Talk on Tuesday, 4. March 2025 Start: 10:15 Uhr till 11.30 Uhr in HS 424 The talk will be presented in English

## Integrating Clinical Science and Artificial Intelligence to Uncover the Dynamics Underlying Therapeutic Change

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The enduring question that has long intrigued clinicians and researchers—what works for whom in therapy, and when—remains as vital as ever. What has evolved, however, is our ability to investigate this question with greater precision and depth, yielding increasingly robust insights. Mental health is a complex and dynamic phenomenon, and the vast array of therapeutic options available to clinicians at any given moment makes addressing this question a formidable challenge. In this talk, I will demonstrate how integrating a top-down, theory-driven approach with bottom-up, data-driven AI methods has enabled our interdisciplinary

team of clinicians and researchers to work closely together in uncovering the dynamics that drive therapeutic change. I will begin by outlining the key challenges in conceptualizing, treating, and researching mental health. Next, I will discuss significant theoretical shifts in clinical science such as the transition from general treatment models to transtheoretical processes, and from one-person to two-person psychology—that have paved new pathways for addressing these challenges. Building on these foundations, I will illustrate how our team has leveraged theoretical innovations and advancements in multimodal analysis and AI to explore the dynamic processes within clients (intrapersonal dynamics) and between clients and therapists (interpersonal dynamics) that are linked to improved treatment outcomes. Finally, I will conclude by discussing the clinical and training implications of our findings, highlighting how they inform and enhance therapeutic practice.