

1. Record Nr.	UNISA996466410903316
Autore	Engelbrecht Juri
Titolo	Modelling of complex signals in nerves // Juri Engelbrecht, Kert Tamm and Tanel Peets
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-75039-6
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XIII, 186 p. 66 illus.)
Disciplina	571.4
Soggetti	Biomathematics Statistical physics Mathematics Biomatemàtica Física estadística Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Introduction -- Part I Complexity and Waves -- Part II Dynamical Processes in Nerve Axons -- Part III Modelling of Dynamical Physiological Processes -- Appendix: The Numerical Scheme -- Index. .
Sommario/riassunto	This book describes fundamental physical principles, together with their mathematical formulations, for modelling the propagation of signals in nerve fibres. Above all, it focuses on the complex electro-mechano-thermal process that produces an ensemble of waves composed of several components, besides the action potential. These components include mechanical waves in the biomembrane and axoplasm, together with the temperature change. Pursuing a step-by-step approach, the content moves from physics and mathematics, to describing the physiological effects, and finally to modelling the coupling effects. The assumptions and hypotheses used for modelling, as well as selected helpful concepts from continuum mechanics, are systematically explained, and the modelling is illustrated using the outcomes of numerical simulation. The book is chiefly intended for researchers and graduate students, providing them with a detailed

description of how to model the complex physiological processes in nerve fibres.

2. Record Nr.	UNISA996321397203316
Titolo	Journal of scientific research
Pubbl/distr/stampa	Rajshahi, Bangladesh, : Faculty of Science, Rajshahi University, 2009-
ISSN	2070-0245
Descrizione fisica	1 online resource
Soggetti	Research - Bangladesh Mathematics - Research - Bangladesh Chemistry - Research - Bangladesh Biology - Research - Bangladesh Biology - Research Chemistry - Research Mathematics - Research Research Periodicals. Bangladesh
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Periodico
Note generali	Refereed/Peer-reviewed Title from cover.
Nota di contenuto	Section A. Physical and mathematical sciences -- Section B. Chemical and biological sciences.

3. Record Nr.	UNICAMPANIAVAN0126673
Titolo	Advanced Mathematical Methods in Biosciences and Applications / Faina Berezovskaya, Bourama Toni editors
Pubbl/distr/stampa	Cham, : Springer, 2019
Titolo uniforme	Advanced Mathematical Methods in Biosciences and Applications
Descrizione fisica	xii, 264 p. : ill. ; 24 cm
Soggetti	92B05 - General biology and biomathematics [MSC 2020] 37N25 - Dynamical systems in biology [MSC 2020] 70Kxx - Nonlinear dynamics in mechanics [MSC 2020] 34C60 - Qualitative investigation and simulation of ordinary differential equation models [MSC 2020] 92Dxx - Genetics and population dynamics [MSC 2020] 65P30 - Numerical bifurcation problems [MSC 2020] 92C80 - Plant biology [MSC 2020] 37B20 - Notions of recurrence and recurrent behavior in dynamical systems [MSC 2020] 35B34 - Resonances in context of PDEs [MSC 2020]
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia