2XCG, was used for testing. The gasoline container was secured to a wooden box that was attached to a 2.5 cm (1 in) diameter steel pipe. The pipe extended through the enclosure wall and was fitted with a handle that allowed it to be rotated, thus pouring liquid from the container. A photo of the test setup is



Figure 1: Gasoline container when flame jetting



# VOTE



**Candidate for 2nd Vice President Ric Torres (TX)**

How long have you been a member of the IAAI? 9 years  
 How many IAAI annual meetings have you attended? 6 Which years? 2009-2014  
 Do you regularly attend your State/Provincial Chapter meetings and activities? Yes  
 List any offices held in your State Chapter: Director  
 Please list any International offices held, special projects or Committee work, indicating years of service: Training and Education Committee, Liaison Director for Latin America  
 If you are elected, will you take an active role in the IAAI, and with your present position, attend all annual meetings and board meetings during your term of office? Yes

Describe, in 100 words or less, why you feel you are qualified for this position: I feel that I am qualified to serve as 2nd Vice President of this organization because of my dedication to our profession and our membership. Since joining this fine organization, I have made myself available to the membership and have worked hard to reach the goals as set out in our strategic plan. I have worked with our leadership to grow our global footprint. I have remained steadfast in continuing to support our membership so that we can continue to be the premier training and education institution for our profession.

**Why do you want to become a Director or Officer of the IAAI?** I want to be an officer of our Association because I feel it is important that we continue to work towards the goals and objectives as laid out in our strategic plan. We have a lot of work to do still. Our first priority continues to be: to provide relevant knowledge to our members. The key word here is relevant. For many years, we allowed ourselves to be guided by others who followed the "ipse dixit" school of thought. In the past few years we have learned so much from our colleagues who have developed up-to-date training courses that follow engineering and scientific protocols. Because of these programs we now use terms such as arc mapping and failure analysis. We also continue to find new and improved applications that allow us to document fire scenes with the use of tablets and cellphones. Our second priority is to empower professionals to succeed. The IAAI has long been recognized as a leader in fire training and education because of its endless pursuit of obtaining accreditation for their certifications. We must continue working towards becoming an institution of higher learning with regional accreditation so that our members can continue to receive only the best and most credible training. Finally, we must take a proactive role in developing our future generation of leaders. How? By developing this program, we will be taking a proactive step in not only preparing our future leaders but we will also be giving them an opportunity to share their ideas about how we can improve our member services. I want to continue to serve this fine organization in about our profession and how we are perceived by our communities. We are not just "good old boys" but we are giving them integrity and transparency.

**Candidate for 2nd Vice President Bumper Moylan (FL)**

How long have you been a member of the IAAI? 30 years  
 How many IAAI annual meetings have you attended? 6  
 Which years? 2009,2010,2012,2013,2014,2015  
 Do you regularly attend your State/Provincial Chapter meetings and activities? Yes  
 List any offices held in your State Chapter: Member, Director, First and Second Vice President, President, and Past President  
 Please list any International offices held, special projects or Committee work, indicating years of service: International Director for the past 4 years; Chairman of the Ad-Hoc Committee for Name Change (2013), Chairman of Tag Line Committee (2014), Member Insurance Training and Membership Advisory Committee (2015)  
 If you are elected, will you take an active role in the IAAI, and with your present position, attend all annual meetings and board meetings during your term of office? Yes

Describe, in 100 words or less, why you feel you are qualified for this position: Active in IAAI at the state level in two of the larger membership chapters since 1986 serving as Director in one chapter and Director, 2nd and 1st Vice President, President and Past President in a second chapter. Active with the International for the past seven years and now in my second term as an IAAI Director, I have served as liaison to several state chapters and a member of stateside and offshore chapters. I have gained experience and knowledge into the organization and am ready to take the next step to the Executive Board as 2nd Vice President.

**Why do you want to become a Director or Officer of the IAAI?** I have been an International Director for the past 4 years and was re-elected to a second three-year term in 2015. My passion for the IAAI is to continue to grow and improve the organization and its members.

# Combustible Creosote Joins Grease as Fire Risk in Commercial Kitchens with Solid Fuel Cooking

By Doug Horton, MS, MBA



Figure 1. Commercial wood fired rotisserie and charcoal grill (grates removed) above which fire ignited in the exhaust duct

A National Fire Prevention Association (NFPA) 2012 report indicates that about 57% of fires in eating and drinking establishments involve cooking.<sup>1</sup> Historically, cooking oil and grease have been the materials first ignited fuels in cooking fires, but there's a new and increasing challenge: creosote deposits in hoods and exhaust ducts above solid fuel cooking operations.

Many restaurants have added live-fire solid fuel cooking to their operations for enhanced flavoring and marketing. This cooking method adds fire risk with appliances such as wood fueled charcoal grills; pit barbecues; rotisseries; smokers; and hearth and brick ovens, especially for cooking pizza. In many cases natural gas and wood are burned in

### Creosote Characteristics

Creosote is a well known fire risk in chimneys above residential wood-burning fireplaces. According to the Chimney Safety Institute of America:<sup>2</sup>

“Creosote is black or brown in appearance. It can be crusty and flaky...tar-like, drippy and sticky...or shiny and hardened.... Whatever form it takes, creosote is highly combustible. If it builds up in sufficient quantities – and the internal flue temperature is high enough – the result could be a chimney fire. Certain

From another reference:<sup>4</sup> “Once ignited, the deposits of creosote burn at very high temperature, so hot, in fact, that depending on the amount of creosote that is burning, a runaway...fire occurs....”

### Creosote Risk

NFPA recognizes the creosote risk of solid fuel cooking.<sup>5</sup> From NFPA 96, Paragraph A.4.1.6, “When solid fuel is burned in cooking operations, increased quantities of carbon, creosote, and grease-laden vapors are produced that rapidly contaminate surfaces, produce air-borne sparks and embers, and