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**Título:** Networks Of The Brain

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**Sinopsis**

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Over the last decade, the study of complex networks has expanded across diverse scientific fields. Increasingly, science is concerned with the structure, behavior, and evolution of complex systems ranging from cells to ecosystems. Modern network approaches are beginning to reveal fundamental principles of brain architecture and function, and in *Networks of the Brain*, Olaf Sporns describes how the integrative nature of brain function can be illuminated from a complex network perspective. Highlighting the many emerging points of contact between neuroscience and network science, the book serves to introduce network theory to neuroscientists and neuroscience to those working on theoretical network models.

Brain networks span the microscale of individual cells and synapses and the macroscale of cognitive systems and embodied cognition. Sporns emphasizes how networks connect levels of organization in the brain and how they link structure to function. In order to keep the book accessible and focused on the relevance to neuroscience of network approaches, he offers an informal and nonmathematical treatment of the subject. After describing the basic concepts of network theory and the fundamentals of brain connectivity, Sporns discusses how network approaches can reveal principles of brain architecture. He describes new links between network anatomy and function and investigates how networks shape complex brain dynamics and enable adaptive neural computation. The book documents the rapid pace of discovery and innovation while tracing the historical roots of the field.

The study of brain connectivity has already opened new avenues of study in neuroscience. *Networks of the Brain* offers a synthesis of the sciences of complex networks and the brain that will be an essential foundation for future research.