

“Peeking Inside a Child’s Epileptic Brain”

Dr. Carlos Cepeda
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Friday, October 11, 2013
LECTURE: 9:00 AM - 10:00 AM

ENGINEERING CENTER
ROOM EC 2300
10555 WEST FLAGLER STREET
MIAMI, FL 33174



Abstract:

Cortical tissue samples resected from children undergoing surgery for the treatment of pharmaco-resistant epilepsy allow examination of epileptogenic mechanisms. Using electrophysiological and imaging techniques we try to unravel abnormal cellular types in cortical dysplasia (CD), a malformation that is the most common cause of pediatric epilepsy. In this seminar I will describe the principal features of dysmorphic cytomegalic neurons and balloon cells in CD. Synaptic dysfunction leading to the generation of epileptic discharges also will be discussed.

Biography

Dr. Carlos Cepeda is a Research Professor at UCLA. His main interest is to understand the basic mechanisms of neurological disorders such as epilepsy and Huntington’s disease. He received training in electrophysiology in Mexico, France, and the USA. Since 1989 he has concentrated his research efforts on the examination of cellular and synaptic alterations in the cerebral cortex of children with pharmaco-resistant epilepsy. In particular, he uses brain slices and whole-cell patch clamp recordings to unravel neuronal and synaptic dysfunction in cortical dysplasia. His laboratory was the first to describe the membrane and synaptic properties of cytomegalic neurons and balloon cells. In parallel, he has been seeking new therapeutic avenues and tested a wide range of pharmacological compounds with potential antiepileptic properties.

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