## OMICSGOUP 2<sup>nd</sup> International Conference on <u>C o n f e r e n c e s</u> Accelerating Scientific Discovery **Canadizational & Personalized Medicine**

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## Finding early detection markers for motor neuron diseases

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More the problem of the most complicated tasks our bodies perform, as it involves the cerebral cortex, the spinal cord and the muscle. Degeneration of the motor neurons that reside in the motor cortex and in the spinal cord lead to numerous movement disorders that mostly develops during late-stages in life. There are no effective cures for any of the movement disorders and there is an emerging need for the development and identification of early detection markers. There are numerous factors that add to the complexity of the problem. For example we do not know why among millions of other neurons in the central nervous system, only the motor neurons show initial vulnerability in the disease, and we also do not know the reasons behind the large-spectrum of pathology observed in the patients. The heterogeneity and the complexity adds levels of difficulties to our efforts of finding early detection markers for motor neuron diseases, but recent developments in the field of motor neuron biology is beginning to reveal clues that could potentially change the future of our discoveries. Here, I will introduce the limitations, challenges as well as the true potential of current discoveries, and will discuss how such improvements in our critical thinking and analysis will translate into effective treatment strategies in motor neuron diseases.

## Biography

P. Hande Ozdinler received training in molecular biology, genetics, biotechnology, cell biology, anatomy, and neuroscience. She is currently an Assistant Professor, and the Director of Les Turner ALS Laboratory II at the Department of Neurology, Northwestern University, Feinberg School of Medicine. Her research focuses on the biology of corticospinal motor neurons, as her group is trying to understand the cellular and molecular mechanisms responsible for their selective degeneration in disease. She received Harvard Center for NeuroDiscovery and Northwestern University Clinical and Translational Innovation awards for the innovative approaches she developed to selectively isolate and target the neurons of interest.

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