

Special Issue

What Limits Working Memory Performance?

Message from the Guest Editors

Common wisdom tells us that working memory is severely limited in capacity—for example, the “magical” number seven for digit span; perhaps because of hard biophysical constraints—as suggested by the typical few seconds of retention time for verbal material.

Experimental evidence is however complex, and is in complex relation to information theory. George Miller noted that while humans can typically convey only about $\log_2(7)$ bits in unidimensional judgements, our short-term memory span can be much longer, if information is organized in chunks. Venerable mnemonic techniques, like the method of loci, can help us to train ourselves to recode and reach well beyond our naive short-term information capacity. So, is a general information-theoretic account of working memory possible? How constrained would it be by cortical circuitry? Any theoretical and theory-framed experimental contribution to these questions is welcome to the SI, including evidence obtained in animal studies or with the simulation of plausible memory networks.

Guest Editors

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The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

Entropy is an online open access journal providing an advanced forum for the development and/or application of entropic and information-theoretic studies in a wide variety of applications. *Entropy* is inviting innovative and insightful contributions. Please consider *Entropy* as an exceptional home for your manuscript.

Editor-in-Chief

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