



FORTH/ICE-HT

SEMINAR SEMINAR

SPEAKER: **Dr. Jorge E. Collazos-Castro, MD-PhD**

Neural Repair Laboratory
Hospital Nacional de Paraplégicos
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HOST BY: **Dr. George Voyiatzis** (e-mail: gvog@iceht.forth.gr, tel.: 2610 965.253)

THEME: **Bioengineering Strategies to Repair Human Spinal Cord Injuries**
Η εμβιομηχανική στην αποκατάσταση βλαβών του νωτιαίου μυελού

PLACE: FORTH/ICE-HT Auditorium

DATE: **Tuesday, 25th of September 2007**

TIME: **12:00**

ABSTRACT: Trauma, tumours, infections, vascular and degenerative diseases can injure neurons, glial cells and blood vessels in the central nervous system (CNS). In adult mammals, CNS damage triggers a complex set of events ending in tissue healing without restoration of normal anatomy and function. During the last decades, considerable effort has been spent in searching for strategies to promote CNS repair, mainly focussing on spinal cord injury (SCI). Recently, some human clinical trials have been performed, most of them involving cell transplantation into the site of lesion. Those interventions are highly controversial, and many of their supporting experiments are open to question. The failure of current SCI treatments is due to the enormous complexity of lesions, and also to the misinterpretation of experimental findings, both in the correlation of anatomical changes with functional outcomes and in the assumption of similitude between model and human injuries.

This conference will provide concise physiopathological information for the judgement of experimental studies on SCI and their significance for the human case. The development of animal models suitable to study neural reparative strategies will be exemplified, and also the main lines of research on CNS repair. Based on this background, a bioengineering approach for the treatment of human spinal cord lesions will be presented.

Dr. Jorge Collazos Castro (Colombia, 1971) obtained a degree in Medicine and Surgery by the National University of Colombia in 1995. He received later a two-year period of training in clinical research for neurological diseases in the Central Hospital for Epilepsy. From 1998 to 2003 he worked in the Cajal Institute (Madrid, Spain) to get his PhD in Neurosciences, studying experimental models of central nervous system damage and evaluating strategies for neural repair. Then he was appointed to the National Paraplegics Hospital in Toledo, Spain, to start running a research laboratory focussed in the development of strategies for the treatment of spinal cord injuries. Currently he coordinates the NERBIOS project (Development of a Bioelectrochemical Device for CNS Repair), with the participation of research centres from Greece, UK, Portugal and Spain. Additionally, his laboratory investigates the neural mechanisms of motor function loss and recovery after central nervous system damage.