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On Growth and Form: Spatio-temporal Pattern Formation in Biology

J. C. McLachlan
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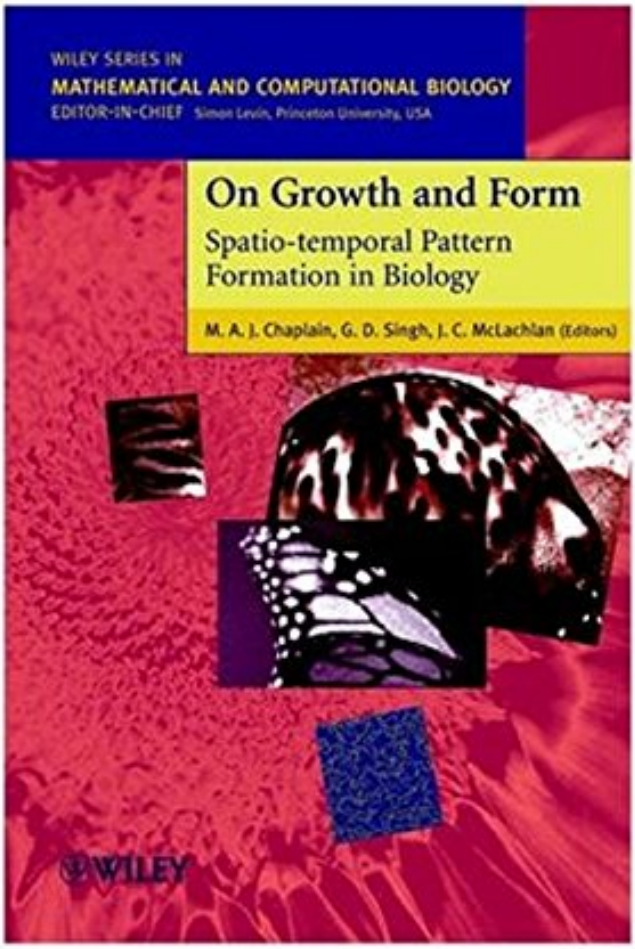

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J. C. McLachlan : On Growth and Form: Spatio-temporal Pattern Formation in Biology before purchasing it in order to gage whether or not it would be worth my time, and all praised On Growth and Form: Spatio-temporal Pattern Formation in Biology:

Spatio-temporal pattern formation is a major area of research within the subject of mathematical biology. The topic involves the use of mathematical modelling to analyse how patterns in biology are created and develop. For example, the growth, over time, of the intricate and beautiful patterns on certain sea-shells or the striped markings on a tiger can be modelled and their development predicted in terms of nonlinear mathematical processes. The current volume captures the breadth of recent research into various aspects of spatio-temporal pattern and form, such as development biology, reaction-diffusion systems and morphometrics. Brings the ideas of the classic On Growth and Form by D'Arcy Thompson, the founding classic of mathematical biology, fully up to date and looks to future developments in the subject. * Foreword provided by Professor John Tyler Bonner, Princeton University. * World class collection of internationally renowned contributors from both experimental and theoretical backgrounds Taking its inspiration from D'Arcy Thompson's classic and still influential volume On Growth and Form, this new volume presents a collection of 21 articles from the Plenary Speakers of the recent D'Arcy Thompson Conference, held at the University of Dundee, 20-24 September 1998. The topics covered include pattern formation in development biology, reaction-diffusion systems, intercellular systems and morphometrics, offering the reader a stimulating blend of theory and experiment. This book will be of particular interest to bio-mathematicians and development biologists. Paediatric clinicians, evolutionary biologists, orthodontists, anatomists, physiologists and many other members of the biology community will also benefit greatly from it.

"...a useful resource for mathematics students...recommend anyone interested in biomathematics to look at [it]..." (Mathematics Today, Dec 2003) "...scope of the book is broad...interesting for everyone regardless of expertise in this field..." (Simulation News Europe, Dec 2003)From the Back CoverOn Growth and Form Spatio-temporal Pattern Formation in Biology M. A. J. Chaplain and G. D. Singh, both of the University of Dundee, UK J. C. McLachlan, St. Andrews University, UK Spatio-temporal pattern formation is a major area of research within the subject of mathematical biology. The topic involves the use of mathematical modelling to analyse how patterns in biology are created and develop. For example, the growth, over time, of the intricate and beautiful patterns on certain sea-shells or the striped markings on a tiger can be modelled and their development predicted in terms of non-linear mathematical processes. The current volume captures the breadth of recent research into various aspects of spatio-temporal pattern and form, such as development biology, reaction-diffusion systems and morphometrics. * Brings the ideas of the classic On Growth and Form by D'Arcy Thompson, the founding classic of mathematical biology, fully up to date and looks to future developments in the subject * Foreword provided by Professor John Tyler Bonner, Princeton University * World class collection of internationally renowned contributors from both experimental and theoretical backgrounds Taking its inspiration from D'Arcy Thompson's classic and still influential volume On Growth and Form, this new volume presents a collection of 21 articles from the Plenary Speakers of the recent D'Arcy Thompson Conference, held at the University of Dundee, 20-24 September 1998. The topics covered include pattern formation in development biology, reaction-diffusion systems, intercellular systems and morphometrics, offering the reader a stimulating blend of theory and experiment. This book will be of particular interest to bio-mathematicians and development biologists. Paediatric clinicians, evolutionary biologists, orthodontists, anatomists, physiologists and many other members of the biology community will also benefit greatly from it.