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Recent Researches in Information Science & Applications

- *Proceedings of the 7th WSEAS International Conference on Computer Engineering and Applications (CEA '13)*
- *Proceedings of the 1st International Conference on Computer Generated Design (CGD '13)*
- *Proceedings of the 1st International Conference on Computer Generated Imagery (CGI '13)*

Milan, Italy, January 9-11, 2013

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Plenary Lecture 1

Approaches to Engineer Interactions between Distributed Components

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Abstract: In today's distributed systems, engineering interactions between components is a crucial issue, which requires decoupling and coordination. In this talk I propose a couple of approaches that have been applied to software agents. The former one is based on reactive and programmable tuple spaces, which decouples the interactions between agents and at the same time can be adapted to specific needs and can make the environment actively participate in the interactions. The latter approach is based on the concept of role, which is a behavior common to different entities; this allows to decouple the interaction logic from the application logic.

Brief Biography of the Speaker: Giacomo Cabri is an associate professor in Computer Science at the University of Modena and Reggio Emilia since 2006. His current research interests include: distributed systems, complex agent systems, software engineering, mobile computing, and object-oriented programming. In these areas, he has published more than 120 publications, among which 27 in peer-reviewed international journals, and he has received 4 best paper awards. He was involved in different national and international research projects. He is in the program committee of several workshops and conferences and has been General Chair of IEEE WETICE 2004 and of ACM PPPJ 2008. He is member of ACM and IEEE.

Plenary Lecture 2

Shape Memory Alloys: Mechanical Behaviour Modelling, Design Issues, Smart Devices and Numerical Implementation for Structural Control Applications

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Abstract: Shape Memory Alloys' properties may be successfully exploited for designing effective and reliable devices for the attenuation of the response of civil structures. A number of issues should be accounted for ranging from modeling problems, also with reference to not uni-axial mechanical relationships, to implementation and design issues, that are proposed and analyzed in the lecture.

Brief Biography of the Speaker: Ottavia Corbi graduated at the University of Naples Federico II in 1996, and, then, in 2000 with a Ph.D. degree in Structural Engineering. From 2000 she has been teaching courses on main topics of Structural Mechanics in the Department of Science of Costructions at the University of Naples. Since 2002 then she has been a faculty member of the Department of Science of Constructions and, thereafter, of the Department of Structural Engineering of the University of Naples, serving as an assistant professor from 2002 to 2004, and as an associate professor from 2004 to 2012. Her research interests include structural dynamics and control of vibrations, optimization methods, materials' modeling, static and dynamic analysis of masonry constructions, composite materials, stochastic mechanics. She is author of four books and more than 120 papers published in international journals and conference proceedings. She has also delivered many speeches at various international conferences.

Plenary Lecture 3

On the Mechanics of Masonry Vaults: Theoretical and Technical Approaches

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Abstract: Basic properties of masonry do not allow to rely on tensile strength, and flexural models cannot be trusted on. It is is recognized that, apart from a few cases, the No-Tension assumption yields a effective model for structural assessment. The theory is briefly illustrated, and its application to vaults is explained in detail, leading to a Monge-Ampere equation ruling the static regime through a membrane stress surface.

Brief Biography of the Speaker: Prof. Alessandro Baratta graduated in Civil Engineering in 1969. Since 1980 he is Full Professor of "Science of Constructions" of the University of Naples "Federico II". Head of the Dept. of Scienza delle Costruzioni from 1997 to 2003. Member of the Administrative Board of the University of Naples from 2001 to 2003. Past vice-President of the European Association for Structural Control (EACS) and past member of the Council of the British Masonry Society. Adviser of the Italian National Researches Council (CNR) for Technical Standards. Author or co-author of more than 300 scientific publications and of 3 scientific and didactic books. The research activity is articulated on the following main themes: Probabilistic Theory of Structural Mechanics, Structural Safety, Limit Analysis, Theory of Structures, Aseismic Engineering, Solids and Structures made by No-Tension Material; Theory and Technique of Masonry Buildings, Seismic Risk Analysis, Active Control of Civil Engineering Structures. Author of more than 300 published papers, memoirs and interventions to meetings. He is co-author of a monograph book, "PROBABILISTIC METHODS IN STRUCTURAL ENGINEERING" (Chapman & Hall Editors, London, 1984, also translated in Russian) and of another book entitled "SEISMIC RISK IN HISTORIC CENTRES" (Ed. Del Sole, Napoli, 1996). Finally he has published a didactic book (in Italian) "LEZIONI DI SCIENZA DELLE COSTRUZIONI" Ed. Liguori, Napoli, 1996.