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WORKSHOP

# MEASURING VAGAL TONE AS AN INDEX OF SOCIAL ENGAGEMENT: THEORETICAL FOUNDATIONS, PRACTICAL TECHNIQUES, AND RESEARCH APPLICATIONS

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## ABSTRACT

This workshop will explore cardiac vagal control—most commonly indexed by heart rate variability (HRV) and respiratory sinus arrhythmia—as a window into the autonomic mechanisms underlying social engagement, stress resilience, and emotional regulation. Drawing on polyvagal and neurovisceral integration frameworks, we will first review the theoretical foundations that link vagal tone to affiliative behavior, emotional safety, and adaptive self-regulation. Participants will gain an understanding of how fluctuations in parasympathetic activity support social connectedness, facilitate co-regulation in interpersonal settings, and mark developmental trajectories across the lifespan.

Building on this conceptual groundwork, the workshop will then introduce practical measurement techniques. Attendees will revise laboratory-based HRV protocols, learn best practices for sensor placement and signal preprocessing, and become familiar with common software platforms for time- and frequency-domain analyses. Through hands-on demonstrations, participants will collect short-term ECG recordings, implement artifact-correction procedures, and compute standard vagal metrics (e.g., RMSSD, high-frequency power).

Finally, we will examine real-world research applications and study designs that leverage vagal tone as an outcome or process variable. Case examples will illustrate how HRV can index emotional and prosocial outcomes, serve as a mediator of mind-body interactions, and validate theoretical models of social and embodied cognition. Participants will have room to discuss concrete ideas for integrating vagal measurements into their own research agendas.