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Education

PhD, Psychology, University of Pennsylvania

Key Interests

Time Perception | Rhythmic Processing | Spatial Navigation | Temporal Processing |
Magnetic Resonance Imaging

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SELECT PUBLICATIONS

- › M. Wiener *et al.*, Functional correlates of likelihood and prior representations in a virtual distance task. *Human Brain Mapping* 37, 3172-3187 (2016).
- › M. Wiener *et al.*, Repetition enhancement and memory effects for duration. *NeuroImage* 113, 268-278 (2015).
- › M. Wiener *et al.*, Parietal influence on temporal encoding indexed by simultaneous transcranial magnetic stimulation and electroencephalography. *Journal of Neuroscience* 32, 12258-12267 (2012).
- › M. Wiener *et al.*, Double dissociation of dopamine genes and timing in humans. *Journal of Cognitive Neuroscience* 23, 2811-2821 (2011).

Research Focus

How does the brain perceive time and space? Philosophers may debate the nature of each, but my lab aims to empirically study how the brain constructs these dimensions. To do this, my lab uses a variety of different tools in the armamentarium of Cognitive Neuroscience: functional Magnetic Resonance Imaging (fMRI), Transcranial Magnetic Stimulation (TMS), Electroencephalography (EEG), and Psychophysics. Additionally, my lab focuses on combining different techniques, such as simultaneous TMS-EEG or fMRI-EEG, to enhance their power and the repertoire of questions that can be asked.

Even more exciting: we are not just interested in time and space alone, but what they are used for. For time, a major use of interest is the perception of rhythm and music. For space, we are interested in how this dimension is used for navigation and processing value.

Current Projects

- Effect of action on timing
- Rhythmic attention and sampling
- Impact of concussion on predictive mechanisms
- Modality dependent nature of time