

Call for papers: Special issue on the Probabilistic Nature of Perception and Cognition

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To: announcements@lists.cognitivesciencesociety.org

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Dear colleagues,

Please find below the call for submission to a Special Issue in *New Ideas in Psychology* on ***Probabilistic nature of perception and cognition***.

This special issue aims to provide an interdisciplinary platform for papers that focus on bridging critical gaps between the theoretical and the empirical merits of probabilistic theories of perception and cognition by assessing their explanatory value in Psychology.

Guest Editors:

- Ömer Dağlar Tanrikulu, University of New Hampshire
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Within cognitive psychology, the brain is considered an information-processing system, making inferences about the external environment from sensory input and stored information. However, the available information incorporates uncertainty due to external and internal noise. This inherent uncertainty in perceptual and cognitive representations suggests that the nature of these inferences is probabilistic. With advances in mathematical modeling, such probabilistic (esp. Bayesian) approaches have become a unifying framework for studying human cognition, and are becoming increasingly dominant in contemporary research in perceptual psychology.

Despite the popularity of the assumption that perception/cognition represents the environment as an array of probabilistically weighted options, there has yet to be a consensus on the psychological and neural validity of such models. Experiments that directly investigate whether the brain represents information as probability distributions are currently limited. Designing experiments to test the core assumptions of such probabilistic accounts has proved challenging. The high computational complexity of probabilistic calculations can be regarded as a challenge to the feasibility of the brain implementing such computations. Even if the brain approximates such complex computations, the exact nature of this approximation is unknown. These probabilistic theories appear to clash with our everyday visual experience since we don't perceive the world as a constantly shifting

“Bayesian blur”.

New Ideas in Psychology is a journal for theoretical psychology in its broadest sense. We are looking for new and seminal ideas from within Psychology and other fields with something to bring to Psychology. We welcome presentations and criticisms of theory, background metaphysics, and fundamental issues of method, both empirical and conceptual. We emphasize the need for informed discussion of psychological theories to be interdisciplinary. Empirical papers are accepted in this special issue, but we expect them to focus on conceptual issues and be theoretically creative.

Submission deadline: November 30, 2024

Submission Information

For submission guidelines, please visit the call-for-papers page on the journal's website: <https://www.sciencedirect.com/journal/new-ideas-in-psychology/about/call-for-papers#probabilistic-nature-of-perception-and-cognition>

For questions and further information, please get in touch with the guest editors, Omer Daglar Tanrikulu and Arni Kristjansson.

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