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**Complement anomalies in neurodegenerative and neurodevelopmental disorders as a trackable molecular event during the pre-clinical phase of disease development**

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**R**ecent advances on the interactions of immune pathways and molecules with the cells of the central nervous system have demonstrated a striking inter-relationship. By a still poorly understood biological signal, injured neuronal cells come under the surveillance of immune systems designed for destruction and clearance of foreign cells, but not for autologous cells. This destruction of neuronal circuitry accounts for the clinical neurological deficits observed in behavior studies. Some diseases for which neuronal destruction has been shown are considered “autoimmune” diseases for the established destruction of self-designated cells, such as SLE. Other diseases are not yet considered to be “autoimmune”, but indeed maybe, such as schizophrenia. In animal models, treatment with immunosuppressive agents has been shown to be beneficial for prevention of the clinical signs and symptoms of CNS decline. However, this approach cannot be considered as a prophylactic therapeutic angle,

due to the profound side effects of immune suppression for normal immune defense. We have developed an analytical approach for the analysis of immune molecules in context to gain a molecular preview of the initial neuronal changes and neuroimmune interactions. We describe the application of this approach to gain early insight into the developing pathology of neuronal destruction. Our plan is to describe the point of molecular pathology that precedes tissue pathology with the aim to define a window for therapeutic intervention where CNS decline is prevented or minimized without complete immune collapse.

**Speaker Biography**

Candace J Strang has done her PhD from UCLA, USA. She is affiliated as CSO at IPPIN Biomarkers USA. She is a Neuroscientist with extensive experience in translational biochemistry, neuroscience, immunology, protein design and research “at the edge” with an interdisciplinary approach to disease pathogenesis.

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