

## **COST TU0904: Report of STSM**

**Name of young researcher:** Gang Dong (University of Sheffield)

**Centre visited:** University of Coimbra (Professor Luis Simoes da Silva)

**Period of visit:** 19<sup>th</sup> -25<sup>th</sup> June 2011

The objective of this visit was to share vital information between research groups at Coimbra and Sheffield on the basis of collaborative work on developing a high-temperature component model for reverse-channel connections.

During this one-week period, the works done by Gang Dong included:

- Visiting the laboratory;
- Reading the reports for COMPFIRE WP2 and Reverse Channel Component (Version1);
- Using symbolic manipulation mathematical software, MAPLE to carry out the analytical derivations, including reproducing derivations of 2.3, 2.4 and 2.5, and deriving 2.6, 2.7 and 2.8.

Under the guidance of Professor da Silva, Gang Dong gained an intimate knowledge of the theoretical and experimental work on this connection type which has been performed at Coimbra over the past two years. As part of the familiarisation process, Gang contributed to the analytical development of the Coimbra model. During this process, the different approaches to modelling component behaviour between Coimbra and Sheffield were studied and compared.

This STSM has motivated Gang Dong's research, and helped him to accelerate progress on his PhD. The collaboration between research groups at Coimbra and Sheffield will be carried on in future. There will be benefits for both research groups in disseminating the results of the COMPFIRE project via conference presentations and journal papers. The goal is to develop an integrated component-based connection element model to be used in global structural fire engineering analysis of whole structures or large structural subframes.

Gang Dong (Young Researcher)  
25/07/2011

