

December 2023 |    

Official Journal of the  
Institute of Explosives Engineers

# EXPLOSIVES ENGINEERING



## This Month's Features:

The Chief Ammunition Technical Officer Conference 23  
12 Laboratory Scale Spigot Intrusion Test (LASSIT)  
Optimisation of Inert Triplate Fill  
Company Member Focus – Kemek  
Explosive Celebrations – The Rock Cannon of Gwynedd



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# Features

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**Merry Christmas & a Happy New Year from IExpE!**

Office Closing: 13:00 Thursday 21<sup>st</sup> December 2023  
 Office Reopening: 08:00 Tuesday 2<sup>nd</sup> January 2024

**DISCLAIMER:** The opinions expressed in Explosives Engineering are those of the authors concerned. They do not necessarily represent the views of the Institute.

**Front Cover:** IExpE attend the 12th EFEE World Conference on Explosives and Blasting.

Given our continued growth, IExpE are now registered for VAT. There will be no increase in Membership Subscriptions as these are exempt, however other service provided by IExpE will now be subject to VAT.

# Our Corporate Members

**Institute of Explosives Engineers**  
 VOICE OF THE EXPLOSIVES INDUSTRIES

**Institute of Explosives Engineers Registered Office:**  
 Ground Floor, Unit 1, Greyfriars Business Park,  
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# Welcome to our New Members

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## Registrants

### Engineering Technicians:

Harry Jenner  
Kevin Boone  
Robert Soutar  
Dean Boys  
Blythe Heakin  
Vincent Ng  
Kay Howells  
Cameron Taylor-Salmon  
James Taylor  
Laura Warren

## New Members

### Associates:

Al Mukhida  
Alan Caine  
Matthew Godwin

### Technical:

Philip Davies  
Shani Everson  
Taha Nazir

### Student:

Christopher Sandever

### Fellow:

Zarack Scott

### Company:

Brown and Mason

## Members:

Jason Cheney  
Niall Sanders  
Charlotte Graham  
Graham Jackson  
Neil Corbould  
Ray Gargan  
Lee Wasling  
Anthony Jones  
Joshua Pattinson  
Matthew Norman  
Andrew Morpeth  
Ben Vine  
Fergus Russell  
John Morris  
William Gilroy-Hurst  
Harrie Bell  
Oliver Crowther  
Peter Williams  
Andrew Meager  
Rhys Jones  
Philip Blandy  
James Wyatt  
Garry Cochrane  
Calum Slater  
Karl McDonald  
Andrew Boyce  
Alex Hill  
Lee Webb

## PRESENTATIONS FOR OME APPRENTICES

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The 16th and 26th October saw Stephen Miller attending Cranfield University (Shrivenham) and the University of Wales Trinity Saint David (Swansea), respectively, to present about the Benefits of Institute Membership and Professional Registration for students attending the Level 4, 6 and 7 Ordnance, Munitions and Explosives Apprenticeships and the Explosive Ordnance Engineering MSc. Steve covered the important things like free application and student membership fees, access to digital versions of our journal 'Explosives Engineering' and the wide breadth of subjects it covers that will be a valuable resource in their studies. Plus the importance of Professional Registration and how their studies will help them, should they wish to pursue Professional Registration. The presentations were well received and the Institute 'merch' was hoovered up by the attendees.

# End of Year Address 2023

I am writing to you all as the end of the year approaches, there's still a good amount of sunshine around on the south coast of England, but it's definitely starting to cool down and nights are getting darker. With that comes the opportunity to watch the trees change colour and enjoy settling down inside with friends and family.

We appear to have adapted to Covid, and although still a disruptive presence, its most substantial effects on our way of life have gone, although many of us are still dealing with its consequences.

The war in Ukraine continues with awful consequences for civilians throughout the country. Thank you to all Institute members who are providing much needed support and assistance to the Armed Forces of Ukraine and civilian organisations.

I recognise that global instability, together with the cost of living challenge and lingering effects of

Covid are significant to our members. The Institute is focussed on ensuring that our members receive the best value for money from their membership and ensuring that there are more opportunities than ever to get together as a community and find support.

My goal as President has been to increase training opportunities and qualifications across the sector. This has been a great success, with apprenticeships, vocational training, and academic qualifications available. We have worked tirelessly across the sector to grow the portfolio and maintain high standards so all our members and employers rely on our involvement as a sign of quality.

# EMTWG

**Energetic Materials  
Technology  
Working Group**

*Previously known as  
IMEMTS*

**SAVE THE DATE!**

**13 - 16 May,  
2024  
Oslo,  
Norway**



The Insensitive Munitions and Energetic Materials (IM&EM) Technology Symposium, becomes EMTWG: three days of technical interchange from the forefront of energetic materials community. Government, industry and academia personnel are all invited to participate in the event which will bring together world-class chemists, engineers, and system designers from around the globe including the United States, Canada, European nations, and other countries. Meeting logistics, registration and all details will be provided on the event website in the coming months.



Our technical members are increasing rapidly – it's great to see this, with many emerging professionals across the sector becoming part of the wider explosives community and taking control of their careers.

**“My goal as President has been to increase training opportunities and qualifications across the sector.”**

**We've held three key events this year:**

Firstly, Fulmination, our flagship event has gone from strength to strength, with a new home in Nottingham able to host a greater number of people than ever before. I was delighted to be able to host this year's event and it was amazing to see so many of you in attendance, with fantastic speakers across a whole range of topics. Our emerging professionals held a series of events and activities – I'm still amazed to have won the team-building event despite a somewhat sore head on the 2nd day following the Gala dinner. This was a truly exceptional evening to celebrate excellence across the sector and I was humbled by all those receiving awards throughout the evening. My thanks go out to all our sponsors who made the event possible. We are blessed by having a generous, supportive and engaged corporate and company membership. Despite the success of Fulmination, we are moving this to a biennial conference to give room for other events and allow us to improve other areas of member engagement.

Secondly, the Members' Weekend was held at the De Vere Tortworth Court Hotel in Gloucestershire – an amazing venue where members and partners were able to take part in a series of lighter discussions and events (although the EOD suits weren't light!), rounded off with a Gin-tasting event and a relaxed dinner in the Orangery with a few surprises! Everyone agreed that they and their partners had a fantastic and fun weekend.

Finally, the Dynamite Dinner – discussed in more detail separately, but an occasion for our Past Presidents and Fellows to network and discuss the challenges and opportunities across the sector and one at which I hope to see a more diverse representation in 2024.

2024 is a hugely important year for the Institute, with it being our 50th Anniversary Year. The 50th anniversary itself will be an event to remember, looking back at our roots, from where we've come to where we are now and the people who've made it all possible.

I hope that all our members and loved ones are able to take the time to refresh, relax and have a safe and enjoyable festive period.

***Eur. Ing Andrew Carr***

*C.Eng, FIMMM, MIExpE, MRI, ARSM*

*IExpE President*



# The Chief Ammunition Technical Officer Conference 23

## CPD for the AT/O profession



**Over the period of 27 – 28 September 23, the Head of the Ammunition Technician trade organised the annual gathering of like minds at Defence Munitions Kineton for two days of dedicated Continuous Professional Development (CPD). The idea was to give all members of the profession an orientation on to the big issues that the senior leadership were wrestling with on a day-to-day basis on their behalf.**

The two-day event opened in the Eastman Lecture theatre with a brief from the Head of Profession, the Chief Ammunition Technical Officer. Here he laid out the challenges that the work force faced with recruitment and retention, where the pinch points were in terms of operational demand and the strategies that were put in place to ensure that Defence outputs could be achieved. The next brief was delivered by The Land Warfare Centre and discussed training issues that were being looked at to ensure that future generations of AT/Os were being appropriately trained against the direction that operational commitments were taking our people.

None of this would be relevant if it was not set against the backdrop of an up-to-date intelligence picture – what is the enemy doing and what are we doing about it. This was articulated in an exceptionally erudite manner through the Defence Intelligence staff, with them focussing on how our explosives engineers are ensuring safety worldwide.

The natural flow from this was a briefing from the equipment branch to inform what the current and future projects look like in detail for the next five years; followed by an aspiration for the next 10. It was evident from the upcoming investments how significantly the trade's capability links to Defence's missions. It was the Field Army's force elements that subsequently took centre stage to brief on where people were being employed around the globe and the type of task that they were routinely conducting. This included the significant commitment that 11 EOD&S Regt RLC had to Military Aid to Civil Authorities; an enduring 2500 UK tasks per annum, and to the worldwide taskings that other elements of the profession were conducting on behalf of Defence.

It is from the actual conduct of operations that Defence finds different threats from enemy actions and ways of making itself more efficient through better techniques and equipment. It was here that the defence science and technical laboratories (dstl) led the discussion and took people on a journey through their horizon scanning and the development of solutions to real world problems, to ensure that soldiers conducting operations were as prepared as they could be to meet the current threat.

To be able to conduct this type of agile development, it needs academic institutions on board to ensure that the students receive the best possible education. One of the ways this is achieved is through reaching out to industry and asking for their Research and Development issues and applying collective student, academia, and industry horsepower to the problem. Thus, ensuring that there is a symbiotic relationship between the different institutions that make up the defence enterprise.

The CPD so far was very much focused on defence outputs and what the MoD were doing for the AT/Os that are contributing to UK combat power. The Institute of Explosive Engineers had a session to discuss how the Ammunition Technician and Ammunition Technical Officer education and training pipeline had been mapped with accredited education competencies such as the Level 4 Modern Apprenticeship and Post Graduate Diploma.



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