The EU Advanced Course in Computational Neuroscience: linking theoretical and experimental neurosciences

Abstract

Computational neuroscience (CNS) is an increasingly important and multi-directional neuroscientific discipline. It cross-links theoretical and experimental approaches on all levels of biological neural systems, ranging from subcellular processes in neurones to large-scale networks in mammalian brains, both under normal and pathophysiological conditions. Whereas CNS enjoys an established role in neuroscientific curricula within the academic system of the United States, Europe still lags behind in offering young scientists a systematic education in this field. To compensate for this lack, a European summer school on CNS was initiated in 1996. The first three meetings took place on Crete, Greece, while the 1999 meeting was held from August 23 to September 17 at the International Centre for Theoretical Physics (ICTP) in Trieste, Italy. The report describes the contents and structure of the course and illustrates the broad conceptual and methodological scope of CNS, with examples from the course curriculum.