

## Review of FIAI ATC 22 April 2015

This year's ATC was hosted by the NIFRS in Belfast and was attended by approximately fifty delegates from various disciplines throughout the North and South of Ireland. The services / industries represented included Fire and Rescue, Police, Forensic Science, Fire Investigation, Insurance and Fire Engineering.

The programme was perhaps the FIAI's most wide ranging to date and was expertly delivered by all the speakers involved. For the first time, a "student slot" was included. This was intended to facilitate students engaged in fire-related studies to experience the atmosphere of a conference in a speakers role. It also, of course, enabled them to showcase their work (see summary below).

The high level of interaction between delegates and speakers during question and answer sessions provided a strong indicator that the material presented addressed the interests of the entire audience.

### *Brief summary of presentations:-*

- As keynote speaker, Dr Peter Mansi informed the conference that the FIAI is the only Chapter of the IAAI that he has visited twice in his term of office as President of the IAAI (not just because of Irish hospitality he later assured me!).

In this year's address Peter highlighted the benefits of IAAI membership and commended the use of CFI-Trainer, stating that it now offers forty different training modules, with a vehicle fire investigation module to be added shortly. There are currently 17 people in the UK and 2074 people worldwide who have CFI certification. Different levels of certification are available, including IAAI-FIT (for those that are not involved in full time fire investigation).

- Dr Karen Boyce provided an overview of the Fire SERT (Safety, Engineering, Research & Technology) Department at the University of Ulster, Jordanstown. This department offers courses in fire dynamics, structural fire engineering, human behaviour and fire modelling.

Karen's main presentation concerned two horrendous nightclub fires each involving numerous fatalities - "The Station Nightclub, Rhode Island, 2003" and the "Kiss Nightclub, Santa Maria, Brazil 2013". Questions regarding whether these incidents involved the inappropriate response of the occupants and/or the inappropriate design/management of the premises were addressed.

- Megan Fleming and Sean Kelly, both students at the Institute of Technology, Tallaght, presented on their respective fire-related projects, namely: "The burning rates of fibres in the presence of high and low energy fire accelerant" and "The investigation of cigarettes as an ignition source".

In her project, Megan considered how the type and concentration of carpet fibres and the type of carpet underlay present affected the rate of fire development when diesel and iso-propyl alcohol were used, in turn, as fire accelerant.

In his project, Sean considered whether or not different cigarette brands and cigarette butt length were significant in causing / failing to cause the ignition of a range of combustible materials.

It was widely agreed by the audience that both these speakers displayed remarkable passion and knowledge during their presentations.

- Dr Nick Carey (UK-AFI) presented on various aspects of electrical arcing, including the characterisation of arcing damage he observed on copper conductors during fire tests involving six compartments wired in different configurations. Nine patterns of arcing damage were identified, all of which originated due to the fires burning into cables rather than the arcing having caused the fires.

Nick also presented a fire case history in which "in-line" arcing within the defrost timer of a fridge/freezer was identified as the likely cause. Water damage found inside the timers of similar units appeared to be the root cause of the arcing.

Lastly, Nick discussed how arc-mapping was used during his six month investigation into a large fire which destroyed a vegetable processing factory. Tragically, this fire involved fire-fighter fatalities. The arc-mapping process enabled him to confirm the likely seat of fire.

- Stephen McHendry (PSNI) related how, as a Principle CSI, he managed the examination of the scene of a vehicle bomb explosion outside a police station in Northern Ireland.

Stephen's presentation provided an insight into the methodology used in the processing of this type of incident, including "Return to Scene" laser scanning technology. This enabled the audience to compare / contrast the "scene craft" used in explosion investigation with that used in fire investigation.

- Tim Richmond (NIFRS) explained how dogs trained to detect fire accelerants were introduced into the UK fire service in 1995. The dogs are currently trained to detect ten fire accelerants.

Tim then provided two practical demonstrations using "Reggie" (a delightful two year old brown Cocker Spaniel who instantly charmed all the delegates!). Initially, Tim deployed Reggie within the confines of the lecture theatre where Reggie quickly detected a minute quantity of accelerant "spiked" onto a concealed wooden stick. Reggie then successfully displayed his search / detection skills, under Tim's guidance, within a large hangar-type room.

- Professor Niamh Nic Daeid (University of Dundee) charted the recent development of the UK Fire Investigation Protocol, citing "Forensic Science in Crisis" and the USA National Academy of Sciences Report, 2009, as some of the drivers for the protocol.

Following various consultation processes, the 18 page UK protocol has now been finalised. Niamh stressed that the protocol only relates to fire investigations which fall within the Criminal Justice System. She also raised her concerns regarding whether or not fire investigators are expert witnesses and how expert witnesses report their findings / conclusions.

Overall, the feedback received from delegates regarding the conference was most favourable, underpinning my own view that the conference was successfully delivered and well received.

In closing, I wish to thank all the speakers and chairpersons involved, the NIFRS and their catering staff for their splendid hospitality, all the delegates who attended, Noel Burke as outgoing President of the FIAI and my other colleagues on the FIAI committee.

I now look forward to FIAI ATC 2016!

Dennis McAuley  
FIAI President  
24 June 2015



