

5th Global Summit on **BRAIN DISORDERS AND THERAPEUTICS**

February 08-09, 2024 | Madrid, Spain

Dyscalculia and neurophysiology of brain function**María Isabel García-Planas***UPC Polytechnic University of Catalonia, Spain*

Dyscalculia is a neuronal disorder that affects the brain's ability to perceive and process numerical information efficiently and accurately. The calculation is a complex multimodal neurocognitive function closely linked to other cognitive processes such as language, executive functioning, spatial structuring, and memory. Numerous human brain areas are involved in computational capacity, forming neural networks. Specifically, visual/spatial and visual/verbal neural networks are activated in the calculation process. The neural networks act as a dynamic system. They move between different cognitive states to allow complex behaviors on the mental

representations housed in them. The representation of numerical quantities in the brain is found in neural circuits in the inferior parietal lobe, where a group of neurons in the human brain specializing in number processing exists. A better knowledge of neuronal functioning makes it possible to identify possible difficulties in computational capacity or detect possible brain lesions that can cause calculation disorders. The correct identification of dyscalculia is the first step to guaranteeing that people who suffer from it can receive the necessary attention so that the difficulty does not prevent them from achieving success both academically and in life. By using the BAEP technique, which is easily feasible, non-invasive, and inexpensive, and by evaluating wave VI, it is possible to determine the existence of this learning disorder.

Biography

María Isabel García-Planas received a PhD in Mathematics from Universitat Politècnica de Catalunya, Barcelona, Spain, in 1995. She joined the Department of Mathematics at the Universitat Politècnica de Catalunya, Barcelona, Spain as Associate professor in 1996. Her work centered on Linear Algebra, Systems and Control Theory, and Neural Networks. She has authored over two hundred papers, having been cited more than 700 times (more than 300 after 2015) and serves as the referee on numerous indexed scientific journals. She has been a plenary Speaker at several International Conferences.