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**Maintaining with the benefit of expectation**

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Attention and working memory (WM) often work together in a mutually supportive manner to guide flexible and adaptive behaviours. Because WM is highly limited in capacity, attention plays an important role in anticipating and gating information that is the most relevant to behavioural expectations. In turn, WM controls attention by maintaining a task goal and attention can be directed towards items that match the goal. In this talk, I will present recent work from my lab concerning the interaction between attention and WM. Using EEG, MEG, and fMRI, my students and I focus on the neural mechanisms underlying this interaction, as well as how these interactions guide our behaviours. In the first section, I will present the evidence by showing how alpha oscillations track content-specific WM capacity during the retention interval of WM. In the second section, I will demonstrate that temporal expectation based on the duration variability can modulate the neural dynamics of alpha oscillations which precede onset of the memory test. In the final section, I will introduce a MEG-fMRI fusion approach and explain how we apply this method to test spatiotemporal neural dynamics for anticipatory modulation of attention for object selectivity. When conjoined, these studies provide novel evidence for the anticipatory, adaptive nature, and flexible of our mind and brain.