

Non-linear modelling of concrete structures at FEUP/LABEST

*Prof. Joaquim Figueiras**

*Prof. Rui faria**

**Faculty of Engineering of the University of Porto (FEUP)/ Laboratory for the Concrete Technology and Structural Behaviour (LABEST)*

Abstract:

This presentation provides an overview of the work that the LABEST research group has been developing in the field of numerical modelling of concrete structures. Some constitutive models were developed covering several aspects of concrete structural behaviour such as localized cracking, tension stiffening, compressive crushing, fatigue, creep, shrinkage, early age behaviour, relaxation of the prestressing steel, large displacements and randomness in the material properties. The developed constitutive models are described and the emphasis is placed on the applications, both for academic and engineering purposes.

In the last 5 years the DIANA code has also been extensively used at LABEST and a overview of several DIANA applications is given.