

# AIRCRAFT FIRE & EXPLOSION COURSE

## INVESTIGATION/VULNERABILITY/PROTECTION IN ACCIDENTS AND TERRORIST ATTACKS

- Course times are 8 am to 4 pm.
- Morning tea, a light lunch and afternoon tea will be provided each day.
- The course has a maximum of 20 students.
- The course fee is \$4,200 per person plus 10% GST (\$4,620 GST inclusive).
- Participants will receive a course photo and certificate on completion of the course.
- Registration forms along with payments, purchase orders, and/or invoice requests must be received at QTT by **11 April 2012**.

Registration will be confirmed either on attainment of class capacity or, alternatively, one month before course start date. Further course information will be sent directly to the participants after the registration cut off date. QTT advises that attendees wait to book travel and accommodation until receipt of course confirmation letter.

Refer to the QTT website ([www.qtttraining.com.au](http://www.qtttraining.com.au)) for full terms and conditions, including cancellation and privacy policy.

### DR. N. ALBERT MOUSSA

Course developer, main instructor and Technical Director of BlazeTech with over 35 years of experience in fire and explosion in civilian and military aircraft. His credentials include: William Lockwood Memorial Lecture Award, Engineer of the Year by the NE Section of IAAA, AIAA Distinguished Lecturer, Best Papers by SAE and ASEI, and several ASME citations. He has served on national committees and was Associate Editor of an ASME Journal. He has authored one book (on flammability) and over 150 publications, presentations and reports. He has investigated several major aircraft disasters. He has consulted for NASA, the Air Force, the Army, major airframers, an engine manufacturer, and various aerospace companies. His forewarnings about fuel tank vulnerabilities prior to the TWA 800 and the Air France Concorde disasters have gained him notoriety in the US and international media. He has received a B.S. from Stanford University and an M.S. and a Ph.D. from MIT, with both dissertations on fire.

### MR. CHUCK LEONARD

Former NTSB Senior Investigator and a consultant to BlazeTech. He has investigated over 200 aircraft accidents around the world. He was a pilot with the Air Force and a major air carrier, accumulating over 17,000 flight hours. He has taught professional courses on aircraft accident investigation at the FAA Academy and the University of Southern California in LA, California.

#### FOR FURTHER INFORMATION:

Training Coordinator

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ABN: 56 127 766 689

# QinetiQ

## QinetiQ Technology Training

Presents

# AIRCRAFT FIRE & EXPLOSION COURSE INVESTIGATION/VULNERABILITY/ PROTECTION IN ACCIDENTS AND TERRORIST ATTACKS

*in partnership with*



Dates:

**14 - 17 May 2012**

Venue:

**Level 4, 210 Kings Way  
South Melbourne  
Victoria**

# COURSE OVERVIEW

This four day course provides comprehensive evaluation of aircraft fires and explosions in accidents and terrorist attacks. It uses a fundamental and integrated approach to address all these situations for both commercial and military aircraft in an effective manner. Case studies of major accidents are illustrated with video footage and photographs, and complemented by well-characterized full-scale tests by the FAA, NTSB, DOD, NASA and BlazeTech. These are used to determine quantitatively what governs the initiating event, accident evolution, system survivability and the potential success of protection methods.

## Who should attend?

Any aircraft professional responsible for commercial/military aircraft, helicopters or Unmanned Aerial Vehicles including design, operation, prevention, maintenance, testing or management of fire and explosion safety, combustible fluids, material specifications, certifications, detection and suppression systems, bomb threats and security, structural analysis, survivability, vulnerability, safety management system, accident investigation, risk mitigation team and risk analysis.

## Course Objectives

To provide an understanding of aircraft fire and explosion hazards, how to protect against them and how to investigate such accidents.

# COURSE OUTLINE

This course is organised into four one-day modules.

## Vulnerability to Terrorism

- Threats Characterisation
- Response to Threat
- Survivability Improvements

## Fluids-Related Fire and Explosion

- Flammability of Fuels, Oils and Hydraulics
- Fuel Tank Safety
- Engine Fires
- Post-Crash Fires

## Materials-Flammability and Related Fires

- Polymers, Composites and Metals
- Flammability of Assemblies
- Cabin Fires
- Fires in Cargo and Hidden Areas

## Accident Investigation

- From Accidents to Regulations
- Investigative Process
- Fire/Explosion Pattern Recognition
- Class Discussion

## Case Studies Discussed in Details Include:

PAN AM103, Boeing 747-121; Lockerbie, Scotland  
TWA 800, Boeing747-131, Long Island, NY  
UA232,DC-10, Sioux City, IA  
British Airtours, 737-200, Manchester, UK  
Swiss Air111; MD-11, Peggy's Cove, Nova Scotia, Canada  
ValuJet 592, DC-9-32, Everglades, FL  
Air France 4590,Concorde, Gonesse, France  
ComAir 5191, Bombardier CRJ-100, Lexington, KY

## Registration Form

### AIRCRAFT FIRE AND EXPLOSION COURSE

14 - 17 May 2012

\$4,200 + 10% GST (\$4,620 GST Inc)

First Name

Surname

Company/Military Group/Agency/Organisation

Job Title

Postal Address

Phone

Mobile

Fax

Email

**Privacy:** Your personal information may be used as follows:

Tick if you do not want your name and email address to be included in the contact list which is provided to your fellow course participants.

Tick if you do not want to be added to our confidential emailing list which will advise you of future QTT courses.

**Form must be returned to QTT by 11 April 2012**

### METHOD OF PAYMENT

Cheque

Purchase Order No. \_\_\_\_\_

Credit Card: Authorisation form available at [www.qttraining.com.au](http://www.qttraining.com.au) or email [qttraining@qinetiq.com.au](mailto:qttraining@qinetiq.com.au). Please note a 1% surcharge applies to all card payments.

Please Invoice: For invoice please provide name and full address .

**FOR FURTHER INFORMATION:**  
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Fax: +61 3 9694 1020  
Email:  
[qttraining@QinetiQ.com.au](mailto:qttraining@QinetiQ.com.au)

### CANCELLATION

Should you be unable to attend, a suitable substitute is always welcome. Alternately, a refund less a \$150 administration fee will be made for cancellations received in writing prior to 11 April 2012. Refunds will not be given after 11 April 2012, however for exceptional circumstances some credit may be given towards another QTT course.