

### Content of the seminar.

The seminar will explore both clinical applications of the Polyvagal Theory and the dependence of autonomic regulation on oxytocin. The Polyvagal Theory explores different questions, paradigms, explanations and conclusions regarding autonomic nervous system function. Foremost, it emphasizes the importance of evolutionary changes in the neural structures regulating the autonomic nervous system and provides insights into the adaptive function and regulation of two distinct vagal systems. The Polyvagal Theory links the evolution of the autonomic nervous system to affective experience, emotional expression, facial gestures, vocal communication and contingent social behavior, and provides a plausible explanation of several features that are compromised during stress and observed in numerous psychiatric disorders.

Humans have evolved as highly social and mutually dependent beings. Yet, when overwhelmed by stress and threat, our autonomic nervous systems adaptively dictate more primordial strategies. Therapeutic interventions that engage in the regulation of these physiological states and target the capacity to sense safety are effective in treating disorders that result from chronic reliance on older stress responses. Positive clinical outcomes result from the expansion of the patient's biobehavioral capacity by recruiting our most evolved adaptive neural circuit - the 'social engagement system'.

### Objectives

The seminar has three objectives:

- 1) To provide an explicit statement of the theory.
- 2) To illustrate how a Polyvagal perspective provides insights into the clinical assessment and treatment of numerous conditions.
- 3) To explain the dependence of autonomic regulation on oxytocin in social bonds and regulating stress responses in social contexts.

### **Presentation of the seminar holders:**



**Stephen W. Porges, Ph.D, is Professor of Psychiatry and BioEngineering at the University of Illinois at Chicago, where he directs the Brain-Body Center.**

Dr. Porges is a neuroscientist with particular interests in understanding the neurobiology of social engagement. His research focuses on how the autonomic nervous system relates to adaptive behavior, state regulation, and social engagement strategies. His research crosses disciplines and he has published in such diverse disciplines as anesthesiology, critical care

medicine, ergonomics, exercise physiology, gerontology, neurology, obstetrics, pediatrics, psychiatry, psychology, space medicine, and substance abuse. In 1994 he proposed the Polyvagal Theory, a theory that links the evolution of the vertebrate autonomic nervous system to the emergence of social behavior. The theory provides insights into the mechanisms mediating symptoms observed in several behavioral, psychiatric, and physical disorders including autism, depression, ADD, PTSD, and schizophrenia. His research is leading to new protocols to assess clinical disorders and innovative interventions designed to stabilize behavioral and psychological states and to stimulate spontaneous social behavior. Dr. Porges is former President of the Federation of Behavioral, Psychological and Cognitive Sciences and the Society for Psychophysiological Research.



**C. Sue Carter, PhD is Professor of Psychiatry and Co-Director of The Brain Body Center at the University of Illinois at Chicago.** Dr. Carter studies the neurobiology of socio-emotional behaviors, including social bonds and parental behavior. Research by Dr. Carter and her colleagues established the prairie vole as a model for examining the neurobiology of monogamy. Her work also led to the discovery that oxytocin and vasopressin can program the developing nervous system with life-long consequences for brain and behavior. She is currently

involved in collaborative research examining the role of oxytocin and vasopressin in mental illnesses including schizophrenia and autism. She has authored over 250 articles and edited 5 volumes including “Attachment and Bonding: A New Synthesis” (MIT Press, 2006). Dr. Carter has served as President of the International Behavioral Neuroscience Society, and was recipient of a Research Career Scientist Award from NIH.