Special Session
1st International workshop on Computational Methods in Orthopedic Biomechanics and Rehabilitation
(COMOR 2009)

November 5-7, 2009, Larnaca, Cyprus

The purpose of the session is to communicate the state-of-the-art ideas on computational techniques in the field of Orthopaedic Biomechanics and Rehabilitation, to educate scientists, engineers, and researchers in the use of these techniques, to promote the use of computer technology in biomechanics and rehabilitation research, and to welcome new researchers into the field. This meeting is a forum for "junior researchers" and it will be a unique educational experience for the presenters. Recently, intelligence and advanced mathematical modeling techniques in computational biomechanics have been employed in various applications in the area of medical imaging, orthopedic biomechanics and rehabilitation. Approaches based on computational methods have been shown to be advantageous compared to classical approaches, in particular when classical solutions are hard or impossible to formulate and analyze. The International workshop on Computational Methods in Orthopedic Biomechanics and Rehabilitation, held in conjunction with the 9th International Conference on Information Technology and Applications in Biomedicine (ITAB) 2009, aims to combine the latest trends and developments in the field of computer assisted methods in orthopaedic biomechanics and rehabilitation

Topics: All topics on computation in orthopaedics are welcome. Special topics of interest for this upcoming symposium are:

- Multi-Scale Approaches to Computer Modeling of Orthopaedic Tissue
- Computer assisted Human Machine interfaces in Rehabilitation
- Computational Methods is Orthotics and Prosthetics
- Finite Element Formulations in Orthopedic Biomechanics
- Development of Algorithms for Simulation of Time-Dependent Processes
- Micro- and Nano-scale Biomechanical Modeling of Tissues Behavior
- Computational Methods in Orthotics and Prosthetics
- Computer assisted multi-modal image analysis

Paper submission:

Authors of best papers will be invited to extend their work for a chapter in one of the following edited books:

* Soft Computing in Medical Image Analysis - Vol. 1: Fuzzy Logic
* Soft Computing in Medical Image Analysis - Vol. 2: Neural Networks
* Soft Computing in Medical Image Analysis - Vol. 3: Evolutionary Computing

All three books will be published in Springer's Studies in Computational Intelligence series.

A selection of papers will also be published at a special issue on the International Journal of Imaging (IJI) (http://www.ceser.res.in/iji.html, **Editor-in-Chief**: **Prof. João Manuel R. S. Tavares (University of Porto, tavares@fe.up.pt))**
The Journal is specialized in experimental and computational analysis applied to living structures. Several research topics will be considered, including image processing and analysis, geometric and numerical modeling, biomechanics, experimental analysis, mechanobiology and visualization.

Important Dates

Paper submission July 30, 2009

Notification of acceptance

August 30, 2009 Camera-ready submission and author registration

Workshop organizers and editorial team:

George Papaioannou Ph.D.
Director of "MOVE Center"
Department of Civil Engineering and Mechanics
College of Engineering and Applied Science and
Department of Occupational Therapy
College of Health Sciences
University of Wisconsin Milwaukee
P.O. Box 784
Milwaukee, WI 53201-0784
414 326 0665

Nikos Pleros, PhD

Lecturer, Computer Science Department
Aristotle University of Thessaloniki
54164 Thessaloniki, Greece
Tel.: +30 2310 998776
Fax.: +30 2310998419
email: npleros@csd.auth.gr

Adeeb Rahman Ph.D
Chair of Civil Engineering and Mechanics
College of Engineering and Applied Science
University of Wisconsin Milwaukee
3409 N. Downer Ave.
Milwaukee, WI 53211
414 326 0665
e-mail: adeeb@uwm.edu

Prof. Dr.-Ing. Georgios Sakas
Head of 'Cognitive Computing & Medical Imaging' IGD-department
Adj. Prof. of Technical University Darmstadt
Adj. Research Assoc. Prof. for Biomedical Engineering of ICCS, NTU Athens
Fraunhofer-Institut für Graphische Datenverarbeitung IGD
Fraunhoferstrasse 5 | 64283 Darmstadt | Germany
Telephon +49 6151 155-153 | Fax +49 6151 155-480
georgios.sakas@igd.fraunhofer.de | www.igd.fraunhofer.de