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Editors

Encyclopedia of Computational Neuroscience



 SpringerReference

February 2015

Encyclopaedia

- According to Encyclopaedia Britannica: reference work that contains information on all branches of knowledge or that treats a particular branch of knowledge in a comprehensive manner.
- Encyclopaedias have existed for more than 2,000 years. The oldest still in existence, *Naturalis Historia*, was written starting in ca. AD 77 by Pliny the Elder.
- The word encyclopaedia is derived from the Greek *enkyklios paideia*, “general education,” and it at first meant a circle or a complete system of learning.
- Paul Scalich, a German writer and compiler, was the first to use the word to describe a book in the title of his “*Encyclopaedia; or, Knowledge of the World of Disciplines, Not Only Sacred but Profane...*”, issued at Basel in 1559.
- The many encyclopaedias that had been published before this time either had been given fanciful titles (*Hortus deliciarum*, “Garden of Delights”) or had been simply called “dictionary.”
- Scalich’s pioneer use of the word “encyclopaedia” did not find general acceptance until Denis Diderot made it fashionable with his historic French encyclopaedia, the *Encyclopédie*.

What is the encyclopaedia of computational neuroscience

- Series of articles from neuroscientists, covering neural models, analytical and numerical techniques, neural simulation tools, data analysis tools, databases of models and datasets...
- Written for the whole community, from graduate students to more advanced researchers
- First series in October 2014. Updatable

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- First series in October 2014. Updatable, so complementary to other encyclopaedic resources (if Peter D. is not around)
- How does it compare to Scholarpedia (http://www.scholarpedia.org/article/Encyclopedia:Computational_neuroscience)?

Examples

- Fokker-Planck Equation (Nicolas Brunel and Vincent Hakim)
- Short-term Plasticity, Biophysical Models (Robert Rosenbaum)
- State-Space Models for the Analysis of Neural Spike Train and Behavioral Data (Zhe Chen and Emery N. Brown)
- Sensory Coding, Efficiency (Franz Weber and Christian K. Machens)
- Computational Models of Neuromodulation (Angela J. Yu)
- Deep Brain Stimulation, LFP analysis, models of decision-making, Brain-Machine interfaces...

Example: Fokker-Planck Equation (Nicolas Brunel and Vincent Hakim)

Where can I find it?

The screenshot shows the Springer website interface. At the top, there is a search bar with the text 'Search' and a magnifying glass icon. To the right of the search bar are links for 'Login / Register' and 'America'. Below the search bar is a navigation menu with links for 'Home', 'Subjects', 'Services', 'Products', 'Springer Shop', and 'About us'. A promotional banner reads '+++ NEW: Springer Rentals +++'. The main content area features a breadcrumb trail: '» Biomedical Sciences » Neuroscience'. Below this is the copyright notice '© 2015'. The book cover for 'Encyclopedia of Computational Neuroscience' is displayed on the left, with the editors' names: 'Dieter Jaeger, Ranu Jung, Editors'. The title 'Encyclopedia of Computational Neuroscience' is prominently displayed in the center, followed by the editors' names: 'Editors: Jaeger, Dieter, Jung, Ranu (Eds.)'. A descriptive paragraph states: 'Describes mathematical and computational techniques to complement experimental neurophysiology'. Below this is a link: '» see more benefits'. On the right side, there is a 'Buy this book' section. It lists three options: 'Print' for \$2,900.00, 'Print + eReference' for \$3,650.00, and 'eReference' for \$2,900.00. A blue 'Buy Print' button is visible. Below the pricing information, there are icons for payment methods: VISA, MasterCard, American Express, Discover, and INVOICE. At the bottom of the purchase section are links for '» FAQ' and '» Policy'.

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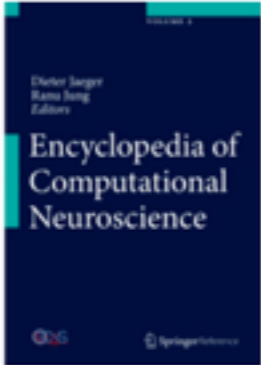
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How does it compare to Scholarpedia?

- More expensive
- Broader but less detailed
- No mention of peer-reviewing...

■ ■ ■