Abstract Title: Cellular mechanisms in human neurodevelopmental disorders

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Abstract: The Global Burden of Disease survey, 2019 estimates 198 million people in India affected by mental illness. Of this number, the largest fraction, ca. 30% constitutes idiopathic intellectual disability where the etiology and pathogenesis of altered brain function in children remains unknown or poorly understood. With advances in clinical genome sequencing, many new genetic factors that lead to altered brain function are being uncovered. However, due to the inaccessibility of the developing and adult human brain to physiological analysis, understanding the mechanisms that lead to altered brain development remains a challenge. During the presentation, I will describe our efforts, using iPSC technology, to model the cellular, developmental, and physiological changes in a human neurodevelopmental disorder and more generally, the development of a platform to address this challenge in human health and disease.

Area of expertise: Neuroscience, Cell & Developmental Biology, Signalling.