

# Louvain Technology Transfer Office

**TECHNOLOGY OFFERS**

MATERIAL TRANSFER  
SOFTWARE  
LICENSE  
SERVICES

ENGINEERING

BIOTECH / HEALTH

MATERIALS / ENERGY

GREEN / FOOD

## Advanced Structural Analysis

### KEYWORDS

- Finite Element Analysis
- Life-Cycle Analysis
- Durability
- Optimization

### Technology Market

This collaboration offer is addressed to all administrations, companies, professionals dealing with:

- Structural design
- Life-Cycle analysis of structures
- Management and maintenance of the infrastructures
- Forensic engineering and of disasters engineering

Our mission is to provide a specialized support in the resolution of problems connecting the theory and the practice.

### The UCL background

The analysis group has over 15 years of experience in the structural modelling by Finite Elements using commercial software (ABAQUS, ADINA, SAP2000) or writing "home-made" software (FORTRAN, MATLAB) to face a problem that commercial software are not able to analyse.

In the past we have worked on the followings subjects: nonlinear analysis of R.C. or steel structures, structural optimization by genetic algorithm, durability and life-cycle analysis of bridges, analysis of long span suspension bridges and high building, Monte Carlo simulations for the evaluation of the structural safety.

### The UCL collaboration offer

Experience, methodologies and tools of high profile for the analysis and the design of structures and infrastructures with elevated performances.

A network of international researchers ready to collaborate.

### Preferred partnership

Collaborative projects

Development of software

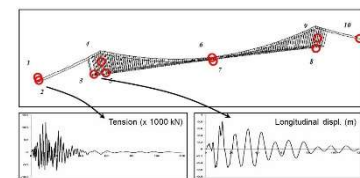
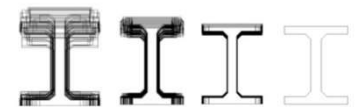
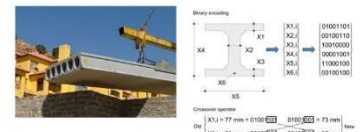
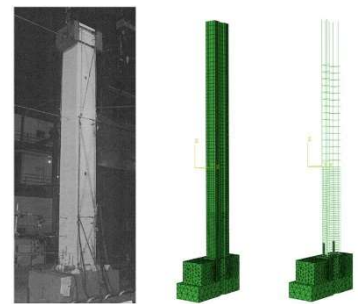
Consulting

### References

Sgambi L., Garavaglia E., Basso N. & Bontempi F. (2014) "Monte Carlo simulation for seismic analysis of a long span suspension bridge". *Engineering Structures*, 78, 100 – 111.

Sgambi L. (2014). "Influence of corrosive phenomena on a guard-rail collapse". *Engineering Failure Analysis*, 42C, pp. 284-296.

Sgambi L., Gkoumas K. & Bontempi F. (2014). "Genetic algorithm optimization of precast hollow core slabs". *Computers and Concrete*, 13(3): 389-409.



Numerical model of a precast R.C. column; Hollow core slab optimization; Numerical analysis of long span suspension bridge



**INTERESTED TO COLLABORATE AND CO-DEVELOP THIS TECHNOLOGY ?**

Please contact :

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