

8:45-17:40 *Short Course at IASS-IACM 2012, GF Sarajevo, April 1-4* Room 8

## **NONLINEAR COMPUTATIONAL MECHANICS OF STRUCTURES: Models, Computations, Probability, Interaction, FE Code Coupling**

### **COURSE PROGRAM**

8:45-9:00 Course Registration Room 8

9:00-10:40 Lectures 1-3 (AI = A. Ibrahimbegovic, HM = H. Matthies, DB=D. Brancherie, CK= C. Kassiotis) .

9:00-9:30 /AI/ 1. Introduction: variational formulations in nonlinear solid mechanics;

9:35-10:05 /AI/ 2. Enhancing FEM performance – element technology;

10:10-10:40 /AI/ 3. Inelastic constitutive behavior at small strains;

10:40-11:00 Coffe-Break .

11:00-12:40 Lectures 4-6 (AI = A. Ibrahimbegovic, HM = H. Matthies, DB=D. Brancherie, CK= C. Kassiotis).

11:00-11:30 / AI / 4. Nonlinear solid mechanics problems at large displacements;

11:35-12:05 / AI / 5. Nonlinear structural mechanics;

12:10-12:40 / DB/ 6. Numerical solution and implementation in FEM codes (FEAP);

12:40-14:00 Lunch-Break .

14:00-15:40 Lectures 7-9 (AI = A. Ibrahimbegovic, HM = H. Matthies, DB=D. Brancherie, CK= C. Kassiotis).

14:00-14:30 / HM / 7. Probability aspects in structural mechanics;

14:35-15:05 / DB / 8. Instability of structures and systems;

15:10-15:40 / CK / 9. Nonlinear fluid mechanics problems at large displacements (Open-FOAM);

15:40-16:00 Coffe-Break .

16:00-17:40 Lectures 10-12 (AI = A.Ibrahimbegovic, HM = H.Matthies, DB=D.Brancherie, CK= C. Kassiotis)

16:00-16:30 / HM / 10. Multi-physics and multi-scale problems;

16:35-17:05 / HM / 11. Solution methods for coupled and interaction problems;

17:10-17:40 / CK / 12. Software architecture and code coupling in multi-physics framework (CO-FEAP, COFOAM)

17:40-19:00 Conference Registration Amphi