with Dr Quintiere

in Partnership with

Present the

‘Advanced Principles of Fire Dynamics’ 3-day Course

Following the successful delivery to a fully attended course in 2016, registration for the Advanced Principles of Fire Dynamics Program 2017 scheduled for 9, 10 and 11 August 2017 at the BRE Academy, Bucknalls Lane, Garston, WD25 9XX, Hertfordshire is available on the Gulf Coast FIRE, Fire Investigations (UK) LLP and the BRE Academy websites. Registration is limited to the first 20 students! To register please complete and return the form at the end of this document.

Course Cost: £1,150.00 +VAT (£1,380.00)
Includes: A signed copy of the latest edition of ‘Principles of Fire Behavior, Second Edition’ by Dr James Quintiere, refreshments and lunches, tuition fees, course notes, experimental guidance book and all experiment consumable supplies.

Instructors

Dr James G Quintiere, the primary course instructor, is Professor Emeritus of Fire Protection Engineering, University of Maryland at College Park, USA. He has forty years' experience in research, teaching and investigation, including twenty years with the fire program at NIST (National Institute of Science and Technology) and twenty years at University of Maryland. He is author of two books and co-author of one in fire dynamics. He has extensive experience teaching fire dynamics to investigators and engineers untrained in the field. His book '*Principles of Fire Behavior'* (under revision) is the primary source used to develop this program.

Robert J. Schaal IAAI-CFI is the course coordinator and will facilitate practical exercises and course experiments. He is a forensic investigator with Gulf Coast FIRE. He retired as an Assistant Special Agent-in-Charge with the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) after a 27-year career and was certified as a Special Agent/Certified Fire Investigator. He has coordinated and instructed numerous training programs inside the United States and Internationally. He holds a Bachelor of Science Degree in Criminal Justice from Auburn University, Auburn, Alabama.

Facilitators

Dr Peter Mansi IAAI-CFI will assist in facilitating the course. He has been a private forensic fire investigator and Partner with Fire Investigations (UK) LLP for the last four years. Peter served over 30 years with the London Fire Brigade as an operational fire officer and 12 of those in the Fire and Arson Investigation Team. Peter has a PhD in fire investigation methodology.

John Galvin IAAI-CFI will assist in facilitating the course. He has been a private forensic fire investigator and Partner with Fire Investigations (UK) LLP for the last four years. John also served over 30 years with the London Fire Brigade as an operational fire officer and 16 of those in the Fire and Arson Investigation Team. John has a BSc(Hons) in Technology.

This is a 'Training, Education, and Professional Development Partnership'

*Please contact **Robert J Schaal** for any course related questions at:*
Email: training@gcfireinvestigation.com
Mobile: +1 504 329 0438

Gulf Coast Fire Investigation, Research, and Education, LLC, in partnership with Dr James G. Quintiere and Fire Investigations (UK) LLP are proud to announce the scheduled delivery of our Advanced Principles of Fire Dynamics training program at the BRE Academy. The curriculum was developed utilising a tiered learning approach with the objective of taking students from a fundamental knowledge and understanding of fire dynamics through to its

comprehension and application.

Overview of Course

This program includes presentations and experiments on the following topics:

- Science of Maths/General Algebra
- Heat Transfer
- Combustion
- Fire Growth
- Fire Plumes
- Enclosure Fire Dynamics

Who should take this course:

- Fire investigators who want to add fire dynamic concepts & calculations to their tool kit.
- Fire Engineers who need new knowledge in the theory of fire behaviour.
- Students studying fire science, fire protection engineering or forensic fire investigation and who want a better understanding of the behaviour of fire in the real world environment

Curriculum/Schedule

This program is an intensive, interactive 3-day training program that combines lectures with bench scale experiments to illustrate and reinforce the concepts and theories presented during the program. The experiments will be conducted in a small group format and group results will be summarised and discussed at the end of each session. The program outline includes:

Day 1

- **Introduction**
  - introduction to the focus and performance objectives of the program
- **Science of Maths/Basic Algebra for the Fire Investigator**
  - this session focuses on the relationship of maths to fire investigation and discusses basic algebra and units
- **Heat Transfer**
  - this session will discuss the concepts and definitions of energy and heat transfer as it relates to fire development
- **Heat Transfer Field Experiments**

Day 2

- **Combustion**
  - this session will discuss the various processes of combustion and the process of flame formation
- **Combustion Field Experiments**
- **Fire Growth**
  - this session will focus on the concepts of heat release rate, ignition and surface flame spread
- **Fire Growth Experiments**

Day 3

- **Fire Plumes**
  - this session discusses the dynamics of fire plumes and plume behaviour in the fire environment
- **Fire Plume Field Experiments**
- **Enclosure Fire Dynamics**
  - this session focuses on the dynamics of fire behaviour in an enclosure including fire development, flashover, ventilation flows and the influence of smoke movement.
- **Enclosure Fire Field Experiments**

At the end of the course students may challenge and pass a summative examination. All students that complete the course will be awarded 22.5 CPD hours by the IFE.

NOTE: This program does include a discussion and use of various fire dynamics mathematical equations and concepts. It is recommended that participants bring a scientific calculator or have an appropriate application on their computer or smartphone.

Accommodation

Delegates are responsible for making their own accommodation arrangements if required.

Detailed below are some hotels local to the training venue.

Premier Inn – Bricket Wood
http://www.premierinn.com/gb/en/hotels/england/hertfordshire/st-albans-bricket-wood/st-albansbricket-wood.html

Premier Inn – Watford North
https://www.google.co.uk/?gws_rd=ssl#q=premier+inn+garston

Holiday Inn Express – Watford
http://www.ihg.com/holidayinnexpress/hotels/us/en/watford/lonwa/hoteldetail?cm_mmc=GoogleMaps-_-ex-_-GBEN-_-lonwa

Holiday Inn – Watford Junction
http://www.ihg.com/holidayinn/hotels/gb/en/watford/lonju/hoteldetail?cm_mmc=GoogleMaps-_-hi-_-GBEN-_-lonju

Other hotels are available in the area.
https://www.google.co.uk/?gws_rd=ssl#q=hotels+in+garston+watford

Directions to the BRE Academy

HOW TO GET TO BRE WATFORD

BRE's Garston site is 20 miles from Central London, four miles north of Watford, and a mile from Garston itself. We are very close to the junction of the M1 and M25 motorways. Mainline train services from London Euston pass through Watford, and London's main airports are all within 60 miles.

Public transport

Travelling by train

The nearest mainline station to BRE is Watford Junction, on the London (Euston) to Glasgow line. It is a three mile taxi ride or bus journey (see below) from the station to BRE. Local services from Watford Junction to St Albans call at Bricket Wood station, a 20 minute walk from BRE. See www.bre.co.uk/directions for more details. National Rail Enquiries: **T** 08457 48 49 50

Bus services: from bus stop 5 at Watford Junction station

UNO bus service 622, from central Watford to Hatfield, stops on site at BRE. **Arriva bus 321** from Watford Junction to St Albans passes close to BRE (alight at St Michael's School, use the underpass to reach Bucknalls Lane). See www.bre.co.uk/directions for timetables or call the Hertfordshire Intalink Traveline **T** 0870 608 2 608.

Travelling by road

From the M1

Leave the M1 at Junction 6 (the A405, signposted to St Albans if approaching from London, and North Watford if approaching from the north). Follow the tight bend of the slip road round and join the southbound A405 towards North Watford. After half a mile, turn left at the traffic lights into Bucknalls Lane (signposted to BRE). Our entrance is on the left at the end of the lane, after the motorway bridge.

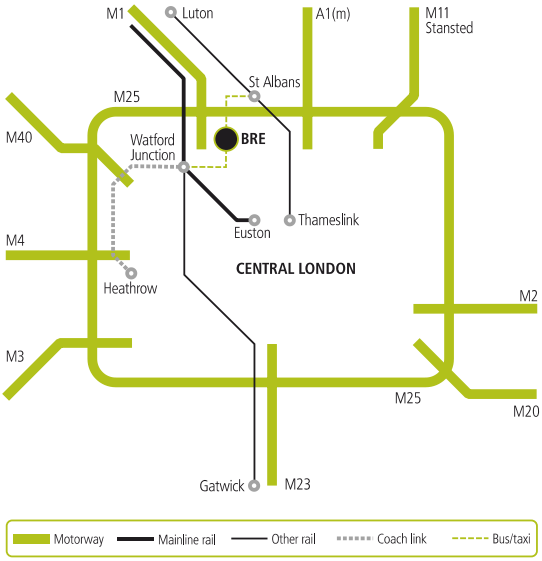
From the M25

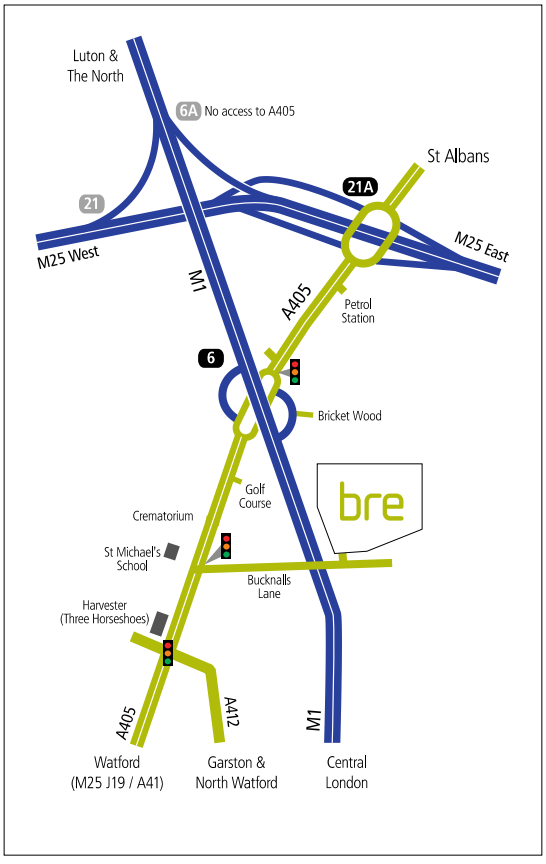
Leave the M25 at Junction 21A (signposted 'A405, St Albans' if approaching from the west and 'A405, M1 South, St Albans' from the east). Turn onto the A405, following signs to North Watford. After half a mile, continue straight on at traffic lights, passing under the M1. After a further half mile, at the next traffic lights, turn left into Bucknalls Lane (signposted to BRE). Our entrance is on the left at the end of the lane, after the motorway bridge.

Satnav users

Some satnavs give incorrect directions to BRE if you enter our postcode. Instead, use **WD25 9NH** and this will bring you within sight of our BRE main entrance in Bucknalls Lane.

BRE Bucknalls Lane, Watford, WD25 9XX
T 0333 321 8811 E enquiries@bre.co.uk
www.bre.co.uk





March 2014

BRE Academy, Bucknalls Lane, Garston, Hertfordshire, WD25 9XX
9, 10 and 11 August 2017

"Advanced Principles of Fire Dynamics"

BOOKING FORM

PERSONAL DETAILS

Title:	First Name:	Last Name:
Address:		
Post Code:		Telephone:
Fax:		E-mail:
Organisation:		Job Title:
Special Dietary Requirements:		Delegate No:

Please be aware because of security considerations at this event, attendance at BRE is subject to capacity limits and it is vital therefore that you register at the earliest opportunity so that we can confirm final numbers. The booking system for registrations will close on the 8 July 2017; any bookings received after this date may not be accepted.

Please note that evidence of ID will be required at entry to the venue, along with delegate registration number.

Course Fee: £1,150.00 plus VAT (£1,380.00)

includes refreshments and lunches, tuition fees, course notes, experimental guidance book and all experiment consumable supplies

To book your place at this event please complete and return this form with a cheque payment to:

'Fire Investigations (UK) LLP'
and send by post to
PO Box 49727, London N20 0YP, UK

Telephone number: 08444 747 007
Facsimile number: 020 8361 0944
Email: admin@fireinvestigationsuk.com

Alternatively, electronic payments (BACS) can be made to:

Fire Investigations (UK) LLP

Sort code: 20-95-61
Account No: 83374890

IBAN: GB91 BARC 2095 6183 3748 90
SWIFT: BARCGB 22

VAT No: GB123 1215 73

N.B. In the BACS reference box please put 'APFD' + surname

Terms and conditions for booking

Your booking should be made with full payment.

Fees must be paid in full no later than 21 working days before the course commences or failure to pay may result in attendance being refused.

Registrations are accepted on the understanding that the printed programme is given in good faith but may have to be rescheduled as may the timetable.

Gulf Coast Fire and Fire Investigations (UK) LLP reserves the right to cancel or postpone the course, in which case fees will be refunded in full. In the event of cancellation, Gulf Coast Fire and Fire Investigations (UK) LLP will not be held liable for delegates travel or accommodation expenses.

Delegates will receive a full refund for cancellations made within 7 days of booking. Where a delegate wishes to cancel a registration, written cancellations received up to 15 working days before the course will be subject to an administrative charge of 20% of the total remittance. After this date the full fee is chargeable and no refunds will be made, this also applies for non-attendance but copies of the course documents will be sent.

Substitutions may be made at any time.