NAFEMS

AWARENESS SEMINAR ON FINITE ELEMENTS AND NUMERICAL OPTIMIZATION IN ENGINEERING

22-24 November 2010
Department of Mechanical Engineering, University of Aveiro
Aveiro, Portugal

Seminar

The simulation of engineering processes using the Finite Element Method (FEM) is today a quite well established procedure, which opens doors to solving new and more complex problems using optimization approaches together with the FEM.
Optimization problems, such as, for instance, shape or topology optimization problems, use the finite element method along with optimization algorithms to reach an effective result. However, the difficulty of these kinds of problems is increased by the addition of the optimization algorithms intricacy to the known FEM simulation complexities. This fact makes these problems as one of the most challenging problems in engineering.

This seminar brings together experts in these areas of knowledge, aiming to discuss the current state-of-the-art of numerical simulation techniques together with numerical optimization processes, and trying to establish the future guidelines in the field.

Aimed at engineers and other professionals, researchers and developers in the field and engineering students with some background on numerical simulation techniques.

Invited Speakers

João Folgado (IST, Lisbon), Fermín Navarrina (Universidade da Coruña), Esther Andrés (Fluid Dynamics Dept, INTA, Madrid), Gino Duffett (AperioTec -EnginSoft), Enrique Marchante Parodi (Sener Ingeniería y Sistemas S.A.), J. Pinho-da-Cruz and João Oliveira (Universidade de Aveiro).

Rates

NAFEMS members	30 Euros
Students	30 Euros
Regular fee	50 Euros

Intensive Courses

The NAFEM Awareness seminar Aveiro (NAS-Aveiro 2010) is preceded by two intensive courses: (i) *Intensive Finite Element Method Course* and (ii) *Intensive Engineering Optimization Course*. These courses are available for registered participants of the NAS-Aveiro 2010. No additional registration and fee is required.

Website & Registration

http://grids.web.ua.pt/grids_ev_NAFEMS2.html
http://www.nafems.org/events/nafems/2010/optimization_iberia/

Agenda

Time/Day	IFEMC 22 November	IEOptC 23 November	NAS-Aveiro 2010 24 November
10:00 - 12:00	Part I FEM Basics	Part I Engineering Optimization Basics	08:30 - Registration 09:00 - Welcome note
14:00 - 16:00	Part II Advanced Techniques	Part II Implementation, Applications and Modern Techniques	09:30 - Session 1 (3 speakers) 12:30 - Lunch break
16:30 - 18:00	Part III Applications	Part III Topology Optimization Tutorial	14:30 - Session 2 (3 speakers) 17:15 - Closing remarks

Organization
GRIDS and NAFEMS

Organizing Committee
A. Gil Andrade-Campos, GRIDS/TEMA, Universidade de Aveiro
Robertt Valente, GRIDS/TEMA, Universidade de Aveiro
J. Pinho-da-Cruz, GRIDS/TEMA, Universidade de Aveiro
Rogério Leal, CEMUC, Universidade de Coimbra
Marta Oliveira, CEMUC, Universidade de Coimbra
José Grácio, TEMA, Universidade de Aveiro

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