

From Integrative Neuroscience to Multiscale Neuroscience

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We are pleased to launch the inaugural issue of the Journal of Multiscale Neuroscience (JMN), published by Neural Press.

Why multiscale neuroscience and not multilevel neuroscience? Scales are a more neutral description than levels and refer to dimensions and boundaries instead of distinct forms of organization. The concept of level can denote a main or privileged level of the experiment's focus. Some of the levels occur at different scales, yet there is no central or privileged level. This is essential in forging a multiscale approach in neuroscience to move from the "old" integrative viewpoint on how the brain operates across the scale based on "function". The notion of "function" alone is outdated without knowing how the brain produces various types of information at various scales. Although 'boundary conditions' set the limits of scale mathematically, they also give new information that leads to a better understanding of processes at different scales organized by the whole. The brain is rich in information, and therefore its integration would reduce the brain to a computer. The gist of JMN is to elucidate nonTuring computation and discover the essence of what makes brains conscious. Hence, we are moving from integrative neuroscience to multiscale neuroscience by closing the explanatory gap.

JMN focuses on impactful research through a complex interplay between experiment and theory across multiple scales to understand how each scale contributes to the whole. JMN will be published online bi-annually as a peer-reviewed open-access journal. Author benefits include a highly reputable editorial board resulting in strong peer-review of papers that will improve the impact of published articles, high visibility, and the Diamond model for all academic researchers.

Many people are involved in this process beginning with the authors who submit their work and materials needed for the page layout and setting of the final document. We would like to thank the editorial board for their significant advice and look forward to their continued role in achieving JMN's goal. We will maintain the international diversity of members that constitute the Editorial Board.

Neural Press will facilitate global indexing of the journal content in various databases.

We hope you find JMN interesting.