



**INDIVIDUAL DIFFERENCES IN THE NEURAL  
SUBSTRATES THAT SUPPORT FACTORS UNDERLYING  
EXECUTIVE FUNCTION A TALK BY MARIE T. BANICH  
UNIVERSITY OF COLORADO BOULDER**

**03**

**OTTOBRE**

**14:30**

**16:00**

**AULA MUSATTI  
VIA VENEZIA 12**

In this talk I will discuss research from our laboratory that has examined what neural markers, both anatomical and functional, are associated with differences amongst individuals in their level of Executive Function. In our laboratory we use the theoretical framework of Miyake & Friedman, which posits at least three major aspects of Executive Function: A common factor, that is required across all Executive Function tasks, as well as two specific factors, one related to Working Memory Updating and the other related to Task Shifting. We have found that distinct brain regions are associated with individual differences in each of these factors. Furthermore, despite the fact that most all theories of Executive Function posit a critical role for lateral prefrontal cortex, our work indicates that individual differences in Executive Function are also highly associated with variation in other brain regions. A tentative theory regarding these factors will be discussed.



**Marie T. Banich, Ph.D.** is Professor of Psychology and Director of the Institute of Cognitive Science, a multi-disciplinary institute dedicated to exploring the science of the mind. In addition, she serves as the Executive Director of the Intermountain Neuroimaging Consortium, a joint venture of the University of Colorado Boulder and the Mind Research Network of Albuquerque, New Mexico. Concurrently, she is serving as editor for Cognitive, Affective, & Behavioral Neuroscience.



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