



FULMINATION 2023

TOGETHER, TOWARDS TOMORROW.

PLATINUM SPONSORS



OFFICIAL EVENT PROGRAMME

TUESDAY 18TH APRIL - THURSDAY 20TH APRIL

EAST MIDLANDS CONFERENCE CENTRE | NOTTINGHAM UK

#FULMINATION2023



THANK YOU TO ALL SPONSORS



SAFETY
SERVICES
ORGANISATION



Roxel
Propulsion systems

Chemring |
Countermeasures

BAE SYSTEMS



Welcome to Fulmination 2023,



It is my great pleasure to welcome you to Fulmination 2023, the encompassing event for all sectors of the explosive industry. Following the success of Fulmination 2022 this year we will again see the bringing together of representatives from across the various sectors of the explosive industry as we continue to achieve **Together, Towards Tomorrow.**

Over the next three days you will see an exciting programme of presentations from a wide and diverse range of speakers and topics from each stream; Institute of Explosives Engineers (IExpE), Ordnance, Munitions and Explosives (OME), and Early Careers.

This year we will again be recognising those individuals and companies who have made significant contributions or achievement during the past year during our Gala Dinner and Awards on the evening of day 1. This black-tie event will be hosted by our guest announcer, and our guest after dinner speaker. On the evening of day 2 delegates will be able to enjoy a more relaxed networking evening hosted in our outdoor Tipi area.

During the event you will see several individuals wearing blue 'Here to Help' tops. Should you have any questions or need any assistance during the event please do not hesitate in speaking with one of them.

Fulmination 2023 would not be possible without the support of our industry partners, and in particular all our sponsors who you will have the opportunity to meet during the course of the event.

I would also like to give special thanks to Helly Hansen who have provided all of the Event Team's work wear.

Finally, I hope you all have an informative and enjoyable conference and I look forward to meeting with you over the next three days.



Andy Carr | President of the Institute of Explosives Engineers

Meet the Team

During the event you will see a number of individuals wearing 'event team' tops. Should you have any questions or need any assistance during the event please do not hesitate to contact one of them and they will be delighted to assist.



Vicki Hall

E: vickihall@iexpe.org



Steph Ball

E: stephanieball@iexpe.org



Rizza Sims

E: rizzasims@iexpe.org



Issey Kelly

E: isseykelly@iexpe.org

Key Facilitators



John Veasey

Since 2004 John has worked with security training companies such as ISSEE, Ramora and the International Training Academy. During this time, he was responsible for the day to day planning and organisation of all training delivery.



Dave Praulins

CertEd, MIEpE former Royal Engineer SNCO, currently Ramora UK explosives officer, with 40 years continuous experience in the explosives industry, teaching and practicing EOD, Land & Sea both in the UK and abroad.

Delivering solutions to your challenges

Frazer-Nash is a world-class engineering consultancy, specialising in the field of ordnance, munitions and explosives (OME), and their integration into complex weapons systems and platforms. We provide independent and professional expertise, advice, guidance and direction to deliver tailored scientific and technical solutions; from design to disposal.

With proven experience in the development of timely, high quality independent OME safety advice and system safety, and suitability for service (S3) support, our highly-skilled and experienced engineers understand the complexity of any and all challenges your organisation faces.

Whether your need is large or small, you can count on Frazer-Nash to support your goals. Many of the world's leading private and public sector organisations trust us to overcome their most complex challenges.

Find out how we can add value to your organisation: email defenceweapons@fnc.co.uk or visit our website www.fnc.co.uk.

www.fnc.co.uk

SYSTEMS • ENGINEERING • TECHNOLOGY





Institute of
Explosives
Engineers

VOICE OF THE EXPLOSIVES INDUSTRIES

**FULMINATION
2023**

**NON MEMBER
OFFER**

Fulmination 2023 Non-Member ticket holders can apply for IExpE Membership with no Membership application fee.

To access this opportunity, Non-Member ticket holders are required to visit the Fulmination 2023 registration desk during the event to provide their contact details and signature.

BECOME A MEMBER

JOIN THE VOICE OF EXPLOSIVES ENGINEERS

If you work in the Explosives Industry or have links to it, we'd like to invite you to become a Member of the Institute of Explosives Engineers (IExpE).



SCAN ME

Progress your career; learn about developments & advances in your field and in related disciplines & share a forum with like-minded professional colleagues, all here to support one another.

visit our stand or scan the QR Code
for more information.



FULMINATION

2023

TOGETHER, TOWARDS TOMORROW.

GALA DINNER
& AWARDS

SPONSORED BY



System Design Evaluation Ltd

HOSTED BY **JONNY GOULD**
WITH GUEST SPEAKER **MARTIN BAYFIELD**

EVENING TIMETABLE

TUESDAY 18TH APRIL

18:15PM PRE DINNER DRINKS

RECEPTION LOBBY
THE ORCHARD HOTEL

19:15PM CALL FOR DINNER

BANQUETING SUITE
EAST MIDLANDS CONFERENCE CENTRE

19:25PM WELCOME FROM OUR
GUEST ANNOUNCER

BANQUETING SUITE
EAST MIDLANDS CONFERENCE CENTRE

19:30PM GALA DINNER

BANQUETING SUITE
EAST MIDLANDS CONFERENCE CENTRE

21:30PM AFTER DINNER SPEECH FROM
OUR GUEST SPEAKER

BANQUETING SUITE
EAST MIDLANDS CONFERENCE CENTRE

22:30PM AWARDS PRESENTATIONS

BANQUETING SUITE
EAST MIDLANDS CONFERENCE CENTRE



System Design Evaluation Ltd

GALA DINNER & AWARDS SPONSOR

Coach Transfers

For delegates staying in the off-site accommodation at the Jubilee Hotel coach transfers will be provided between the Jubilee Hotel and East Midlands Conference Centre throughout Fulmination 2023.

Pick up locations:

Jubilee: The drop off/ pick up at the side of the hotel. If guests come out of the lake side entrance, turn right and the bus will wait on the road straight in front of them.

EMCC: The bus will drop off / pick up on the road just outside the car park entrance barrier.

Transfer times*:

Tuesday 18th April 2023

08:30 - 09:30 - Shuttle service provided (approximately every 10 minutes)
Jubilee Hotel to East Midlands Conference Centre

15:55 - 16:40 - Shuttle service provided (approximately every 10 minutes)
East Midlands Conference Centre to Jubilee Hotel

17:50 - 18:40 - Shuttle service provided (approximately every 10 minutes)
Jubilee Hotel to East Midlands Conference Centre

23:59 - East Midlands Conference Centre to Jubilee Hotel

Wednesday 19th April 2023

08:40 - 09:40 - Shuttle service provided (approximately every 10 minutes)
Jubilee Hotel to East Midlands Conference Centre

16:55 - 17:55 - Shuttle service provided (approximately every 10 minutes)
East Midlands Conference Centre to Jubilee Hotel

18:45 - 19:30 - Shuttle service provided (approximately every 10 minutes)
Jubilee Hotel to East Midlands Conference Centre

23:00 - East Midlands Conference Centre to Jubilee Hotel

23:30 - East Midlands Conference Centre to Jubilee Hotel

Thursday 20th April 2023

08:30 - 09:15 - Shuttle service provided (approximately every 10 minutes)
Jubilee Hotel to East Midlands Conference Centre

15:00 - 16:00 - Shuttle service provided (approximately every 10 minutes)
East Midlands Conference Centre to Jubilee Hotel

 FULMINATION
2023

*Shuttle service times are approximate and dependent upon traffic conditions on the day.

NETWORKING NIGHT

WEDNESDAY 19TH APRIL | 19:30-23:59

Banqueting Suite A and Outside Tipi Area





SAFETY SERVICES ORGANISATION

WWW.SSO.GROUP

Introducing the Speakers

for Fulmination 2023

Taking place within the Conference Theatre and Banqueting Suite A & B, Fulmination 2023 includes the following speakers.

DAY ONE Tuesday 18th April

REGISTRATION, CONFERENCE CENTRE RECEPTION | 09:00-09:50



Andy Carr

Opening Address
Conference Theatre | **All Delegates**
09:50 - 10:00



Nathan Flood

Challenges for the Explosives Sector -
Regulators Perspective
Conference Theatre | **All Delegates**
10:00 - 10:25



Andrew Parker

An overview of the STASIS
multi-phase thermochemical code
Conference Theatre | **All Delegates**
10:25 - 10:50

REFRESHMENT BREAK | 10:50-11:20

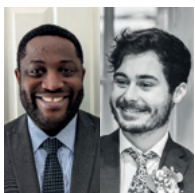
5th Year OME Apprentices Presentations

**5th Year OME
Apprentices Presentations**
Brailsford Suite
11:00-12:30



Martin Underwood

Sharing Ammunition Management
Best Practice in the International
Community
Conference Theatre | **OME Stream**
11:20 - 12:05



Vincent Coombs & Tom Mills

Early Careers Introduction
Banqueting Suite A
| **Early Careers Stream**
11:20 - 12:05



Stephen Miller

Welsh Rock Cannons and other
Explosive Celebrations
Banqueting Suite B | **IExpE Stream**
11:20 - 12:05

MOVEMENT OF DELEGATES | 12:05-12:15

DAY ONE

Tuesday 18th April



Andy Hubble

Let's Scrap Fireworks
Banqueting Suite B | **IExpE Stream**
12:15 - 12:45



Richard Battrick

Underwater Explosive Ordnance -
A changing story
Conference Theatre | **OME Stream**
12:15 - 12:55



Andy Pettitt

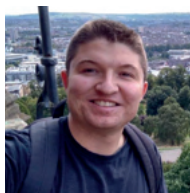
Explosives and the explosives
engineer - A journey
Banqueting Suite A
| **Early Careers Stream**
12:15 - 12:35

LUNCH | 12:35-13:45



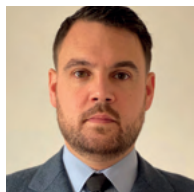
Gareth Bex & Phil Pitcher

Maritime Explosives Safety -
Lets have an argument
Banqueting Suite B | **IExpE Stream**
13:45 - 14:15



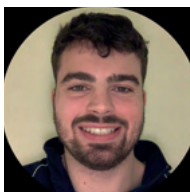
Sam Webb

Placement within team Hersa
Banqueting Suite A
| **Early Careers Stream**
13:45-14:15



Andrew (Jack) Longbottom

The front line of OME operations
Conference Theatre | **OME Stream**
13:45 - 14:15



Harry Trowsdale

Got there, gone bang, now what? An
overview of lethality modelling
Banqueting Suite A | **Early Careers Stream**
13:45 - 14:15

MOVEMENT OF DELEGATES | 14:15-14:25



Roland Alford

The Demolition of Didcot
Power Station
Banqueting Suite B | **IExpE Stream**
14:25-15:00



Jon Toreheim

Appetite for DSTRCTN
Conference Theatre | **OME Stream**
14:25-15:00

DAY ONE

Tuesday 18th April



Samuel Yeap

Numerical modelling of ballistic impacts and blasts
Banqueting Suite A

| **Early Careers Stream**

14:25-15:00



Adarsh Caliankara

A summary of Roxel's previous and present accomplishments and discoveries made on WAAM
Banqueting Suite A

| **Early Careers Stream**

14:25 - 15:00

REFRESHMENT BREAK | 15:00-15:25

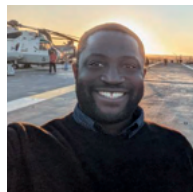


Rebecca Yates

WOME Disposal - More environmentally sustainable practices

Conference Theatre | **OME Stream**

15:25-15:55

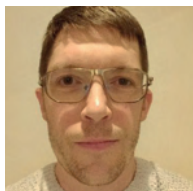


Vincent Coombs

The Process Capability of Resonant Acoustic Mixing

Banqueting Suite A | **Early Careers Stream**

15:25-15:55



Liam Bermingham

Digital Blasting - Creating the Platform to Achieve Net Zero

Banqueting Suite B | **IExpE Stream**

15:25-15:55

DRINKS RECEPTION, THE ORCHARD HOTEL, RECEPTION AREA | 18:15-19:15

GALA DINNER & AWARDS EVENING, BANQUETING SUITE | 19:30-23:59

DAY TWO

Wednesday 19th April

REGISTRATION, CONFERENCE CENTRE RECEPTION | 09:30-10:00

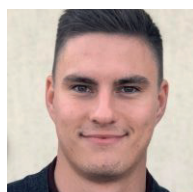


Andy Carr

Opening Address

Conference Theatre | **All Delegates**

10:00-10:05



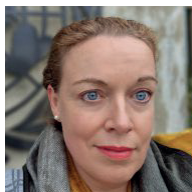
Marc Olbort

Track and Trace in Europe and worldwide: Beginning, Present and Future

Conference Theatre | **All Delegates**

10:05-10:35

DAY TWO Wednesday 19th April



Ruth Barber

Developments in Health and
Safety Law
Conference Theatre | **All Delegates**
[10:35-11:05](#)

REFRESHMENT BREAK | 11:05-11:35



Andy Grantham

Surplus Ammunition Stockpile
Management in Peru
Banqueting Suite B | **OME Stream**
[11:35-12:05](#)



David Crofts

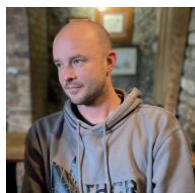
DM Cadmid
(Demonstration and Manufacturer)
Banqueting Suite A | **All Delegates**
[11:35-12:05](#)



**Stephen Miller, Shaun Dooley
and Liam Kidman**

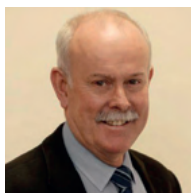
The Stepping Stones of Professional
Registration
Conference Theatre | **IExpE Stream**
[11:35-12:05](#)

MOVEMENT OF DELEGATES | 12:05-12:15



Lee Thornhill

Challenges and positives;
Public and Private Sector
Conference Theatre | **IExpE Stream**
[12:15-12:45](#)



Bob MacNaught

Simplifying Explosive Ordnance
Safety
Banqueting Suite B | **OME Stream**
[12:15-13:00](#)



Mark Ashcroft

Safety and Suitability for Service,
QinetiQ Munition Life Assessments
– An AUS/UK Perspective
Banqueting Suite A
| **Early Careers Stream**
[12:15-12:40](#)

LUNCH | 12:40-14:00

DAY TWO Wednesday 19th April



Mark Pegden

Licensing the storage of explosives
underground in mines

Conference Theatre | IExpE Stream

14:00-14:45



James Brodier

Opensource Target Characterisation,
why bother?

Banqueting Suite B | OME Stream

14:00-14:45

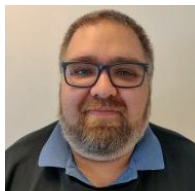
Team Building

Team Building

Banqueting Suite A | All Delegates

14:00-16:55

MOVEMENT OF DELEGATES | 14:45-14:55

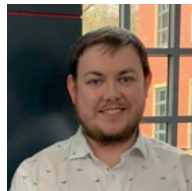


Erik Tunestal

Testing Methodology for
UN Transportation

Banqueting Suite B | OME Stream

14:55-15:40



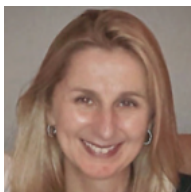
Matthew Didsbury

Flow Synthesis - Scale up of a UK
energetics synthesis capability

Conference Theatre | IExpE Stream

14:55-15:40

REFRESHMENT BREAK | 15:40-16:10



Gaynor Olliver

The Insensitive Munitions European
Manufacturing Group Ageing Expert
Working Group

Banqueting Suite B | OME Stream

16:10-16:55



Andrew Nicholson

Modelling secondary fragmentation
with Viper : Blast

Conference Theatre | IExpE Stream

16:10-16:55

NETWORKING EVENING | 19:30-23:59

DAY THREE Thursday 20th April

REGISTRATION, CONFERENCE CENTRE RECEPTION | 09:00-09:30


Andy Carr

Opening Address

 Conference Theatre | **All Delegates**
09:30-09:35
BAE SYSTEMS
EPC EPC-UK
THALES
[dstl]
Roxel
QINETIQ
Defence Science and Technology
FRAZER-NASH
Ministry of Defence
Chemring
HSE
MBDA
AWC
CS
**Mark Hardman, Tom Mills,
Julie Softley, Rhys Jobbins
& Andy Burn**

 Sector Skills Strategy Group (SSSG)
and Working Groups Update

 Conference Theatre | **All Delegates**
09:35-10:05

MOVEMENT OF DELEGATES | 10:05-10:15

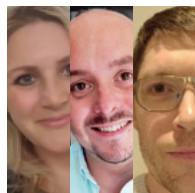

Patrick Gericke

 Overview of the historical mine threat
in then Rhodesia/Zimbabwe/Angola
during the 70's and 80's

 Banqueting Suite B | **IExpE Stream**
10:15-11:00

Philip Cheese

 The best time to plant a tree was 20
years ago. The second-best time
is now

 Conference Theatre | **OME Stream**
10:15-11:00

**Zen Nicoles, Andy Carr
& Liam Bermingham**

Careers Panel

Banqueting Suite A

 | **Early Careers Stream**
10:15-11:00

REFRESHMENT BREAK | 11:00-11:30


Jack Williams

 Temperature Ignition and Growth
Model for application in smart
Qualification of Energetics

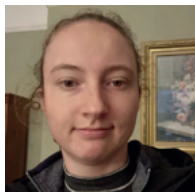
 Conference Theatre | **OME Stream**
11:30-12:10

Ian Murray

 Industrial Manufacture of Energetic
Materials within the UK including
developments in flow chemistry

 Banqueting Suite B | **IExpE Stream**
11:30-12:10
**Retention
Workshop**
Retention Workshop

 Banqueting Suite A | **Early Careers Stream**
11:30-12:55

DAY THREE Thursday 20th April**MOVEMENT OF DELEGATES | 12:10-12:20****Lucy Garland**

Computational Fluid Dynamics
Manufacturing Processes
Conference Theatre | **OME Stream**

12:20-12:50**Liam Kidman**

How the AT Trade has pursued
professional recognition
Banqueting Suite B | **IExPe Stream**

12:20-12:45**LUNCH | 12:45-13:50****Malcolm Whyatt & Gethyn Jones**

Similar Risks, Different Faces
Conference Theatre | **All Delegates**

13:50-14:20**Ruaraidh Wells**

Continuous crystallization of
energetic materials using continuous
oscillatory baffled crystalliser
Conference Theatre | **All Delegates**

14:20-14:50**Andy Carr**

Closing Address
Conference Theatre | **All Delegates**

14:50-15:00**THANK YOU TO ALL SPONSORS****#FULMINATION2023**




22 07 23

SAVE THE DATE
MEMBERS WEEKEND

DE VERE TORTWORTH COURT, TORTWORTH,
WOTTON-UNDER-EDGE, GL12 8HH

FIND OUT MORE AT: [IEXPE.ORG](https://www.iexpe.org)





FOR IEXPE FELLOWS & PAST PRESIDENTS

DYNAMITE DINNER

19TH SEPTEMBER 2023

The Voco, Reading, RG2 0FL

If you are interested in attending please
send an email to vickihall@iexpe.org



PRACTICAL AND CONSULTANCY SERVICES

- ⇒ Explosive Ordnance Disposal (EOD)
- ⇒ Improvised Explosive Device Disposal (IEDD)
- ⇒ Area Clearance
- ⇒ Stockpile Destruction
- ⇒ Hazardous Chemical Disposals
- ⇒ Land ROV access and search
- ⇒ Underwater ROV Support/Search
- ⇒ Maritime Ordnance Search & Disposal
- ⇒ Client Representatives for large scale projects
- ⇒ Salvage and Demolition
- ⇒ Methods of Entry
- ⇒ Drone survey and SAR support to Emergency Services
- ⇒ Expert Witness
- ⇒ Research and Development

TRAINING AND EQUIPMENT SOLUTIONS

- ⇒ Explosive Ordnance Disposal Operator (EOD)
- ⇒ Improvised Explosive Device Disposal Operator (IEDD)
- ⇒ Assault IEDD Operator (AIEDD)
- ⇒ Clearance Diver
- ⇒ Explosive Methods of Entry (EMOE)
- ⇒ EOD Train the Trainer
- ⇒ Range Safety and Trial Conducting Officer (RSO/TCO)
- ⇒ Explosives Disposal Operations
- ⇒ Demining and Area Clearance





Institute of
**Explosives
Engineers**

VOICE OF THE EXPLOSIVES INDUSTRIES

GOLD 1

FULMINATION 2023

TOGETHER, TOWARDS TOMORROW.

CONFERENCE SUITE 1

Chemring
Innovating to protect
GOLD 2



Roxel
Propulsion systems
GOLD 3



GOLD 4



PLATINUM ONE

FULMINATION 2023

TOGETHER, TOWARDS TOMORROW.

CONFERENCE SUITE 2

GOLD 5

BAE SYSTEMS



PLATINUM TWO

FULMINATION 2023

TOGETHER, TOWARDS TOMORROW.

CONFERENCE SUITE 3


Centre of Excellence in
Energetic Materials
SILVER 5


ADDITIVE
SILVER 3


Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David
SILVER 4


EPC-UK
SILVER 6


IIE
Europe GmbH
SILVER 8


The Institute
of Quarrying
SILVER 7

ARMY

BRONZE 2

MBDA

BRONZE 1

QINETIQ

BRONZE 3

ISSEE

BRONZE 4

**SPECIALISED
IMAGING**

BRONZE 8

arc

BRONZE 5

FULMINATION 2023

TOGETHER, TOWARDS TOMORROW.

CONFERENCE SUITE 4

**VISION
RESEARCH**
AMETEK

BRONZE 7

HH **ALIVE**
workwear SINCE 1877

BRONZE 6

FULMINATION 2023

WE WOULD LOVE TO HEAR YOUR FEEDBACK

Scan the QR code below for interaction,
questions and to submit your feedback.

SCAN ME





**HSE LOCATION
GALLERY SUITE 2**



**TOGETHER
TOWARDS TOMORROW**