

## **Abstract 1**

# **MOLECULAR MECHANISMS UNDERLYING MENTAL RETARDATION DISORDERS**

**Ype Elgersma**

Dept. of Neuroscience, Erasmus MC University Medical Center,  
Rotterdam, The Netherlands

The last decade has shown rapid progress in two major fields of biology: Genetics and Neuroscience. Advances in gene mapping and DNA sequencing techniques have allowed the identification of multiple genes involved in childhood developmental disorders. Similarly, Neuroscience has given us increasing insights into the molecular and cellular mechanisms underlying synaptic function. These combined advances now allow us to start connecting the dots and to complete the picture of the mechanisms underlying mental retardation syndromes. In this presentation I will highlight the role of mouse models to understand the role of MR genes in neuronal functions. I will discuss the significance of the Ras/mTor pathway in neuronal function, as well as the mechanisms underlying Angelman Syndrome. In addition I will discuss the opportunities to treat cognitive diseases.