

Summer School “Structural Fire Engineering”

Description of the course:

This course aims to give the background on response of building structures to fires. The course includes basis of fire development, and heat transfer theory. The material response of common building materials is given, and then the structural fire design of steel and concrete structures is covered, based on commonly used codes. The course is concluded with the information of possibilities of using Finite Element Analysis to model the structural fire behaviour using the Performance-Based Design Framework.

Programme:

- Introduction to structural fire engineering
- Fire behaviour
- Heat transfer in solids
- Heat transfer between the fire and the structure
- Effect of elevated temperature on steel and concrete
- Structural fire design of steel structures
- Structural fire design of concrete structures
- Using FEA to model structures in fire

Lecture notes will be distributed prior to the course.



Lecturers:

Prof. Adam Glema

Professor Adam Glema is an expert in the field of Building Information Modelling, with prior background in localization of plastic deformations. He is the founder of the Structural Fire Engineering Group at the Poznan University of Technology.

Michał Malendowski, PhD.

Dr Michał Malendowski is a researcher at the Poznan University of Technology. He has a strong background in numerical analyses of fire phenomena, structural fire behaviour, and blast effect on structures.

Wojciech Szymkuć, MSc.

Mr. Wojciech Szymkuć is a researcher, and a PhD candidate at the Poznan University of Technology. His research focus includes the structural fire behaviour of reinforced concrete structures, and the influence of high temperatures on properties of concrete and other cementitious composites.

