

# FIRE AND BLAST INFORMATION GROUP

## 90<sup>th</sup> TECHNICAL MEETING:

# RESPONSE OF BUILDINGS TO EXPLOSIONS CAUSED BY INDUSTRIAL ACCIDENTS

Results of the joint European Project  
“Blast Actions on Buildings in Steel” - BASIS

## FULL-DAY EVENT

This FABIG Technical Meeting is organised in partnership with **the consortium of the EU-RFCS funded research project BASIS** (Blast Actions on Buildings in Steel). The results of this project will be presented during this full-day event.

The objective BASIS is to develop a better understanding of blast loading on medium rise buildings and the performance of such buildings when subjected to blast. The project also developed simplified structural dynamic analysis tools for building components and whole buildings.

Explosion tests were performed to quantify the distribution of blast loads on a building and the explosion response of sub-assemblies (frame/cladding interaction, connections and floor systems). Static tests were used to study the effect of damage on a composite floor's ability to contribute to the building's stability. Numerical models, validated against the test data, were used to study global collapse behaviour and structural retrofitting possibilities leading to design guidelines.

8<sup>th</sup> March 2017  
Aberdeen University, Aberdeen, UK

9<sup>th</sup> March 2017  
Broadway House, Tothill Street, SW1H 9NQ, London  
and  
**via LIVE WEBCAST**

## Programme:

SESSION TITLE	TIME (UK)
<b>Registration</b>	10:30 - 11:00
Introduction and overview of the BASIS project <i>Bassam Burgan - SCI</i>	11:00 - 11:15
Explosion loading on buildings:	
Experimental results and comparison with numerical models <i>Jean-Luc Hanus - INSA Val de Loire</i>	11:15 - 11:45
Comparison with analytical models <i>Yann Gregoire - INERIS</i>	11:45 - 12:00
Response of building components to explosions:	
Static tests on composite floors <i>Hugues Somja – INSA De Rennes</i>	12:00 – 12:20
Explosion tests on building components <i>Benjamin Le Roux - INERIS</i>	12:20 – 13:00
<b>Lunch</b>	13:00 - 13:40
Explosion response assessment of building components using finite elements:	
Analysis of masonry cladding panels subjected to explosions <i>Lorenzo Macorini &amp; Jiaping Gu - Imperial College</i>	13:40 - 14:00
Analysis of composite cladding panels subjected to explosions <i>Christophe Renaud - CTICM</i>	14:00 - 14:20
Analysis of simple connections subjected to explosions <i>Christophe Renaud - CTICM</i>	14:20 - 14:40
Analysis of composite floors subjected to explosions <i>Mikel Minguez - Tecnalia</i>	14:40 - 15:00
Assessment of whole building performance under explosion loading <i>Bassam Izzuddin &amp; Jiaping Gu - Imperial College</i>	15:00 - 15:30
<b>Break</b>	15:30 - 16:00
Simplified analysis software for explosion response analysis:	
Software features and demonstration <i>Ibrahim Fahdah - SCI</i>	16:00 - 16:20
Software validation and comparison with finite element analysis <i>Anqi Chen - SCI</i>	16:20 - 16:40
Design guidelines <i>Bassam Burgan - SCI</i>	16:40 - 17:00
<b>Meeting Close</b>	<b>17.00</b>

## Continuing Professional Development:

We would like to remind you that members of most engineering institutions can count FABIG Technical Meetings as Continuing Professional Development (CPD). Attendance certificates are issued to delegates upon request.

## Attendance Fee:

*FABIG Members:*     **Free**

*Non-members:*     **£350** (excluding VAT) per person for the Aberdeen and London events

Please note that **only FABIG Members can register for the webcasts.**

## Registration:

Please register for the event online at <http://www.fabig.com/events>.

For any FABIG related information, please contact Sue Coker or Jane Burrell at SCI:  
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