

The cover features a background of various numbers in different sizes and colors (gold, brown, white) scattered across the top half. A large, stylized white shape, resembling a page or a mathematical curve, dominates the lower half. The title 'MATHEMATICS' is in a dark brown serif font, and '2008' is in a larger, gold-colored serif font below it.

MATHEMATICS
2008

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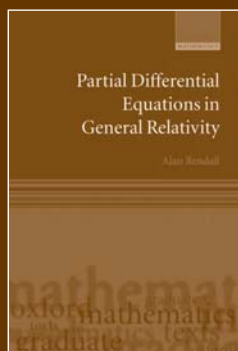
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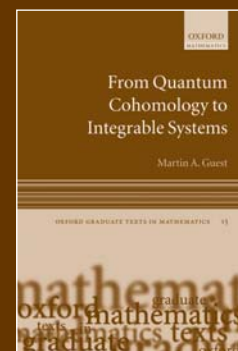
Professor Sir Roger Penrose is one of the truly original thinkers of our time and has made several remarkable contributions to science from quantum physics and theories of human consciousness to relativity theory and observations on the structure of the universe in over 240 scientific publications. His work, spanning 50 years, has been collected and arranged in a six volume set.

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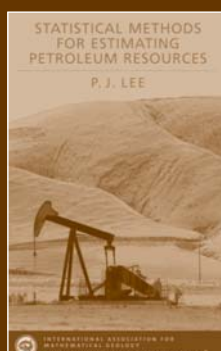
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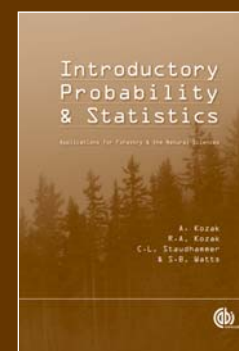
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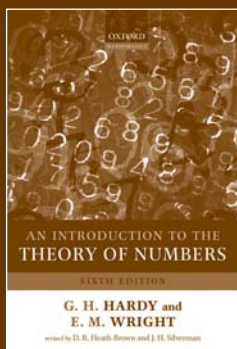
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A decorative graphic on the left side of the cover. It features a dark brown background with various numbers and mathematical symbols in a lighter brown color. The numbers include 9, 15, 6, 8, 4, 3, 7, 3, 1, 5, 4, and 2. The symbols include a plus sign, a minus sign, a multiplication sign, and a division sign. The graphic is partially obscured by a large, curved, golden-yellow shape that sweeps across the top of the cover.

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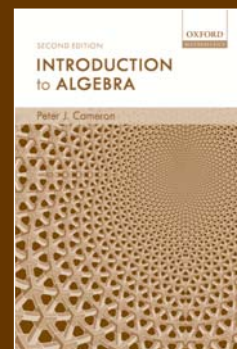
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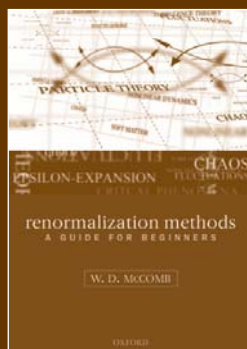
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- Godfrey Hardy *An Introduction to the Theory of Numbers Sixth Edition*
The text retains the style and clarity of previous editions making it highly suitable for undergraduates in mathematics from the first year upwards as well as an essential reference for all number theorists.
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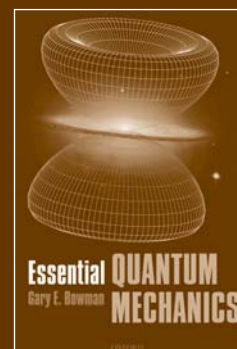
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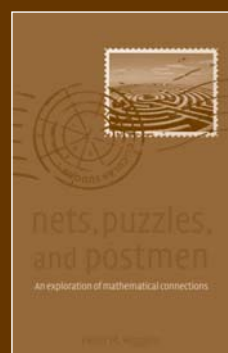
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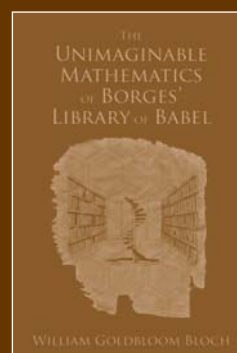
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Adrian Tuck, *National Oceanic & Atmospheric Administration, U.S. Department of Commerce*

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Andreas Kirsch, and Natalia Grinberg, Both at *University of Karlsruhe*

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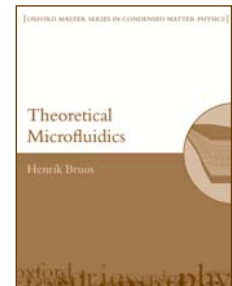
The basic idea of the book is to provide a self-contained formulation of the theoretical framework of microfluidics, and at the same time give physical motivation and example from lab-on-a-chip technology.

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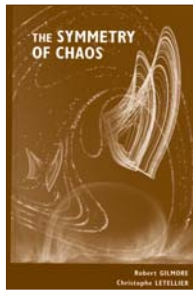
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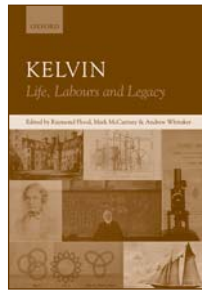
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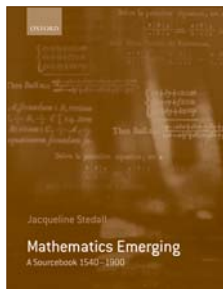


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MODELING BIO-MOLECULAR NETWORKS

An Introduction to Systems Biology
 Anirvan M. Sengupta, *Rutgers University*

This book describes the essentials of a mathematical description of the dynamics of biochemical networks. It covers both deterministic and stochastic aspects of the dynamics. The emphasis, throughout, is on understanding of the essential dynamical aspects rather than just on recipes to build complex models.

2008 208 pp.; 60 line illus.
 978-0-19-856804-9 ~~\$69.50~~/\$55.60

MATHEMATICAL MODELLING IN ANIMAL NUTRITION

J France, *University of Guelph*, and E Kebreab, *University of Manitoba*

Mathematical modelling is increasingly applicable to the practical sciences. Here, mathematical approaches are applied to the study of mechanisms of digestion and metabolism in primary animal species. Farmed animals - ruminants, pigs, poultry and fish are comprehensively covered, as well as sections on companion animals. Common themes between species, such as energy and amino acid metabolism, are explored with a worldwide approach. Leading researchers from around the world have contributed to France and Kebreab's volume to provide an integrated approach to mathematical modelling in animal nutrition.

(CABI)

2008 640 pp.
 978-1-84593-354-8 cloth ~~\$240.00~~/\$192.00
 See page 7 for Mathematical models in Agriculture

INTRODUCTORY PROBABILITY AND STATISTICS

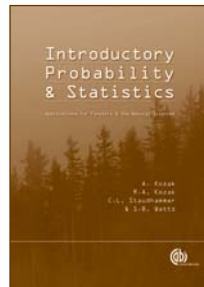
Applications for Forestry and Natural Sciences

A. Kozak, R. Kozak, Both at *University of British Columbia*, C. Staudhammer, *University of Florida*, and S. Watts, *University of British Columbia*

This book utilizes basic descriptive statistics and probability, as well as commonly used statistical inferential tools to introduce topics that are common place in a forestry context such as hypothesis testing, design of experiments, sampling methods, nonparametric tests and statistical quality control.

(CABI)

2007 448 pp.
 978-1-84593-275-6 cloth ~~\$100.00~~/\$80.00

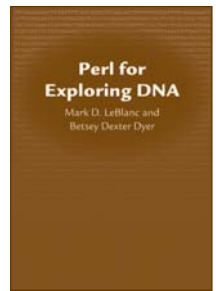


PERL FOR EXPLORING DNA

Mark D. LeBlanc, and Betsy Dexter Dyer, Both at *Wheaton College*

This book presents Perl programming with a uniquely interdisciplinary perspective for the bioinformatics classroom. The full-length book is appropriate for majors in either computer science or biology and especially relevant for new interdisciplinary courses involving students from multiple disciplines.

2007 288 pp.; 70 screen shots
 978-0-19-532757-1 cloth ~~\$99.00~~/\$79.20
 978-0-19-530589-0 paper ~~\$29.95~~/\$24.00



RECONSTRUCTING EVOLUTION

New Mathematical and Computational Advances

Edited by Olivier Gascuel, *Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier*, and Mike Steel, *University of Canterbury*

This book arises from the *Mathematics of Evolution & Phylogenetics* meeting at the Mathematical Institute Henri Poincaré, Paris, in June 2005 and is based on the outstanding state-of-the-art reports presented by the conference speakers. Ten chapters - based around five themes - provide a detailed overview of key topics, from the underlying concepts to the latest results, some of which are at the forefront of current research.

2007 300 pp.
 978-0-19-920822-7 ~~\$80.00~~/\$64.00

ANCESTRAL SEQUENCE RECONSTRUCTION

Edited by David A. Liberles, *University of Wyoming*

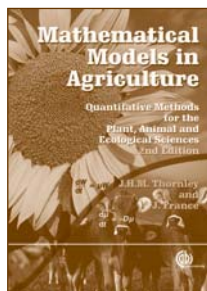
Beginning with a historical overview of the field including applications, the text then moves into potential applications in drug discovery and the pharmaceutical industry.

2007 280 pp.; 68 illus.
 978-0-19-929918-8 ~~\$100.00~~/\$80.00
 Paperback forthcoming Fall 2008

MATHEMATICAL MODELS IN AGRICULTURE

Second Edition

J. Thornley, *Centre for Ecology and Hydrology, Edinburgh*, and J. France, *University of Guelph, Canada*



This is a completely rewritten and expanded version of the successful 1984 book of the same name published by Butterworths. The objective remains the same: to teach students of agriculture and related ecological problems how to express ideas mathematically and solve the resulting mathematical problem.

(CABI)

2007 928 pp.

978-0-85199-010-1 ~~\$275.00~~/\$220.00

See page 6 for *Mathematical Modeling in Animal Nutrition*

COMPUTATIONAL MOLECULAR EVOLUTION

Ziheng Yang, *University College London*

The book emphasizes essential concepts rather than mathematical proofs. It includes detailed derivations and implementation details, as well as numerous illustrations, worked examples, and exercises

(Oxford Series in Ecology and Evolution)

2006 376 pp.; 96 illus.

978-0-19-856699-1 cloth ~~\$115.00~~/\$92.00

978-0-19-856702-8 paper ~~\$52.50~~/\$42.00

ENCYCLOPAEDIC COMPANION TO MEDICAL STATISTICS

Brian Everitt, *King's College London*, and Chris Palmer

The Encyclopaedic Companion to Medical Statistics is a straightforward and comprehensive reference source that will be an invaluable guide for those with no formal statistical background and a handy reference for those who do know some statistics

(A Hodder Arnold Publication)

2006 392 pp.; 110 illus.

978-0-340-80999-0 paper ~~\$79.50~~/\$63.60

SYSTEMS BIOLOGY

Volume I: Genomics

Volume II: Networks, Models, and Applications

Edited by Isidore Rigoutsos, *Bioinformatics Group, IBM TJ Watson Researcher Center*, and Gregory Stephanopoulos, *MIT*

Written for a wide audience, each volume presents a timely compendium of essential information that is necessary for a comprehensive study of the subject. Volume I explores issues pertaining to genomics that range from prebiotic chemistry to noncoding RNAs. Volume II covers an equally wide spectrum, from mass spectrometry to embryonic stem cells.

(Series in Systems Biology)

2006 336 pp.; 62 halftones & line illus.

Volume I 978-0-19-530081-9 ~~\$65.00~~/\$52.00

Volume II 978-0-19-530080-2 ~~\$65.00~~/\$52.00

HIERARCHICAL MODELLING FOR THE ENVIRONMENTAL SCIENCES

Statistical Methods and Applications

Edited by James S. Clark, and Alan Gelfand, Both at *Duke University*

"...if you are already quite well acquainted with Bayesian concepts and terminology then this book should provide an excellent guide to the application of these advanced statistical techniques within ecology." —*Bulletin of the British Ecological Society*.

2006 216 pp.; 73 line illus., tables

978-0-19-856966-4 cloth ~~\$156.00~~/\$124.80

978-0-19-856967-1 paper ~~\$74.00~~/\$59.20

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For Functional Genomics and Bioinformatics

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Including background chapters on the necessary biology, statistics and genomics, in addition to practical examples of interpreting many different types of modern experiments, this book is ideal for students and researchers in computational biology, bioinformatics, genomics, statistics and computer science.

2006 312 pp.

978-0-19-856740-0 cloth ~~\$135.00~~/\$108.00

978-0-19-856741-7 paper ~~\$74.00~~/\$59.20

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Edited by Allon Percus, *Institute for Pure & Applied Mathematics, UCLA, and Los Alamos National Laboratory*, Gabriel Istrate, *Los Alamos National Laboratory*, and Christopher Moore, *University of New Mexico and Santa Fe Institute*

Computational Complexity and Statistical Physics will serve as a standard reference and pedagogical aid to statistical physics methods in computer science, with a particular focus on phase transitions in combinatorial problems.

(Santa Fe Institute Studies on the Sciences of Complexity)

2006 384 pp.; 84 halftones & line illus.

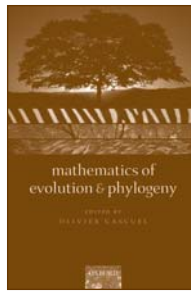
978-0-19-517737-4 cloth ~~\$94.50~~/\$75.60

978-0-19-517738-1 paper ~~\$55.00~~/\$44.00



MATHEMATICS OF EVOLUTION AND PHYLOGENY

Edited by Olivier Gascuel,
Centre National de La Recherche Scientifique



The focus of this text is on the mathematical and computational tools and concepts, which form an essential basis of evolutionary studies, indicate their limitations, and give them orientation. Aimed at graduates and researchers in phylogenetics, mathematicians, computer scientists and biologists, this book of contributed chapters explains the basis and covers the recent results in this highly topical area.

2005 (paper 2007) 440 pp.
978-0-19-856610-6 cloth \$99.00/\$79.20
978-0-19-923134-8 paper \$49.95/\$40.00

PARSIMONY, PHYLOGENY, AND GENOMICS

Edited by Victor Albert, *University of Oslo*

"This is one of those rare edited volumes that reads like a recent journal with respect to the novelty of work, and is in many ways exciting because of the material included."—*Quarterly Review of Biology*.

2005 (paper 2006) 240 pp.; 52 line illus.
978-0-19-929730-6 paper \$74.00/\$59.20
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ADVANCED DISTANCE SAMPLING

Estimating abundance of biological populations

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This advanced text focuses on the uses of distance sampling to estimate the density and abundance of biological populations. It addresses new methodologies, new technologies and recent developments in statistical theory and is the follow up companion to *Introduction to Distance Sampling* (OUP, 2001).

2004 (paper 2007) 434 pp.
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Harvey Motulsky and Arthur Christopoulos,
University of Melbourne, Australia

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2004 352 pp.; 150 line illus.
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(Oxford Statistical Science Series)
2002 396 pp.
978-0-19-852484-7 \$99.00/\$79.20

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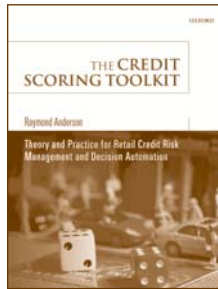
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Raymond Anderson,
Standard Bank Group Johannesburg

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A Complete Markets Approach

Ser-Huang Poon, and Richard C. Stapleton, Both at
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This text is primarily aimed at advanced Masters and PhD students in finance. Topics covered include CAPM, non-marketable background risks, European style contingent claims as in Black-Scholes and in cases where risk neutral valuation relationship does not exist, multi-period asset pricing under rational expectations, forward and futures contracts on assets and derivatives, and bond pricing under stochastic interest rates.

2005 152 pp.
978-0-19-927144-3 ~~\$49.95~~/\$40.00

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A.C.C. Coolen, *King's College*

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Interacting Agents in Financial Markets

Damien Challet, *Oxford University*, Matteo Marsili, *ICTP*, and Yi-Cheng Zhang, *University of Fribourg*

The Minority Game is a physicist's attempt to explain market behavior by the interaction between traders. This book gives a colorful and stylized, but also realistic picture of how financial markets operate.

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978-0-19-856640-3 ~~\$109.45~~/\$87.60

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2004 488 pp.; 23 line illus.
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2007 336 pp.; 120 halftones & line illus.
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Mark Tuckerman, *Professor of Chemistry and Mathematics, New York University*

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This book presents a self-contained discussion of the concepts, methods and applications that can be expected in such a theory. The two main approaches to its construction — the direct quantization of Einstein's general theory of relativity and string theory — are covered. (The International Series of Monographs on Physics 136)
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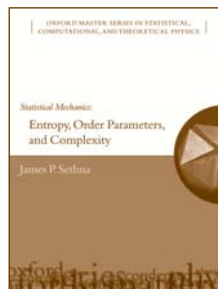
2007 198 pp.
978-0-19-531010-8 ~~\$59.95~~/\$48.00

STATISTICAL MECHANICS

Entropy, Order Parameters and Complexity

James P. Sethna, *Cornell University*

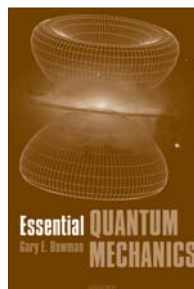
Aimed at advanced undergraduates and early graduate students in all of these fields, Sethna limits his main presentation to the topics that future mathematicians and biologists, as well as physicists and chemists, will find fascinating and central to their work. (Oxford Master Series in Physics 14)
2006 376 pp.; 210 line illus.
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Gary Bowman, *Northern Arizona University*

Essential Quantum Mechanics is suitable as either a text or a reference. It will be invaluable to physics students as well as chemists, electrical engineers, philosophers, and others whose work is impacted by quantum mechanics, or who simply wish to better understand this fascinating subject. (Oxford Graduate Texts)
2008 224 pp.; 20 line illus.
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PHASE TRANSITIONS AND RENORMALISATION GROUP

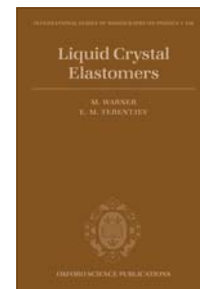
Jean Zinn-Justin, *Head of Department, Dapnia, CEA/Saclay*

This work tries to provide an elementary introduction to the notions of continuum limit and universality in statistical systems with a large number of degrees of freedom. (Oxford Graduate Texts)
2007 464 pp.; 28 b+w line drawings
978-0-19-922719-8 cloth ~~\$90.00~~/\$72.00

LIQUID CRYSTAL CRYSTAL ELASTOMERS

Mark Warner, and Eugene Michael Terentjev, Both at *Cambridge University*

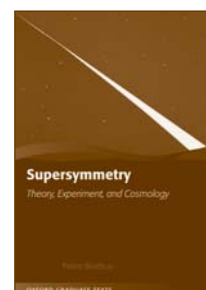
This book is a primer for liquid crystals, polymers, rubber and elasticity. It then describes the theory and experiment of these remarkable materials for the first time as a monograph. Worked examples are solved so that the reader can become proficient in the field himself. (The International Series of Monographs on Physics 120)
2007 424 pp.; 197 halftones & line illus.
978-0-19-852767-1 cloth ~~\$175.50~~/\$140.40
978-0-19-921486-0 paper ~~\$59.50~~/\$47.60



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P. M. R. Binetruy, *University of Paris*

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2007 536 pp.
978-0-19-850954-7 ~~\$100.00~~/\$80.00



QUANTUM LIQUIDS

Bose Condensation and Cooper Pairing in Condensed-Matter Systems

Anthony James Leggett, *University of Illinois at Urbana-Champaign*

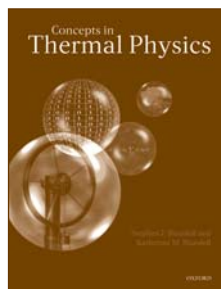
Starting from first principles, this book introduces the closely related phenomena of Bose condensation and Cooper pairing. The book should be accessible to beginning graduate students in physics or advanced undergraduates. (Oxford Graduate Texts)
2006 408 pp.; 46 line illus.
978-0-19-852643-8 ~~\$70.00~~/\$56.00

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Stephen Blundell, and Katherine Blundell, Both at *Oxford University*

This book provides a modern introduction to the main principles that are foundational to thermal physics, thermodynamics and statistical mechanics. The key concepts are carefully presented in a clear way, and new ideas are illustrated with copious worked examples as well as a description of the historical background to their discovery.

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978-0-19-856770-7 paper \$55.00/\$44.00



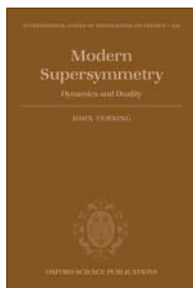
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Dynamics and Duality

John Terning, *University of California, Davis*

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(The International Series of Monographs on Physics 132)
2006 338 pp.; 1 color illus., 57 line illus.
978-0-19-856763-9 \$125.00/\$100.00



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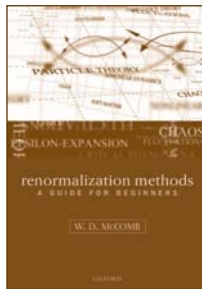
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Heinz-Peter Breuer, *Albert-Ludwigs-Universität Freiburg*, and Francesco Petruccione, *University of KwaZulu-Natal*

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Andrew Carnie, *University of Arizona*

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(Oxford Surveys in Syntax & Morphology 5)
2008 312 pp.
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Second Edition

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Translated by Alan Craig, *University of Durham*

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(Numerical Mathematics and Scientific Computation)
2007 472 pp.
978-0-19-920521-9 cloth \$150.00/\$120.00
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COMPUTER SIMULATIONS OF DISLOCATIONS

Vasily Bulatov, *Lawrence Livermore National Laboratory*, and Wei Cai, *Stanford University*

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(Oxford Series on Materials Modeling No. 3)
2006 304 pp.; 4 halftones, 88 line illus.
978-0-19-852614-8 ~~\$79.50~~/\$63.60

MATHEMATICAL METHODS FOR THE MAGNETO-HYDRODYNAMICS OF LIQUID METALS

Jean-Frédéric Gerbeau, Claude Le Bris, and Tony Lelièvre, All at *Ecole Nationale des Ponts et Chaussées*

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(Numerical Mathematics and Scientific Computation)
2006 324 pp.
978-0-19-856665-6 ~~\$110.00~~/\$88.00

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Algorithms and Computations

Werner Krauth, *CNRS - Laboratoire de Physique de l'École Normale Supérieure*

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(Oxford Masters Series in Physics 13)
2006 354 pp.; 260 line illus. 13 halftones
978-0-19-851536-4 paper ~~\$55.00~~/\$44.00

MICROSTRUCTURE OF MARTENSITE

Why It Forms and How It Gives Rise to the Shape-Memory Effect

Kaushik Bhattacharya, *California Institute of Technology*

(Oxford Series on Materials Modelling 2)
2004 306 pp.; 10 halftones, 86 line illus.
978-0-19-850934-9 ~~\$109.45~~/\$87.60

INVERSE EIGENVALUE PROBLEMS

Theory, Algorithms, and Applications
Moody T. Chu, *North Carolina State University*, and Gene H. Golub, *Stanford University*

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(Numerical Mathematics and Scientific Computation)
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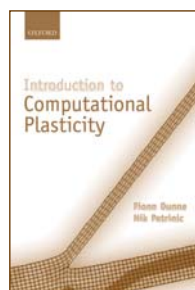
(Numerical Mathematics and Scientific Computation)
2005 686 pp.; 235 line illus.
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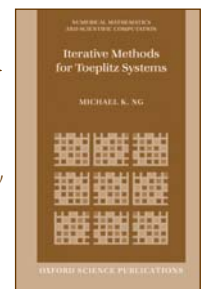
(Numerical Mathematics and Scientific Computation)
2005 336 pp.
978-0-19-852768-8 ~~\$99.00~~/\$79.20

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Michael K. Ng, *The University of Hong Kong*

(Numerical Mathematics and Scientific Computation)

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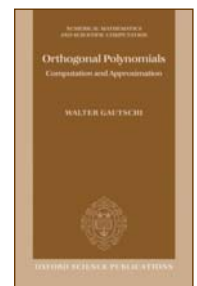
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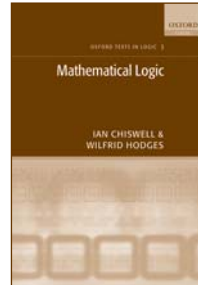
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(Oxford Texts in Logic 3)

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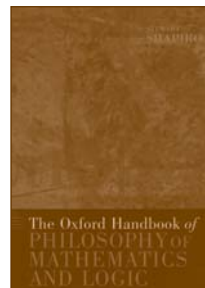
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P.J. Lee

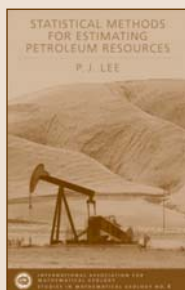
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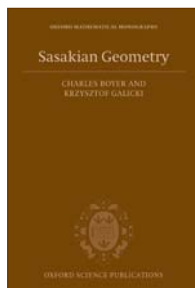
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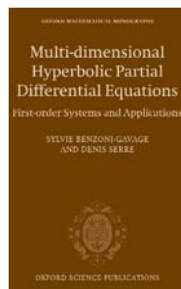
Université Claude Bernard Lyon I, and Denis Serre, *ENS de Lyon*

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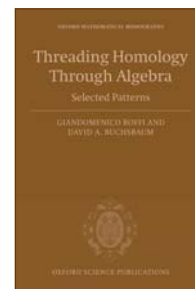
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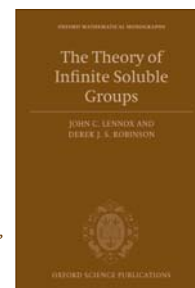
Robinson, *University of Illinois, Urbana*

An up-to-date survey of the area aimed at research students and academic algebraists and group theorists, it is a compendium of information that will be especially useful as a reference work for researchers in the field.

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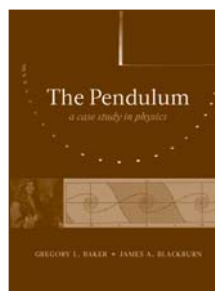
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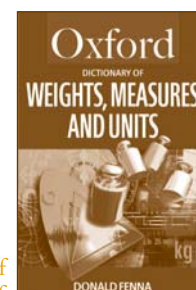
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(Oxford Paperback Reference)

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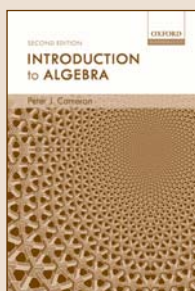
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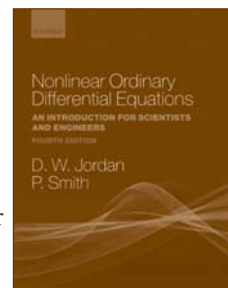
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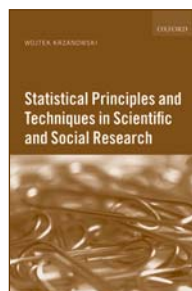
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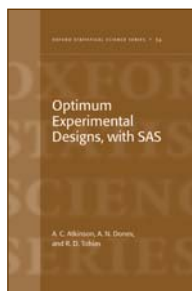
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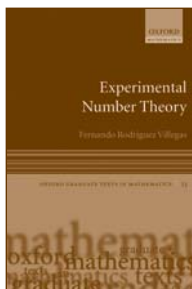
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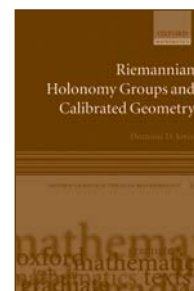
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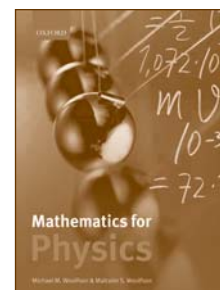
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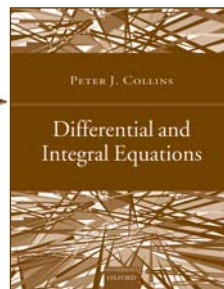
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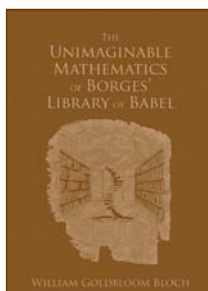
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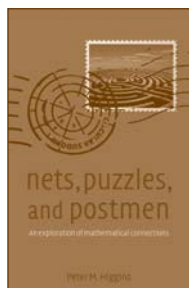


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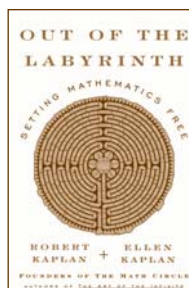


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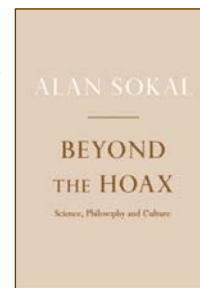
In trying to understand the atom, physicists built quantum mechanics and found, to their embarrassment, that their theory intimately connects consciousness with the physical world. *Quantum Enigma* explores what that implies and why some founders of the theory became the foremost objectors to it
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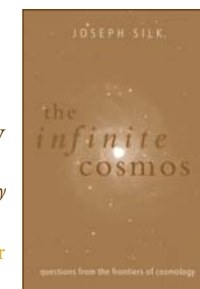
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See page 23 for the Selfish Gene

See page 24 for the Extended Phenotype

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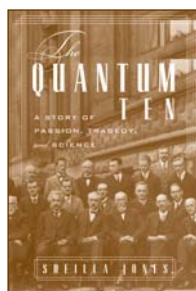
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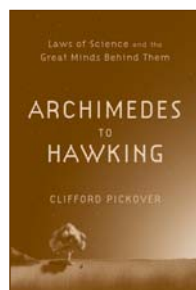
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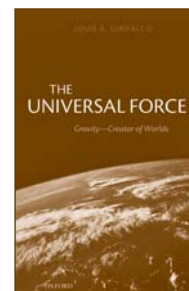
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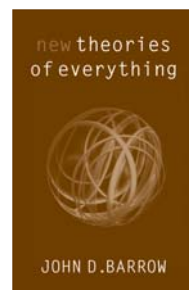
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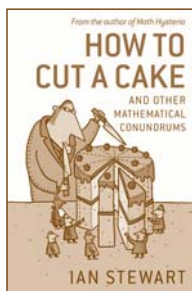
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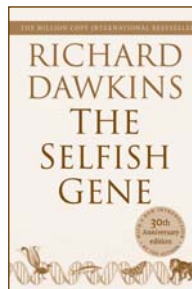
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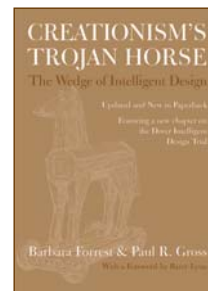
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