

## Programme

### Training School for Young Researchers

#### **“Fire Engineering Research - Key Issues for the Future”**

Sliema, Malta

11-14 April 2012

The Training School is intended to broaden the research background of the participants, firstly by introducing them to the views of some leading researchers and practitioners, and then by challenging them to understand and assist with the research projects of their fellow researchers. Through this interchange of information and opinion, as well as the opportunity to network outside the programme, the COST TU0904 Action will play a major part in the formation of the next generation of leaders in fire engineering research and practice across Europe.

The School will run for 3½ intensive days.

#### **Presentations: 11/12 April:**

The School will start with 1½ days of presentations by experts/scholars on current and future issues in performance-based fire engineering. A tentative schedule is:

#### **Wed 11 April:**

##### Lunch

15.00: Session 1: An overview of the development of fire engineering in research and practice

Jean-Marc Franssen (Université de Liège, Belgium)

##### Tea

16.30: Session 2: Design methods – codified, prescriptive or performance-based?

Paulo Vila Real (University of Aveiro, Portugal)

19.00: Gala Dinner at PALAZZO CAPUA, Sliema Water front

#### **Thur 12 April:**

09.00: Session 3: Current issues in fire science research

Guillermo Rein (University of Edinburgh, UK)

##### Coffee

10.30: Session 4(a): Structural fire testing: Where are we, how did we get here, and where are we going?

Luke Bisby (University of Edinburgh, UK)

11.30: Session 4(b): The need to design for robustness in fire

Ian Burgess (University of Sheffield, UK)

##### Lunch

14.00: Session 4(c): Fire protection issues

Yong Wang (University of Manchester, UK)

##### Tea

15.30: Session 5: Fire engineering in practice - state of the art in performance-based design

Florian Block (Buro Happold, Germany)

17.00: Session 6: The fire-fighters' view

Jim Marsden (Ignis Associates, UK)

The presentations are intended to stimulate discussions with and between the researchers, and the timings are deliberately rather loose to allow them to happen.



19.00: Dinner, Valletta, Dinner at Il-Kaptan, Valletta Water Front

**Brainstorm sessions: 13/14 April**

These two days of the course will consist of brainstorming sessions on the young researchers' own projects. At present it is not completely certain how many researchers will be attending the Training School, since the budget has recently enabled us to extend the invitations to some of our reserve list. Assuming an attendance of about 30, it should be feasible to run 4 sessions of 3 or 4 projects on each of the two days, with a greater number presented on the 13th.

Presentations should each take 15-20 minutes (maximum 20 slides), with 10-15 minutes' discussion. Researchers should be candid about the progress made and problems encountered in presentations. The discussion involving the whole group is intended to contribute ideas and advice.

**Fri 13 April:**

09.00: Session 7

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|-----|------------------|--|
| 7.1 | Alexandru Botici | Sustainable retrofitting solutions for precast concrete residential buildings  |
| 7.2 | Cécile Haremza   | Robustness of steel composite open car parks under localised fire – Numerical evaluation of the effect of axial restraints |
| 7.3 | Csaba Szilagyi   | The correct size of the fire and the observing of the effects of the fire-extinguisher system                              |

Coffee

11.00: Session 8

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|-----|------------------------|--|
| 8.1 | Aleksandra Cvetanovska | Fire behaviour of steel columns  |
| 8.2 | Daphne Pantousa        | Study of the behaviour of steel and composite structures in fire - after earthquake events |
| 8.3 | Gianluca de Sanctis    | Generic Fire Risk Assessment in residential and industrial buildings                       |

Lunch

14.00: Session 9

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|-----|----------------|--|
| 9.1 | Gillermo Abril | The behaviour of a particular technique of passive fire protection |
| 9.2 | Monika Hajpal  | Laboratory fire resistance tests of building structures in Hungary |
| 9.3 | Jiri Jirku     | Fire resistance of galvanised members                              |

Tea

16.00: Session 10

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|------|----------------|---|
| 10.1 | John Gales     | Post-tensioned concrete structures at elevated temperature and in fire              |
| 10.2 | Kamila Horova  | Travelling fire in multi-storey buildings   |
| 10.3 | Neno Toric     | New numerical models for behaviour of steel and concrete structures exposed to fire |
| 10.4 | Mikko Salminen | Applicability of linear analysis in fire design of tubular steel trusses            |

19.00: The Palace, Tabloid - Dinner

**Sat 14 April:**

09.00: Session 11

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|------|--------------|--|
| 11.1 | Carlos Couto | Fire design of uniform and tapered class 4 steel members |
| 11.2 | Josep Culi   | Fire behaviour of wood – Impregnation method             |



11.3 Robert Pecenko Fire analysis of prestressed hollow-core slab

Coffee

11.00: Session 12

12.1 Tim Heistermann Component behaviour of reverse channel connections  
12.2 Naveed Iqbal Numerical study of the behaviour of a sub-frame assembly in a composite framed structure exposed to fire  
12.3 Pawel Krol Reliability aspects of fire design

Lunch

14.00: Session 13

13.1 Roberta Fonti Protection of historical buildings against catastrophic actions: Case Study  
13.2 Ruirui Sun Progressive Collapse Analysis of Steel/Composite Frames under Fire Conditions  
13.3 Marija Jelcic Rukavina

Tea

16.00: Session 14

14.1 Giuseppe Cefarelli Application of fire safety engineering to open and closed car parks of C.A.S.E. Project for L'Aquila  
14.2 Diana Duma Sustainable retrofitting solutions for precast concrete residential buildings  
14.3 Teemu Tiainen Simplification of steel truss design in fire - optimization approach  
14.4 Tomaz Hozjan Analysis of steel–concrete composite beam with interlayer slip in fire conditions

18.00: Session 15: Wrap-up presentation and discussion

František Wald (CVUT Prague, Czech republic – Chair of TU0904)

19.00: Free Evening

The Proceedings of the Training School will be available printed and on the Action's website shortly afterwards as a collection of PDF documents:

- Scholars' presentations,
- Researchers' project abstracts,
- Researchers' presentations.

[Please ensure that you leave your MS PowerPoint presentation with Kamila at the event, so that it can be published.]

