1. Record Nr. UNICAMPANIAVAN00243571

Titolo	Life Cycle Assessment in the Chemical Product Chain : Challenges, Methodological Approaches and Applications / editors Simone Maranghi, Carlo Brondi
Pubbl/distr/stampa	Cham, : Springer, 2020
Descrizione fisica	XV, 165 p. : ill. ; 24 cm
Disciplina	660 540 577.14 338.927
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9910897987203321

Autore	Galves Antonio
Titolo	Probabilistic Spiking Neuronal Nets : Neuromathematics for the Computer Era / / by Antonio Galves, Eva Löcherbach, Christophe Pouzat
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2024
ISBN	9783031684098 3031684095
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (203 pages)
Collana	Lecture Notes on Mathematical Modelling in the Life Sciences, , 2193-4797
Altri autori (Persone)	LöcherbachEva PouzatChristophe
Disciplina	570.285
Soggetti	Biomathematics Probabilities Stochastic processes Mathematical statistics Neural circuitry Mathematical and Computational Biology Probability Theory Stochastic Processes Mathematical Statistics Neural Circuits

	Sistemes estocàstics Xarxes neuronals (Informàtica) Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	A Neurophysiology Primer for Mathematicians -- A Discrete Time Stochastic Neural Network Model -- Mean Field Limits for Discrete Time Stochastic Neural Network Models -- But Time is Continuous! -- Models without Reset: Hawkes Processes -- What is a Stationary State in a Potentially Infinite System? -- Statistical Estimation of the Interaction Graph -- Mean Field Limits and Short-Term Synaptic Facilitation in Continuous Time Models -- A Non-Exhaustive List of Some Open Questions -- Appendix A -- Appendix B -- Appendix C -- Appendix D -- Appendix E -- Appendix F -- References -- Index.
Sommario/riassunto	This book provides a self-contained introduction to a new class of stochastic models for systems of spiking neurons. These systems have a large number of interacting components, each one evolving as a stochastic process with a memory of variable length. Several mathematical tools are put to use, such as Markov chains, stochastic chains having memory of variable length, point processes having stochastic intensity, Hawkes processes, random graphs, mean field limits, perfect sampling algorithms, the Context algorithm, and statistical model selection. The book’s focus on mathematically tractable objects distinguishes it from other texts on theoretical neuroscience. The biological complexity of neurons is not ignored, but reduced to some of its main features, such as the intrinsic randomness of neuronal dynamics. This reduction in complexity aims at explaining and reproducing statistical regularities and collective phenomena that are observed in experimental data, an approach that leads to mathematically rigorous results. With an emphasis on a constructive and algorithmic point of view, this book is directed towards mathematicians interested in learning about stochastic network models and their neurobiological underpinning, and neuroscientists interested in learning how to build and prove results with mathematical models that relate to actual experimental settings.