Computational intelligence TECHNIQUES AND APPLICATIONS in civil engineering

TRACK Number: 1000 Computational Solid Mechanics

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**Key words:** Computational Intelligence, Civil Engineering, Structural Engineering, Optimization, Neural Networks, Fuzzy Analysis.

ABSTRACT

Computational Intelligence methods are a group of numerical models, tools and algorithms used to deal with problems that are difficult to solve with traditional hard-computing strategies. Recently, such methodologies have been successfully implemented in multiple areas of civil engineering proving to be very efficient in a wide range of problems increasing the robustness of the solutions compared to other traditional approaches. Computational Intelligence methods are also commonly referred as soft computing strategies and their inspiration usually comes from the biological processes that nature has found to facilitate the intelligent behaviour in complex and changing environments. Among the most commonly used techniques are: Evolutionary Algorithms (EA), Artificial Neural Networks (ANN), Support Vector Machines and Fuzzy Logic.

This Minisymposium aims to bring together scientists and engineers working with computational intelligence methodologies with focus in civil and structural engineering. The goal is to create a proper environment in which to share and discuss the [participants](https://www.google.com/search?rlz=1C1GCEA_enNO852NO852&sxsrf=ALeKk03P741o0wypN_U4SgL8skNUuHcqJw:1624980507619&q=the+author%27s+idea&spell=1&sa=X&ved=2ahUKEwjzkbGPlL3xAhUgmmoFHQyeBtkQBSgAegQIARAw)’ innovative ideas and applications in the field. The topics of the MS include but are not limited to:

• Genetic Programming

• Evolutionary Computation

• Evolutionary Algorithms

• Artificial Intelligence

• Neural Networks

• Machine Learning

• Perceptrons

• Fuzzy Set Theory

• Fuzzy Systems

• Fuzzy Optimization

• Swarm Intelligence

• Chaos Theory and Chaotic Systems