

# SPEAKER

## PROFESSOR J.G. QUINTIERE

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[Ref: What is Flashover?]



THE HONG KONG  
POLYTECHNIC UNIVERSITY

DEPARTMENT OF  
BUILDING SERVICES ENGINEERING



C P D L E C T U R E

- Free Admission -

# What is Flashover?

D a t e

22 June 2012 (Fri)

T i m e

7.00 – 8.00 pm

V e n u e

Room FJ301  
The Hong Kong  
Polytechnic University

Name (in Full): \_\_\_\_\_  
Company Name: \_\_\_\_\_  
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## Organized by

Professor W.K. Chow  
Director, Research Centre for Fire Engineering  
Head of Department, Department of Building Services  
Engineering  
Leader, Former Area of Strength: Fire Safety Engineering  
The Hong Kong Polytechnic University

## PROGRAM SCHEDULE

6.45 – 7.00 pm	.....◆	Registration
7.00 – 7.05 pm	.....◆	Introduction
7.05 – 7.50 pm	.....◆	Talk by Professor J.G. Quintiere
7.50 – 8.00 pm	.....◆	Questions and answers

## ABSTRACT

Flashover is a critical event in the growth of a fire within a room. It is defined and perceived in many ways. Some conclude that it is when all things suddenly burn in a room. Others mark it when flames are suddenly seen to protrude through a doorway or window. In the science literature, a critical smoke temperature or heat flux to the floor is used to mark the event. Perhaps all recognize that "flashover" is a transitional event. Indeed, it is a transition in the fire growth developing from an object or region burning as it might burn in open air to the fully developed fire for the room. The fully developed state is either fuel-controlled or ventilation-limited. In short, flashover is the transition from the developing room fire to its fully developed state. The presentation will focus on explaining the stages of fire growth in a room, and in particular focusing on "flashover". Flashover will be investigated in terms of a mathematical instability governed by radiation feedback from the heated smoke layer of a room. It is not defined in terms of one smoke temperature, and for the common ventilation-limited fully developed fire, it does not lead to all objects suddenly in flames. A video will be shown to illustrate the rapid growth rate that accompanies flashover, and how the flames seek air in the room. Eventually, they reach the vents of the room.

## Speaker

Jim Quintiere has just retired from the Department of Fire Protection Engineering at the University of Maryland, College Park. He is now an Emeritus Professor. He has over 130 journal publications in areas ranging from the behavior of materials in fire including ignition, flame spread and burning rate to the behavior of fire in buildings including flashover, smoke movement, and modeling. Current research includes scale modeling, burning at low pressure and oxygen, and burning in micro-gravity. He is the sole author of two books:

*Principles of Fire Behavior*, Cengage (formerly Delmar Pub.), August 1997.

*Fundamentals of Fire Phenomena*, John Wiley and Sons, Ltd., May 2006.

and co-author (with Bjorn Karlsson) of *Enclosure Fire Dynamics*, CRC Press, Boca Raton, FL, Sept. 1999.

He is a Fellow of the ASME (2004) and the SFPE (1999); received the Howard W. Emmons Lecture Award, Inter. Assoc. Fire Safety Science (1986); Arthur P. Guise Award, SFPE; and the David Rasbash Medal, the Inst. Fire Engrs, UK (2008); and Kawagoe Gold Medal, IAFSS (2011). He consults and teaches courses in fire investigation.

## Acknowledgment

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