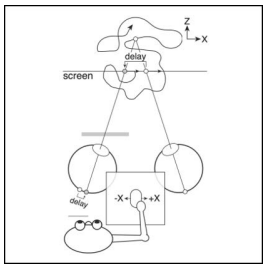
Journal of Vision Special Issue



Continuous Psychophysics

Continuous psychophysics is a recently developed, potentially paradigm-shifting methodological advance in the science of perception and action. Participants continuously track a stimulus that varies in time. Performance is assessed across conditions of variable difficulty. While traditional psychophysics (e.g. two-alternative forced-choice tasks) typically acquires measurements on the time-scale of seconds, the computations driving perception and action often take place on the time-scale of milliseconds. Continuous psychophysics closes this temporal gap, providing rich information about temporal dynamics with millisecond-scale precision. Thus, sensation- and perception-driven behavior can be measured at the time-scale that the supporting computations unfold. Other benefits of continuous psychophysics abound. It facilitates the collection of large volumes of high-quality data in a short period of time, opening up the study of questions that may otherwise be impractical to investigate. It can be used to gather data from animal or non-traditional participant populations (e.g. babies, patients), in many cases without training or verbal instructions. And it has proven flexible enough to support the experimental study of topics that range from contrast sensitivity and eye movement control to numerosity and meta-cognition.

For these reasons and more, excitement about continuous psychophysics has spread quickly. It is now being used to investigate a startling array of topics in sensory-perception, visuomotor control, development, attention, memory, and cognition. And it is poised to become an indispensable tool in the experimental toolkit of vision scientists, and perceptual, developmental, and cognitive psychologists around the world.

This special issue will showcase examples of the topics that can be investigated with continuous psychophysics, and communicate discoveries in areas including but not limited to:

- Spatio-temporal processing
- Depth and motion perception
- Visuomotor control
- Computational modeling
- Development
- Attention
- Memory
- Confidence/Metacognition

Feature Editors:

Johannes Burge, University of Pennsylvania, USA
Kathryn Bonnen, Indiana University, USA
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David Whitney, University of California, Berkeley, USA

Submissions accepted through **May 31, 2024**. Accepted papers will be published as ready in the current monthly issue as well as presented together as a special issue on the *JOV* website.

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