

On the Nature and Use of Models in Network Neuroscience

Consciousness or mind have not understand until now. However consciousness is very important and essence of neuroscience. It is also important in many human fields as philosophy, religion and routine human life New reports showed clue of this concepts as an on the nature and use of models in network neuroscience.

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Network theory provides an intuitively appealing framework for studying relationships among interconnected brain mechanisms and their relevance to behavior. As the space of its applications grows, so does the diversity of meanings of the term network model. This diversity can cause confusion, complicate efforts to assess model validity and efficacy, and hamper interdisciplinary collaboration. In this Review, we examine the field of network neuroscience, focusing on organizing principles that can help overcome these challenges. First, we describe the fundamental goals in constructing network models. Second, we review the most common forms of network models, which can be described parsimoniously along the following three primary dimensions: from data representations to first-principles theory; from biophysical realism to functional phenomenology;

and from elementary descriptions to coarse-grained approximations. Third, we draw on biology, philosophy and other disciplines to establish validation principles for these models. We close with a discussion of opportunities to bridge model types and point to exciting frontiers for future pursuits.

Consciousness is very difficulty for scientific experiments, because it is subjective aspects of human thinking. Fortunately recent technology developed many brain focusing of thinking process. But it is not why it has shown as a thinking processes. Therefore more careful and precise tools to evaluate consciousness or mind processes. It is still difficult to clear conclusion of mind process. We hardly evaluate the brain disorders and develop some new tools to evaluate consciousness. Especially quantum physics should be involved in testing consciousness.