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AUTUMN/WINTER 2023



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Taylor & Francis Group



In focus this season

Artificial intelligence is all the rage with the introduction of tools that are based on large-language models, like ChatGPT. Many experts say that AI seems to have advanced a decade in the past year! We will see many more game-changing technologies appear as advances are made in text to code and text to image.

We have been working hard over the past few years to step up our offerings in AI and its related areas like machine learning, statistical learning and pattern recognition. We realised that these topics would have much to say about the future and that has come to pass. In this catalogue, you will see many examples of books on AI. We cover the more theoretical aspects of the subject in Model-Based Machine Learning, while a number of titles cover applications to materials science, physics and the social sciences.

We would also like to draw your attention to our *AI for Everything* series. This innovative series has sixteen published and forthcoming titles which cover everything from AI for Games to AI for Death and Dying. The purpose of the series is to explore the uses of AI in all aspects of research, industry and life, and it is intended for a more general audience.

Look out for more offerings in AI in the months to come. We want to serve our communities with a wide range of titles on this important technology, so expect to see books on theory, applications and ethics as we continue to contribute to progress in the area.



Nora Konopka



Sunil Nair

Editorial Directors for STEM

AI for EVERYTHING

Artificial intelligence (AI) is all around us. From driverless cars to game winning computers to fraud protection, AI is already involved in many aspects of life, and its impact will only continue to grow in future. Many of the world's most valuable companies are investing heavily in AI research and development, and not a day goes by without news of cutting-edge breakthroughs in AI and robotics.

The *AI for Everything* series explores the role of AI in contemporary life, from cars and aircraft to medicine, education, fashion and beyond.

Concise and accessible, each book is written by an expert in the field and will bring the study and reality of AI to a broad readership including interested professionals, students, researchers, and lay readers.

RECENTLY PUBLISHED:



AI FOR SCIENTIFIC DISCOVERY

Janna Hastings

9781032124841
June 6, 2023
134 Pages
5 B/W Illustrations



AI FOR FINANCE

Edward P.K. Tsang

9781032384436
June 2, 2023
126 Pages
6 B/W Illustrations



AI FOR DIVERSITY

Roger Andre Søråa

9781032073569
January 27, 2023
130 Pages
10 B/W Illustrations



AI FOR PHYSICS

Volker Knecht

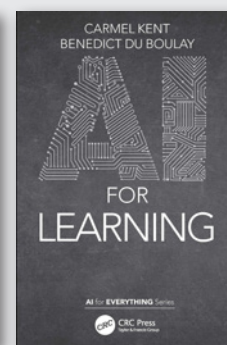
9781032151694
August 29, 2022
147 Pages
10 B/W Illustrations



AI FOR HEALTHCARE ROBOTICS

Eduard Fosch-Villaronga
and Hadassah Drukarch

9781032061283
June 7, 2022
136 Pages
6 B/W Illustrations



AI FOR LEARNING

Carmel Kent and
Benedict du Boulay

ISBN 9781032039213
January 28, 2022
132 Pages
18 B/W Illustrations

FOR MORE TITLES, PLEASE VISIT: www.routledge.com/AI-for-Everything/book-series/AIFE



Contents

IN CONVERSATION WITH

Sharon Ann Holgate, author of Communicating Science Clearly	4
Marat Molyboga, author of Your Essential Guide to Quantitative Hedge Fund Investing	6
Parvathi Chundi, Venkataramana Gadhamshetty, Bharat K. Jasthi and Carol Lushbough, editors of Machine Learning in 2D Materials Science	8
John Billingsley, author of Control Basics for Mechatronics ...	10
Rohan Alexander, author of Telling Stories with Data	12
Uri Alon, author of Systems Medicine	14
Jason Payne-James and Roger Byard, authors of Forensic and Legal Medicine	16
Anna Megill, author of The The Pocket Mentor for Video Games Writers	18

HIGHLIGHTS

Intelligent Automation	20
Health and Safety, Environment and Quality Audits	21
Innovative Technologies for Future Living	22
Real-Life Decision-Making	23
The Privacy Leader Compass	24
3D Printing and Bioprinting for Pharmaceutical and Medical Applications	25
An Introduction to Transport Phenomena in Materials Engineering	26
Efficiency and Sustainability in the Energy and Chemical Industries	27
Machine Learning-Based Modelling in Atomic Layer Deposition Processes	28
Numerical Methods in Chemical Engineering Using Python® and Simulink®	29
Sustainability Engineering	30
Tunnel Design Methods	31
Building your Career in Statistics	32
Design Techniques for Origami Tessellation	33
Machine Learning Toolbox for Social Scientists	34
Mathematical Conundrums	35
Model-Based Machine Learning	36
Models for Multi-State Survival Data	37
Quantifying Counterfactual History	38
Bailey & Love's Essential Operations in Oral & Maxillofacial Surgery	39
Practical Radiotherapy Planning	40
Textbook of Assisted Reproductive Techniques	41

Textbook of Female Urology and Urogynecology	42
Ultrasound of Congenital Fetal Anomalie	43
Trends in Counterfeit Drugs	44
Machine Learning for the Physical Sciences	45
Making it HUGE in Video Games	46
Growth and Decay of Coral Reef	47

ENGINEERING

Computing & IT Security	48
Chemical Engineering	50
Civil & Mechanical Engineering	51
Electrical & Electronic Engineering	53
Ergonomics & Human Factors	55
Industrial Engineering & Manufacturing	55
Software Engineering & Systems Development	58

MATHEMATICS & STATISTICS 61

Mathematics	61
Probability & Statistics	62

MEDICINE..... 64

General Medicine	64
Specialist Medicine	66
Surgery	69

SCIENCE 69

Biology & Life & Plants Science	69
Chemistry & Pharmaceutical Science	70
Computer Science & Computer Graphics	72
Forensic Science	76
Environmental Science	77
Materials Science	77
Physics	80

GAME DESIGN & ANIMATION 83

JENNY STANFORD PUBLISHING..... 85

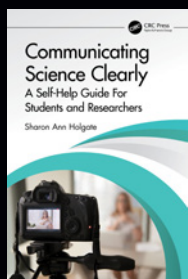
APPLE ACADEMIC PRESS 86

INDEX 87



Sharon Ann Holgate

is a freelance science writer and broadcaster. She has presented on BBC Radio 4 and the BBC World Service, and presented video podcasts for medical research charity the Myrovlytis Trust. She earned a D.Phil in physics from the University of Sussex, where she was a Visiting Fellow in Physics and Astronomy for nine years. Her articles have appeared in *Science*, *Science Careers*, *New Scientist*, *The Times Higher Education Supplement*, *The Times Literary Supplement*, *Flipside*, *E&T*, *Focus*, *Physics World*, *Interactions*, *Materials World*, *Modern Astronomer*, and *Astronomy Now*. She was also shortlisted for the radio programme category of the Association of British Science Writers' Awards in 2005, and for the Aventis Prizes for Science Books Junior Prize in 2003. Dr. Holgate was the recipient of the Institute of Physics 2022 William Thomson, Lord Kelvin Medal and Prize for communicating science to a wide variety of audiences and for positive representations of scientists from non-traditional backgrounds.



Communicating Science Clearly

A Self-Help Guide For Students and Researchers

Sharon Ann Holgate

ISBN 9781032069111

November 16, 2023

168 Pages • 57 B/W Illustrations

Subject: General Science

Sharon Ann Holgate

author of *Communicating Science Clearly: A Self-Help Guide For Students and Researchers* explains why good science communication is so important

As I approached the 25-year anniversary of becoming a science writer and broadcaster, I began reflecting on how valuable the advice given to me by mentors and colleagues had been. It sounds clichéd to say I could not have done this without them, but I really don't think I could have. Live broadcasting to an audience of several million, for instance, is not exactly something I'd had previous experience of. Most of us, quite understandably, will approach that task with some trepidation. But how much less terrifying it becomes when you are armed with tips from people who have done it many times before!

While I was busy pondering what being 'mid-career' really meant, it struck me how many people had got in touch over the years asking for my advice on science communication. I also realised just how much I'd been enjoying my recent teaching duties as a guest educator on the Science Communications module for fourth year MSci and MSc physics students at King's College London.

In 2022 when I was awarded the prestigious William Thomson, Lord Kelvin Medal and Prize from the UK's Institute of Physics for public engagement in physics these feelings were compounded. I felt a stronger than ever desire to pass a lot of the science communication skills and tips I had been accruing to others via the book I was by then already writing and which became *Communicating Science Clearly*.

My aim with this book is not only to give practical advice to help students and scientists at any career stage to communicate about their work. It also seeks to provide some of the informal tips and support I have been fortunate enough to receive. There didn't seem to be any book already on the market that imparted the sort of friendly advice I wanted to share with readers in a handy-to-use format with concise chapters that can be quickly accessed whenever the need arises. So I wanted to change that.





Not least because of how important good science communication is for any of us working within science, whether we are addressing millions of people or just one. Whatever scientific career path someone takes, science communication will be an integral part of their future, and could encompass a variety of media. Make no mistake about this, science communication is neither an 'easy option' to study nor a skillset that everyone automatically has. Communicating well needs careful thought, planning, and execution. Get a public health message wrong, for example, and people could potentially die as a result. Make a real mess-up of a conference talk, and derail a promising research career. Write a rushed or ill-conceived Tweet or Instagram post concerning some joint research, and risk destroying a good working relationship with a collaborator.

Any of these things can happen. But with a decent amount of preparation, and a methodical approach there is no need for any doomsday scenarios to occur. Communicating Science Clearly offers advice from both myself and a wide variety of experts –

including a radio producer, a TV presenter, actors and entertainers, as well as scientists – to help students and scientists best deal with a range of different communication scenarios that they might encounter.

Obviously not every scientist in industry or academia will be interviewed for radio, TV or podcasts, or indeed be asked to pen a magazine article or a book. So whilst I have chapters devoted to how best to handle being interviewed for broadcast, as well as a chapter on writing popular science articles and tackling the challenges a book presents, many other types of communication are covered. The book includes advice on giving good conference presentations, delivering science outreach talks for the general public, how best to explain what you are working on to colleagues or superiors, and tips for ways to talk about science and deal with any anxiety you may be feeling in job and PhD interviews. It also looks at communicating on a one-to-one basis, or to small groups in situations ranging from explaining scientific

information to hospital patients to documenting your work for use by future colleagues.

In some cases I've deliberately focussed on things that might go wrong. In fact, I've included a 'troubleshooting' chapter which gives a range of possible problem scenarios, followed by either my own advice or that of other experts on how best to solve each issue.

Whilst I wanted the book to be quick to refer back to whenever needed, its format is equally suitable for university courses in science communication, or for self-study as part of continuing professional development. This is because it begins with a

selection of chapters containing information that is general to many different forms of communication. These include how to identify and tailor to a target audience demographic – including advice on how to be inclusive for audience members with disabilities, ways to make the slides for your talks as memorable and simple to understand as possible, tips on vocal delivery, how to keep scientific content concise and on track, and the importance of smart

personal appearance for effective science communication.

So if readers have the time to study the book from the start, they can sequentially build up skills and gain a fuller picture of communicating science.

Remote appearances and social media are also covered, including advice aimed at helping students and scientists avoid infringing copyright with the content they post. There are also tips on creating social media posts and writing longer pieces of online content, as well as advice on using remote technologies and most importantly on how to hold the audience's attention when doing so.

Of course, I can't possibly pre-empt everything my readers might face. But no matter what science communication challenges they encounter in their future education or workplace, being armed with a copy of Communicating Science Clearly should help alleviate the feeling of being thrown in at the deep end.

“
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university courses in science
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Dr Marat Molyboga

is the Chief Risk Officer and Director of Research at Efficient Capital Management, where he helps shape strategic priorities as a member of the Leadership Team. He began his career at Efficient in 2001 as a Research Analyst, working on fund selection and portfolio construction algorithms. Later, he spent several years developing and managing intraday trading strategies for a firm subsidiary before assuming his current risk management and research roles. His expertise is in hedge fund performance evaluation and portfolio construction, specializing in practical applications of rigorous academic research.



Larry E. Swedroe

is the head of Financial and Economic Research, Buckingham Wealth Partners. In his role as chief research officer and as a member of the firm's Investment Policy Committee, Larry regularly reviews the findings published in dozens of peer-reviewed financial journals, evaluates the outcomes and uses the result to inform the firm's formal investment strategy recommendations.

IN CONVERSATION WITH

Marat Molyboga

the co-author of *Your Essential Guide to Quantitative Hedge Fund Investing*, about his book and the framework for understanding effective hedge fund investment strategies.

What does this book cover?

Hedge fund investing is often misunderstood. In our book, we debunk several myths: hedge fund investing and the selection of top performers are easy; hedge funds hedge; active and socially responsible hedge funds outperform; and investors benefit from hedge funds identifying undervalued stocks.

Empirical hedge fund research is performed by academics and practitioners. While each perspective is valuable, they are also incomplete — making it vital to appreciate and blend both views in order to build robust hedge fund portfolios. We show that hedge fund researchers can use one or several databases. However, the quality of the databases varies significantly and empirical data should be carefully evaluated and adjusted for biases. In addition, investors should either allocate via managed accounts or carefully account for rebalancing frictions in their investment process.

After a deep-dive into the empirical data, we turn to the fascinating and challenging topic of hedge fund selection. We demonstrate that fund selection should be customized to the specific objectives and constraints of each unique investor. We also show the importance of identifying hedge funds with a positive marginal impact on the existing portfolios. We then discuss how machine learning offers several promising approaches that can help with selecting a subset of factors that are relevant for a given hedge fund. However, quantitative performance evaluation is challenging because of the role of serendipity. Therefore, a hedge fund investor should also consider qualitative factors. We also highlight the need to perform specialized operational due diligence of digital asset funds.

When we discuss portfolio construction, we also show the importance of customizing portfolios. For example, pension plan investors can benefit from explicitly evaluating the impact of candidate investments on their funding ratios. Although most portfolio techniques perform poorly out-of-sample, hedge fund investors can improve performance by diversifying risk across strategies and targeting volatility. Investors may also consider top-down portfolio approaches or recent cutting-edge techniques covered in the book. However, it is important to not be over-reliant on recent historical data. When the market environment changes, historical periods with a similar environment, rather than the most recent period, are more relevant for forward-looking portfolio decisions.

Although we have learned a lot from the challenging process of distilling hundreds of heavy academic papers into pragmatic toolboxes of research-

based investment ideas and decisions, we particularly enjoyed gaining insights from the thought leaders in modern finance who generously contributed to our book. The last few chapters of the book are unusual for quantitative manuscripts. They share experiences and suggestions of accomplished hedge fund managers and investors who kept on searching for answers in their respective areas despite obstacles and setbacks. Their stories also have a common thread of diversity, inclusion, and fulfilment from helping others. We hope that their stories will inspire young people to pursue their dreams, even if the odds may be stacked against them.

Who should read this book?

We wrote this book to help all investors better understand and manage hedge fund portfolios. Although many of the topics covered in our book are highly technical, we wanted to make it accessible to any hedge fund investor who is interested in evidence-based investing. To accomplish this objective:

- We were intentional about choosing simplicity over technical precision.
- We italicized the first use of technical financial, statistical, or machine learning terms and provided their definitions in a glossary.
- We summarized key takeaways at the end of each chapter.
- We included a list of all referenced academic papers at the end of each chapter.

We also wanted our book to be useful for the quants and graduate students who are interested in the highly technical aspects of investing that are required when implementing and testing sophisticated portfolio management approaches. Thus, we included four appendices that provide in-depth technical descriptions and implementation steps for most of the approaches covered in the book.

What inspired you to write it?

I wanted to write this book for two reasons. First, I have been fortunate to work and collaborate with brilliant investment professionals and academics who passionately approach the topic of hedge fund investing with both scientific curiosity and rigor. They have shown me that quantitative hedge fund investing is full of widely accepted myths that must be debunked, and fascinating and challenging problems that can be successfully solved to benefit investors. Therefore, I wanted to write this book to honor those people and give back to others.

The second reason is a little selfish. I am very passionate about learning, and I was excited about this incredible opportunity to attain a deeper level of my own understanding of some of the most challenging and exciting topics of manager selection and portfolio construction. As the Roman philosopher Seneca said: "While we teach, we learn."

I approached Larry to help me write this book because he has dedicated his life to educating investors about evidence-based investing. In all of his books, Larry has been successful at distilling hundreds of heavy academic papers into pragmatic toolboxes of research-based investment ideas and decisions.

If a reader were to take one thing from this book, what do you think it should be?

Hedge fund investing is challenging and full of myths. Although you will undoubtedly face obstacles and setbacks on your journey, we hope that our book gives you the framework and the necessary tools for success. The evidence-based methodology can you determine which building blocks you can rely on and how to thoughtfully put them together

Endorsements:

"This wise and lucid treatise explaining the promise and the hazards of alternative hedge fund strategies should be required reading for both investors and students of financial engineering."

-Burton G. Malkiel, author of A Random Walk Down Wall Street, 50th anniversary edition.

"Molyboga and Swedroe have produced a comprehensive guide to the theory and practice of hedge fund investing. From strategy and manager selection to portfolio construction, the book offers rigorous and pragmatic advice. I wish this book existed when I was starting out."

-Tobias Carlisle, Managing Director, Acquirers Funds.



Your Essential Guide to Quantitative Hedge Fund Investing

Marat Molyboga and Larry E. Swedroe

ISBN 9780367776091
July 18, 2023
316 Pages • 6 B/W Illustrations
Subject: Finance



Parvathi Chundi

is Professor of Computer Science, University of Nebraska-Omaha. Prior to Omaha, Dr. Chundi was with Agilent Technologies and HP Labs, both in Palo Alto, CA.



Venkataramana Gadhamshetty

is Associate Professor, Department of Civil and Environmental Engineering, South Dakota School of Mines and Technology.



Bharat K. Jasthi

is Associate Professor, Department of Materials and Metallurgical Engineering, South Dakota School of Mines and Technology.

Carol Lushbough

is Assistant Professor of Computer Science, University of South Dakota.

IN CONVERSATION WITH

Parvathi Chundi, Venkataramana Gadhamshetty, Bharat K. Jasthi and Carol Lushbough

the editors of *Machine Learning in 2D Materials Science*, about their new book.

What is the importance of machine learning in materials science and engineering? How would you describe this to a layperson or someone new to the field?

Traditional methods of discovering advanced materials and understanding their previously unexplored properties involve simulations and lab experiments, which are often driven by physical and chemical laws and trial and error methods. Engineers and scientists have been digitally storing materials datasets from experiments and simulations and summarizing their findings in research abstracts for over a century now. Data science and machine learning (ML) can be used to analyze these diverse datasets seamlessly and assist in accelerated discovery of new and plausible material configurations and properties. Scientists can then study them using experiments and simulations, thereby reducing the wastage of time and resources due to trial-and-error methods. ML methods can analyze vast amounts of data quickly and at low computational cost, which make them effective in facilitating scientific discoveries. ML methods will continue to transform the way materials research is conducted. For any scientific researcher and professional, especially those outside the field of materials science, it may be daunting to figure out if ML techniques are useful for them and, if so, which ones are applicable in their individual contexts, and how to study the effectiveness of these methods systematically. This book addresses these needs.

What motivated you to edit this book? What do you hope to achieve through it?

ML for discovery and application of advanced materials in science and engineering is in its infancy. Our team is at the forefront of converging advanced materials, specifically nanoscale coatings with diverse fields including biotechnology, corrosion protection, and environmental engineering. Currently there are no books available integrating ML for addressing problems at the

interface of biology, electrochemistry, and materials science. This book strives to address this need by broadly covering these fields with an emphasis on cell/microbe-material interface so that the engineers and scientists can confidently leverage the ML techniques in their projects. This book is uniquely positioned to systematically introduce the fundamentals of the science as well as the cutting-edge research methodologies to train students, postdocs, and other researchers from diverse fields. We truly hope that this book will serve as an essential textbook or reference for any student, faculty, or researcher. The practical applications and use cases will allow both seasoned experts and novice researchers to train themselves or others in the fundamentals and applications of ML in science and engineering applications, especially those that interface technologically relevant materials with living microorganisms and their biofilms.

Your editor team is quite interdisciplinary, hailing from computer science, civil/environmental engineering, and materials/metallurgical engineering departments. What do you see as the benefits of this interdisciplinary perspective on the book? What does each discipline bring?

The complex societal problems facing the current generation requires convergence research that employs transdisciplinarity. Individual disciplinary expertise is no longer adequate for addressing many of the complex problems. Collaboration among diverse disciplinary experts will not only accelerate the understanding of fundamental phenomena but also will resolve social issues. Our editor team builds from such collaborations that have been funded by the National Science Foundation (NSF). We bring together expertise in biology, corrosion science, computer science, civil/environmental and materials/metallurgical engineering, and nanotechnology. This book builds upon successful findings from the NSF project where we focused on understanding the previously unexplored nanoscale behavior of advanced materials facing biological environments. The transdisciplinary nature of our team was central for developing cutting-edge, nanotechnology-based research solutions for addressing complex biointerfacial problems that would not have been possible otherwise.

How does your book help readers understand and use this technology?

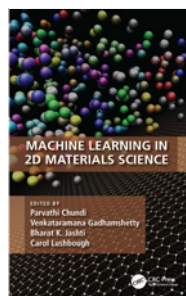
This book provides both fundamental and in-depth coverage of current ML methods for validating 2D materials using both experimental and simulation data, researching and discovering new 2D materials, and enhancing ML methods with physical properties of materials. Each chapter discusses case studies illustrating how ML approaches are currently leading innovations in the discovery, development, manufacturing, and deployment of 2D materials needed for strengthening industrial products. These use cases together should convince readers in terms of how ML analysis pipelines can be put together to develop solutions and assess their performance.

Is there a particular chapter or section you would recommend if readers picked just one?

Our recommendation would be to read the Future Directions chapter that provides a glimpse of the emergent research trends in the ML and 2D materials fields. We hope this chapter inspires the reader to pursue a scientific research career and delve deep into the wonderful world of 2D material discovery for a healthy and sustainable future. Chapter 1 is also a good read because it provides inspiration to explore the use of ML for analyzing material-microbe interactions.

What do you think are the most exciting current or potential applications for ML in the materials field?

ML for 2D materials will lead to new materials that are less corrosive in a variety of environments and can be made in a sustainable manner using less resources. Advanced materials enabled by ML offer colossal promise for enabling next-generation technologies that support biocatalysis, biofuel production, future manufacturing, infrastructure protection, renewable energy, climate resilient solutions, and improved security systems.



Machine Learning in 2D Materials Science

Edited by Parvathi Chundi, Venkataramana Gadhamshetty, Bharat K. Jasthi and Carol Lushbough

ISBN 9780367678203

November 13, 2023

320 Pages • 20 Color & 65 B/W Illustrations

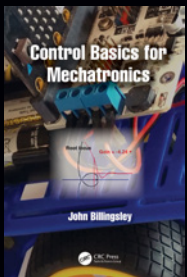
Subject: Artificial Intelligence / Material Science



John Billingsley

As a Cambridge Mathematics Scholar, John Billingsley completed the mathematics tripos in two years, then spent his third year studying electronics. Following a Graduate Apprenticeship, he designed algorithms and electronics for aircraft control systems. He then returned to Cambridge to complete his doctoral research on Predictive Control.

He remained in Cambridge as a Fellow of Sidney Sussex College. Eight years later he moved to a Readership at Portsmouth Polytechnic, now Portsmouth University and later became Professor of Robotics. He led groups researching the 'Craftsman Robot' and walking robots. He helped found companies designing embedded electronics for domestic appliances and nuclear test equipment.



Control Basics for Mechatronics

John Billingsley

ISBN 9781032425573

September 28, 2023

174 Pages • 71 B/W Illustrations

Subject: Electrical & Electronic Engineering

IN CONVERSATION WITH

John Billingsley

the author of *Control Basics for Mechatronics*, about his new book.

John, you have referred to Mechatronics as a mongrel, a cross breed of classic mechanical engineering, the relatively young pub of computer science, the energetic electrical engineering, the pedigree mathematics, and the bloodhound of Control Theory.

Over the years, things that were in the forefront of research have become playthings for hobbyists. Computers like the BBC Micro and the Commodore 64 were early on the scene, but it was not long before the IBM PC, with Apple and Microsoft, had made operating systems a software jungle. But the microcontroller and microcomputer chips that took over the 'works' of the evolving computers could just as easily be built into products, ranging from washing machines and motor cars to children's toys. Mechatronics was born. Devices like the Arduino and the BBC Micro:bit now put all the powers of innovation into the hands of the hobbyist or undergraduate.

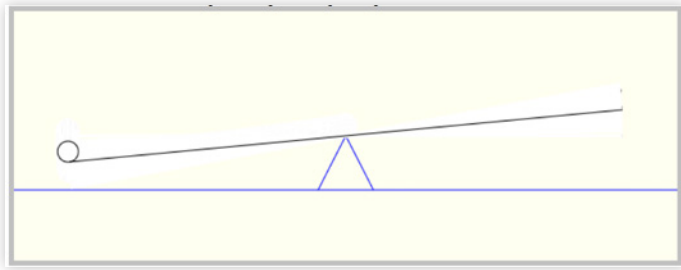
It isn't all about software. To invent a new product, you need to know about sensors and motors, together with the electronics to put them together. But as soon as you have a problem like balancing or steering to contend with, you need a grounding in Control Theory, also sometimes called Cybernetics. That is where this book comes in.

Using simulations written in the simplest of code, you can see the science behind the mental agility of riding a bicycle and use it to work out how to balance a Segway. You can put together a cheap trolley kit and balance it on two wheels, to try out the strategy that you have built.

The chapters are peppered with 'exercises', simulations that you run to test out what you are learning. These are available in the eBook version at the click of a link, or in the printed version by typing something like 'Motor1' into an application that you will download as part of a zip file. Or in either case, you can choose a link on the resource support site.

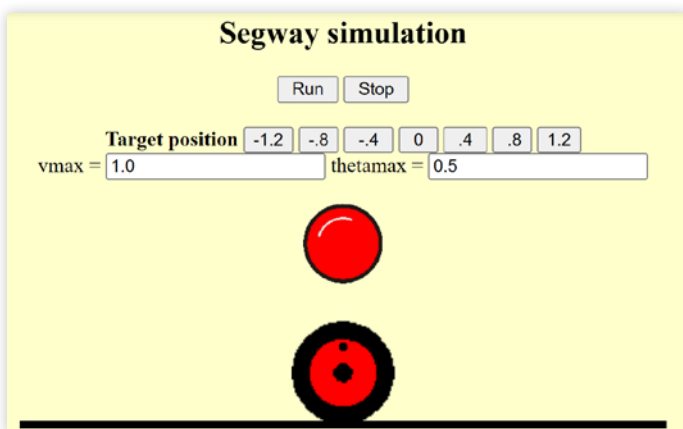
Although you might need a massive software development kit to build a new commercial application, every web browser can run 'JavaScript'. This is a simple language very similar to the 'C' that is used in the Arduino or Micro:bit. When you have enjoyed the simulations in the book, you can easily write your own! The essence of each simulation's code is shown below it.

Those simulations are not very pretty, because they try to be as simple as possible. The Ball and Beam problem does its job with a tilting line, a triangle and a circle:



But you can spend hours, engrossed in getting it to balance!

Other simulations, like the bicycle and Segway, move blobs of images around the screen.



By throwing a microcomputer into the mix, your new gadget will be able to do almost everything that you can imagine it doing – if you can get your control strategy right. But I cannot help thinking that the great limit to the leaps and bounds will be the ability to write a manual that the user can actually understand!

Moving beyond the microchips, great innovations are being made in computer vision. Face recognition is becoming common, and already this book suggests that the ball position on the ball and beam can be detected by a simple webcam. But we still need an Arduino as a go-between for a laptop to move the plank angle.

How can the hobbyist use your book?

There is a lot to play with in this book! The hobbyist probably owns a microcontroller or two, boards like the Arduino or the BBC Micro:bit. These enable gadgets to be controlled by software and can be programmed in a language like 'C'. The book is full of control simulations, written in JavaScript which is almost identical to C. These simulations are simple web pages that can run in any internet browser. New simulations can be written using any text editor. After tweaking a strategy using a simulation, it can easily be transferred to the hardware device.

There is an interactive ebook version available for your book – how will the enhancements engage students?

There are exercises on almost every page. These are of the style 'What happens if?' So, the student will work through the text, trying out the examples as they go to find out.

What are the key applications of Mechatronics today? How can a lay person understand how mechatronics is a part of our everyday lives?

Computing used to involve massive 'mainframes', programmed with paper tape and punched cards. Now every laptop and smartphone has thousands, if not millions, of times the computing power of EDSAC 2, the machine that I first used for my Cambridge research. But the shrinking did not stop there. Computing chips have found their way into almost everything that needs controlling. Cars are full of them, even your garden watering timer will have one, if it is not of the old clockwork variety. So designers use software to give character to their new products, while they also have to be concerned with the electrical and mechanical aspects. It is the ability to juggle the trade-offs between all these aspects that is at the heart of mechatronic design.

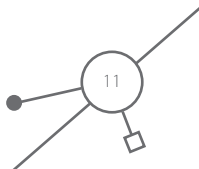
What can we expect from robots in 5 years? 10 years?

It depends on what you call a robot. Washing machines and dishwashers do our bidding, relieving us of chores, while assembly robots continue to churn out products in droves. But already our expectations of machine intelligence are leading us into new fields. Autonomous driving is making an appearance. How long will it be before it is illegal to drive a car by hand on any sealed road?

Can you share a story about your time with Stephen and Jane Hawking?

When I took my new bride to Cambridge, I found that Research Scholars had great privileges. One of these was a weekly dinner in the Junior Combination Room, in the company of the other scholars and their partners. One couple was Stephen Hawking and his girlfriend Jane. At first, he was active, with only a few signs of the multiple sclerosis with which he was diagnosed. Thinking that he had only three years to live, Jane felt that it was her duty to marry him. We attended their wedding and May Balls with them, and when our daughter arrived, Jane made the ideal godmother.

The researchers were soon sharing children's parties, while Stephen declined into his wheelchair. His diagnosis was revised to motor-neuron disease.





Dr. Rohan Alexander

is an assistant professor at the University of Toronto, jointly appointed in the Faculty of Information and the Department of Statistical Sciences. He is also the assistant director of CANSSI Ontario, a senior fellow at Massey College, a faculty affiliate at the Schwartz Reisman Institute for Technology and Society, and a co-lead of the DSI Thematic Program in Reproducibility. He holds a PhD in Economics from the Australian National University with a focus on economic history.

Rohan Alexander

the author of *Telling Stories with Data*, on how to do data science, from gathering and cleaning to data analysis and drawing conclusions.

In less than a generation, data science has gone from something that barely existed, to a defining part of academia and industry. But it is often conducted without a coherent end-to-end approach. *Telling Stories with Data* is a reimagining of what data science is, and what it could be. It develops and applies a principled, tested, reproducible, end-to-end workflow that focuses on quantitative measures in and of themselves, and as a foundation to allow students to explore questions that are of interest to them.

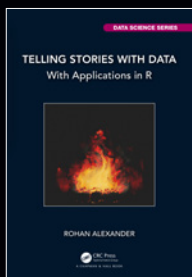
The book is built around the central thesis that a trustworthiness revolution is needed in data science, and the book proposes a view of what it could look like. This revolution builds on the long history of statistics, borrows heavily from computer science, and draws on other disciplines as needed, but is centered around reproducibility, workflows, and respect. When data science began it was nebulous and ill-defined. As it has matured, it is now increasingly able to stand on its own. *Telling Stories with Data* attempts to bring a coherence to its varied influences and applications.

One reason for the rise of data science in recent years is because of the value of its application to datasets generated by humans. Humans are at the center of many of the stories that we tell with data and most data analysis reflects the world as it is. Respecting those whose data are in our dataset is a primary concern of the book, as is thinking of those who are systematically not in our dataset. This becomes especially important as we try to use the data that we have, to talk about the broader world or to make predictions. One of the defining aspects of this book is that ethics and inequity concerns are integrated throughout. These are critical, but it can be difficult for students to immediately see their value, hence their tight integration. *Telling Stories with Data* also encourages students from a wide variety of backgrounds, by drawing on examples from many disciplines and geographies.

There are five core components to the workflow established in *Telling Stories with Data*: 1) plan an endpoint; 2) consider simulated data; 3) acquire and prepare the actual data; 4) explore and understand the actual data; 5) share what was done and what was found.

We begin by planning and sketching an endpoint because this ensures that we think carefully about where we want to go. It forces us to deeply consider our situation, acts to keep us focused and efficient, and helps reduce scope creep.

We then simulate data because that forces us into the details. It helps with cleaning and preparing the dataset and provides us with clear features that our real dataset should satisfy. Simulating data is also important when we turn to statistical modeling and allows us to know whether our model is performing appropriately.



Telling Stories with Data

With Applications in R

Rohan Alexander

ISBN 9781032134772

July 27, 2023

622 Pages • 78 Color & 76 B/W Illustrations

Subject: Data Science

“

Telling Stories with Data
will be the foundation for a
more trustworthy use of data
to tell stories.

Acquiring and preparing the data that we are interested in is an often-overlooked stage of the workflow. This is surprising because it can be one of the most difficult stages and requires many decisions to be made. It is increasingly the subject of research, and it has been found that decisions made during this stage can affect statistical results (Huntington-Klein et al. 2021; Dolatsara et al. 2021). Developing comfort in this stage of the workflow unlocks the rest of it. As such *Telling Stories with Data* is filled with real-world data acquisition and preparation examples that students can do themselves, rather than using stylized cases.

After we have a dataset, we then want to explore and understand certain relationships in that dataset. We typically begin the process with descriptive statistics and then move to statistical models. *Telling Stories with Data* positions statistical models as tools and approaches that we use to explore our dataset, in the same way that we may use graphs and tables. It is focused on developing epistemic humility in students, at the same time as enabling them to implement many common approaches including both linear models and generalized linear models.

Finally, we must share what we did, trying to be clear about the decisions that were made, why we made them, our findings, and the weaknesses of our approach. The book encourages students to do this actively by including a series of papers that students can write. These require students to develop their own questions, use quantitative methods to explore them, and communicate their findings. It is often through completing these papers that students better understand their potential and become particularly excited about a career in data science.

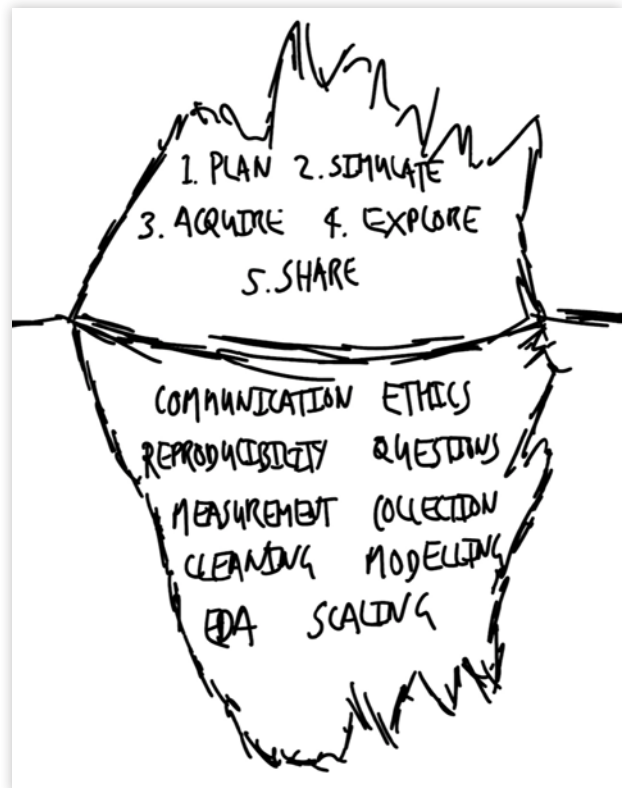
Telling Stories with Data is an introductory book. The primary programming language is R because it is open source, widely used, and general enough to cover the entire workflow, yet specific enough to have plenty of well-developed features. But after establishing that foundation, the book encourages a multilingual approach and provides a taste of SQL and Python.

The book is designed to enable students to build a portfolio of work that they could show to a potential employer. This follows Robinson and Nolis (2020, 55) who describe a portfolio as something that is useful in the job search. Every chapter includes

many exercises and tutorial questions. Many chapters also include callout blocks that focus on a particular setting where it is often assumed that there are unimpeachable and unambiguous data, but the reality tends to be quite far from that.

Telling Stories with Data has been strongly endorsed, including Andrew Gelman “I absolutely love this book”, Kosuke Imai “I highly recommend this unique book!”, Sir David Spiegelhalter “[A]n extraordinary, wonderful, book...”, Daniela Witten “An excellent book”, and Richard McElreath “This is not another statistics book. It is much better than that.”

There has never been a more exciting time to learn to tell stories with data. These skills fit into almost any academic department or company. By providing a rigorous approach to introductory material, *Telling Stories with Data* will be the foundation for a more trustworthy use of data to tell stories.





Uri Alon

is the Abisch-Frenkel Professor of Systems Biology at the Weizmann Institute of Science, Israel.

Uri Alon

the author of *Systems Medicine*, explains how his new book introduces the topic of physiological circuits, in which cells and organs communicate with each other.

I'm excited to share this book with you, on systems medicine.

The goal of the book is to develop a theory for medicine. We start from basic principles or laws and derive why physiology is built the way it is, why specific diseases happen, and which new strategies might treat them.

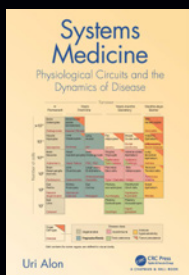
By the end, the reader will be able to use simple and powerful mathematical models to describe physiological circuits. The models are powerful because they turn details into useful understanding and new ways to think about medicine. We will understand the fundamental causes of some of the most mysterious diseases: diabetes, autoimmune diseases, and age-related diseases such as lung fibrosis and cancer.

Our level of description is physiological circuits that define how cells and organs communicate with each other. Rather than circuits inside a cell, we will discuss circuits of communication between cells. This level of description is relevant to some of the most common and deadly diseases that plague humanity.

We will explore, in three parts, hormone circuits, immune circuits, and aging and age-related disease. Our story culminates in a periodic table of diseases.

Hormone circuits in the book include insulin control of glucose and the origins of diabetes, the human stress axis and its dynamics including mood disorders, and the thyroid axis with its discontents. Immune circuits include the origins of autoimmune diseases -why the body attacks itself, as well as a first principle explanation of inflammation and fibrosis - and how circuit models provide new avenues for therapy.

The three chapters on aging build a comprehensive theory of why we age based on universal patterns of aging and age-related diseases. We will explore emerging directions to slow down aging and how this may mitigate a wide range of diseases.



Systems Medicine

Physiological Circuits and the Dynamics of Disease

Uri Alon

ISBN 9781032411859

November 1, 2023

264 Pages • 132 Color & 92 B/W Illustrations

Subject: Bioinformatics



Systems Medicine is a masterpiece. Written in a conversational style, it invites us to think about health and disease in a profoundly simple new way. From the secrets of aging to the enigma of autoimmune diseases, Uri Alon uses physiological circuits and the principles that underlie them to illuminate how our bodies work, why specific diseases occur, and what strategies might be used to treat them.

The themes of the book are woven together in the final chapter that presents a periodic table of diseases. The periodic table exposes patterns that connect diseases and explains these patterns based on the underlying circuitry. The table even predicts unknown diseases.

I write this book with a heterogeneous readership in mind. Your background might be biology, engineering, physics, math, computer science, medicine, or other subjects, as an undergraduate, graduate, or researcher.

I'll assume no prior biological knowledge and use minimal jargon – biologists and physicians will see much fewer gene names than they are used to. I'll explain terms when needed. The level of math is friendly, and you can even bypass the math altogether and the book still works. For readers who want to go deeper, the book includes dozens of exercises.

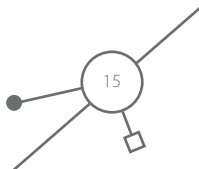
I'd also like to say what this book is not. It is not a book on medical bioinformatics, the gathering and statistical interpretation of biomedical data. That field, sometimes also called systems medicine, is described in references listed at the end of each chapter. We will not discuss applications of machine learning or artificial intelligence to medicine. We will, however, use large medical datasets in this book to test our mechanistic models. This book is also not exhaustive. The purpose of the book is to provide a way of thinking, and the examples are chosen to clearly demonstrate principles

My wish is that readers will feel that they can do something in this field -- and that some of them will join us.

Endorsement:

"This book will be as influential and transformative as Alon's Systems Biology. Its quantitative approach provides new insight into the mechanisms that underline common diseases. It should be of interest to students and researchers in medicine, biology, and engineering. It will introduce quantitative analysis to medical students, interesting medical problems to engineers, and catalyze a new synthesis of "systems medicine". Alon is a pioneer and leading expert in systems biology. He is now pioneering a new field with this book."

– Liqun Luo, Department of Biology, Stanford University, USA



Jason Payne-James

is a Specialist in Forensic and Legal Medicine and is based in the UK. He has been a forensic physician for 30 years. Previously he worked in hospital medicine, predominantly in surgical, trauma and gastroenterological specialties. He is Honorary Clinical Professor, William Harvey Research Institute, Queen Mary University of London; Lead Medical Examiner – Norfolk & Norwich University Hospital NHS Trust.



Professor Roger Byard, AO PSM BMedSci, MB, BS, MMedSci-Paed, PhD, MD, CCFP, FCAP, FRCPC, FRCPath, FRCPA(Hon), FFFLM, FFSc, FAHMS

holds the George Richard Marks Chair of Pathology at The University of Adelaide and is a Senior Specialist Forensic Pathologist at Forensic Science SA in Adelaide, Australia. He is a Fellow of the Royal College of Pathologists of the United Kingdom, a Fellow of the College of American Pathologists, a Fellow of the National Association of Medical Examiners in the United States, a Fellow of the Royal College of Physicians and Surgeons of Canada, and has a certification in Family Medicine from the Canadian College of Family Physicians.

Jason Payne-James and Roger Byard

the editors introduce their new book,
*Forensic and Legal Medicine: Clinical and
Pathological Aspects.*

Increasingly the fields of forensic and legal medicine have become more complex in many areas that include not only the recording, investigation and processing of cases, but also in dealing with the increasing sophistication of laboratory analyses and in navigating the sometimes byzantine world of court interrogations and processes. Media scrutiny, often with criticism, is ever present in high profile cases.

Practitioners in all medicolegal areas are now required to keep abreast of the literature which entails not only reading current research and opinion papers but also being able to correctly identify bogus reports propagated by so-called predatory journals. The adversarial system encourages debate which unfortunately may be based on convictions rather than on a careful and dispassionate analysis of the facts; Nietzsche clearly pointed out his concerns about the dangers of convictions.

For this reason, the era of the solo practitioner may be drawing to an end. Peer review with more collaborative case analyses in the workplace is becoming the norm in an attempt to circumvent idiosyncratic practices with erroneous conclusions that did occur in the past when practitioners were isolated. The same is occurring with textbooks, with considerable strength and credibility being achieved by requiring multi-author contributions. While this has occurred in the following chapters, it is not imagined that there is going to be agreement on all of the topics discussed. However, it is hoped that clear analysis of the literature with well-founded and defensible opinions by individual authors or groups of authors may be useful to the reader. It is felt that the text will act as a substantial foundation for further reading on specific topics.

The text is, therefore, an attempt to provide an up-to-date general treatise on forensic and legal medicine covering both clinical and pathologic aspects with a multitude of high-quality images and practical tables. It has been broadly divided into four sections dealing firstly with general principles of forensic and legal medicine. In this section, topics include the history and development of forensic and legal medicine, international ethical principles and human rights law, issues around euthanasia and professional conduct for not only medical practitioners but also for nurses and paramedics. Overviews of the roles of medical defense organizations, coroners and medical examiners and the United Nations and NGOs are provided. The principles of death investigations are outlined, with pointers on how to give evidence in court.

The second section deals with traditional pathologic issues such as the differences between hospital and medicolegal autopsies and the analysis of sharp and blunt force trauma to various bodily regions. Natural deaths (including those related to COVID 19), suicides and homicides are described, along with infant and childhood, maternal and perioperative deaths. Ballistic and blast trauma are evaluated, with an assessment of custody and restraint

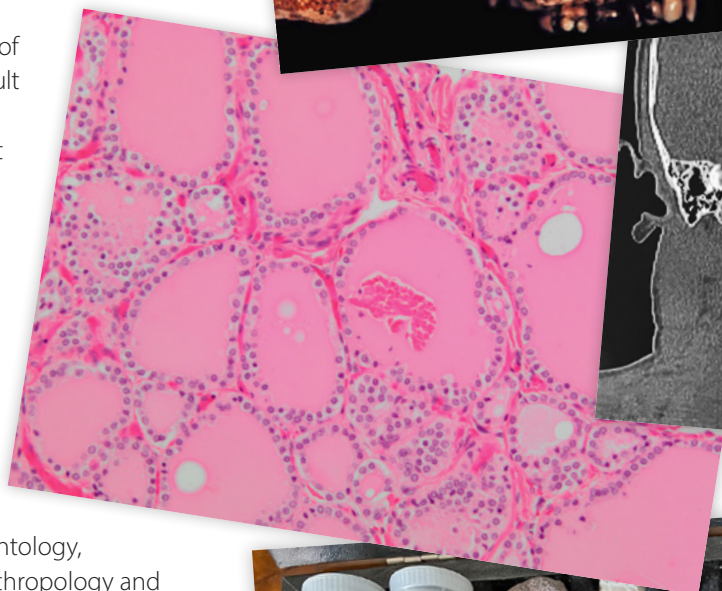
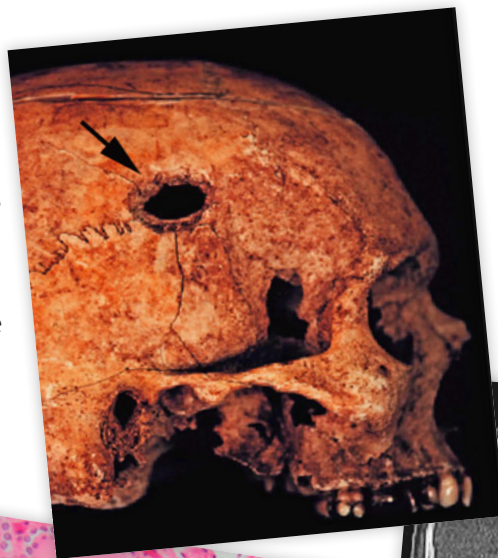
deaths. Problems with the timing of death and post-mortem identifications and age assessments are listed. Environmental issues such as thunderstorm asthma are investigated with chapters on heat deaths, drowning, burns and electrocution. Forensic post-mortem imaging and associated technologies are summarized with comments on the Minnesota Protocol.

The third section covers all aspects of clinical forensic medicine ranging from the role of the forensic physician and sexual offence examiner to healthcare in detention and determination of fitness to detain and interview, as well as issues with the use of herbal medicines and the features of female genital mutilation. Novel psychoactive substances are described with sections on substance misuse in detention and acute behavioral disturbances. The interpretation of injuries and those pertaining to sexual assault are reviewed in addition to the role of the Istanbul Protocol in monitoring ill treatment and abuse in custody. Restraint and control techniques, including the use of conducted energy devices are analysed.

The fourth and final section provides information on a range of forensic science and related specialties including chapters on misinterpretation and fallacies in forensic evidence and the principles of crime scene management and blood spatter analysis. In addition, there is information on forensic photography, odontology, toxicology, DNA analysis, microbiology, anthropology and entomology. Other topics covered include disaster victim identification, veterinary forensic pathology and working with the media.

Thus, this text provides over 100 chapters written by contemporary experts in their fields from all over the globe, on a full range of medicolegal topics. The editors also have considerable experience in forensic medicine and pathology and have published extensively in the peer-reviewed literature on a wide range of subjects. For this reason, the book stands alone as an example of international multidisciplinary collaboration that has produced a definitive new multi-layered text on medicolegal matters that will be essential reading for forensic clinical practitioners, pathologists, medical examiners, coroners, lawyers and any individual involved in forensic case work and the courts. In addition, it will be a necessary text for university and college libraries to provide access for students of law, medicine, nursing, forensic science and ancillary disciplines.

It has been a great privilege to work with contributors of such high caliber and to see the text evolve into such an impressive tome. We look forward to seeing it extensively utilized over the years and hope that it will assist in the guidance, development and practice of this most complex of disciplines.



Forensic and Legal Medicine

Clinical and Pathological Aspects

Edited by Jason Payne-James and Roger Byard

ISBN 9780367672454

November 2, 2023

850 Pages • 549 Color & 101 B/W Illustrations

Subject: Forensic Science & Pathology



Anna Megill

is an award-winning game writer and industry veteran with experience writing primarily for modern AAA games. In her nearly two decades of game development, Anna has worked for some of the top studios around the world, such as Ubisoft, Arkane, Remedy, and Square Enix. A longtime advocate for marginalized voices in games, she provides resources and advice to aspiring writers through her website. Anna currently works at Playground Games on their upcoming Fable game.

IN CONVERSATION WITH

Anna Megill

the author of *The Pocket Mentor for Video Game Writers*, about her new book.

What is *The Pocket Mentor for Video Game Writers*?

It's a guide to all the unspoken rules and tips a writer needs to know for a successful career in video games. I wrote a longer book called *The Game Writing Guide: How to Get Your Dream Job and Keep It*, which is a comprehensive deep-dive into all things game writing. *The Pocket Mentor* is a short, punchy, just-the-facts version of that information. It's a portable resource writers can consult on the fly before critical milestones in their careers. Job interview in an hour? Check *The Pocket Mentor* for help nailing it. Need to pitch a story idea? Ask your Mentor for tips writing a successful pitch. There's advice for every situation you'll encounter as a video game writer in a handy, go-anywhere format.

What inspired you to write the book?

Pleas for help! People often write to me with questions about breaking in, leading a narrative team, and every imaginable narrative topic in-between. I want to help, but I simply don't have time to answer everyone's questions individually. I wrote an FAQ years ago to provide some basic advice, but it wasn't doing the job anymore. I started to update it, but soon realised that I had way too much advice for an FAQ. To answer all the questions writers were asking me, it had to be a book. And here it is! All the knowledge from two decades of writing for video games in one handy little pocket reference.

Who is the book for and what practical knowledge can readers expect to learn from it?

If you're interested in writing video games, this book is for you. It's also for working writers trying to navigate their first jobs in the industry and writers in other fields hoping to transfer their skills to games. My *Pocket Mentor* contains advice for hopefuls trying to break in: what education you need, how to create and maintain a winning portfolio, how to find and land a game-writing job, and how to negotiate contracts. Working writers will learn how to thrive on the job at a studio, how to run a writing room and lead a team, and how to keep moving up the studio hierarchy to their dream job. I wrote my advice with an eye for marginalized folks, who face unique obstacles in the games industry and often can't find a mentor in the traditional ways. There's also a bonus chapter in this book with instructions for creating essential documentation: pitches, story bibles, line count documents, and all the other types of writing you'll produce on a games project. You simply won't find this information anywhere else.



The Pocket Mentor for Video Game Writers

Anna Megill

ISBN 9781032252452

November 30, 2023

152 Pages • 15 B/W Illustrations

Subject: Gaming & Animation



The book explains in simple, clear language exactly what a beginner needs to know about education requirements, finding job opportunities, applying for roles, and acing studio interviews.

Can you tell us about what you learned when interviewing other industry experts for the book?

I interviewed some of the top minds in game narrative for *The Game Writing Guide* and was inspired by their insights into this craft we all practice. I asked them all the same question: “What’s the one thing every game writer should know?” And they answered with advice about knowing your worth, anticipating your player’s needs, achieving the “holy grail” of narrative synergy, and collaborating with a large team to realize your vision. I was struck by how many paths lead into writing for games—and how many paths you can follow through it to reach your goals. What stood out for me the most, however, was that they all recognized the need for my books. There are understood best practices and accepted wisdom for navigating situations at studios and throughout the industry, but nobody had ever written them down. The people I interviewed were eager to help. I was touched by their sincere desire to share their knowledge and guide new writers through their careers. My *Guide* is chock full of quotes and interviews with this collective of mentors, and I drew on that wisdom to write *The Pocket Mentor*. It took an entire book to cover everything I learned!

Want to become a writer in the games industry?

Then this is the book is for you. Award-winning game writer Anna Megill provides all the essential information and guidance you need to understand the industry and get your foot on the ladder.

The book explains in simple, clear language exactly what a beginner needs to know about education requirements, finding job opportunities, applying for roles, and acing studio interviews. Professional writers will learn how to run a writers’ room, manage a team, create documentation for various project phases, and navigate studio politics.

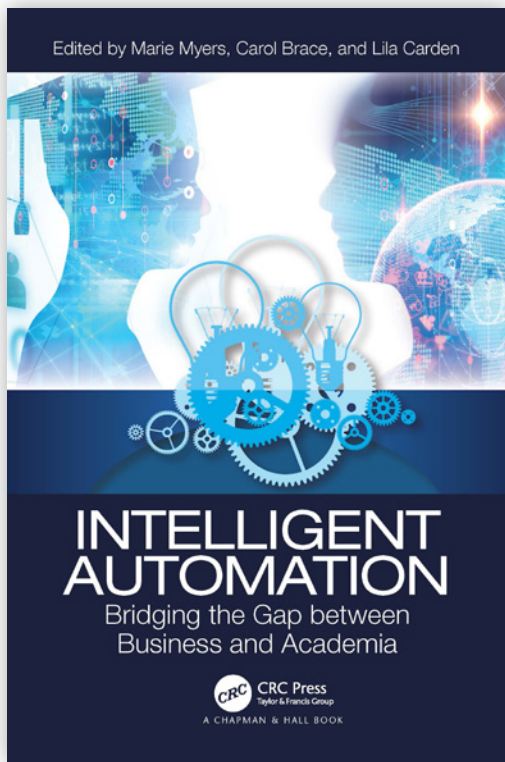
The Pocket Mentor is designed to be a just-the-facts companion to *The Game Writing Guide: Get Your Dream Job and Keep It*, but it stands on its own as an invaluable go-anywhere resource for beginners and seasoned pros alike.

The book is a part of the new series:

The Pocket Mentors for Games Careers

The series provides the essential information and guidance needed to get and keep a job in the modern games industry. They explain in simple, clear language exactly what a beginner needs to know about education requirements, finding job opportunities, applying for roles, and acing studio interviews. Readers will learn how to navigate studio hierarchies, transfer roles and companies, work overseas, and develop their skills.

www.routledge.com/The-Pocket-Mentors-for-Games-Careers/book-series/PMGC



Intelligent Automation

Bridging the Gap between
Business and Academia

Edited by Lila Carden, Carol Brace and Marie Myers

ISBN 9781032231754
November 13, 2023
264 Pages • 63 Color Illustrations
Subject: Artificial Intelligence
www.routledge.com/9781032231754



Lila Carden

has held positions in academia and industry. These positions have allowed her to use theoretical and practical applications of project management and technology techniques to promote collaborations that support outcomes that contribute to the success of students, academia, and industry.



Carol Brace

brings 20-plus years of corporate experience to academia. She is certified in Lean Six Sigma, Project Management, Supply Chain, and International Logistics.



Marie Myers

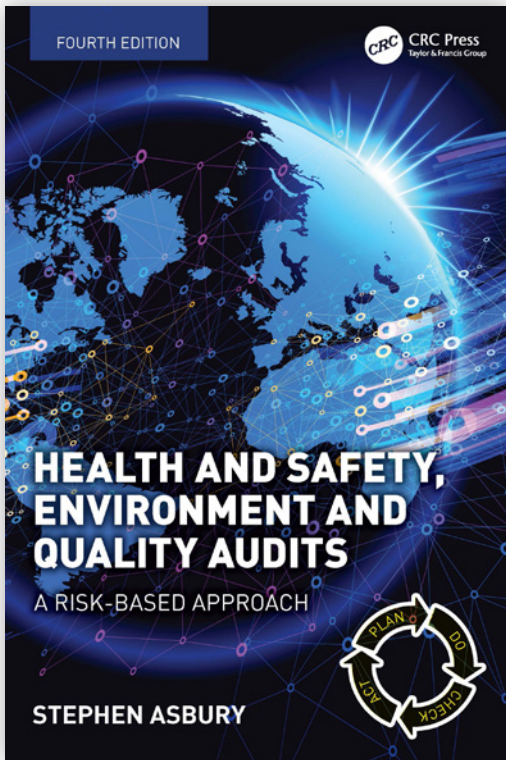
is the Chief Financial Officer at HP. She is a visionary finance leader with a proven track record in driving innovation, global business development, and spearheading transformational changes to deliver critical business results for HP.

Since prehistoric times, humans have invented ways to simplify daily activities to improve productivity. The most recent milestone in this journey is Robotic Process Automation (RPA), helping to build software robots that can be leveraged to automate mundane and repetitive tasks that can be labour-intensive and prone to errors. In recent years, RPA has been integrated with emerging Artificial Intelligence (AI) and Machine Learning (ML) technologies to create what is referred to as Intelligent Automation (IA), emulating human actions and decision-making abilities. This book addresses the critical questions about the rise, usage and future of IA practices.

This book is structured by general personas considered as its primary target audience, ranging from:

- Early-stage practitioners seeking to learn effective management of IA programs
- Established IA Practitioners seeking to drive maturity and scale
- Business leaders seeking to understand how to drive business value using IA
- Practitioners or academicians seeking to collaborate

This book is strongly recommended for practitioners seeking to plan, implement, and scale Intelligent Automation practices in their organization and for researchers and students who intend to study strategy, implementation, and management of Intelligent Automation practice to accelerate the digital transformation agenda.



Health and Safety, Environment and Quality Audits

A Risk-based Approach, 4th Edition

Stephen Asbury

ISBN 9781032427577
November 6, 2023
352 Pages • 43 Color & 52 B/W Illustrations
Subject: Ergonomics & Human Factors
www.routledge.com/9781032427577



Dr Stephen Asbury

is the author of eight books on safety, risk management, and decision-making for Taylor & Francis. He is a Chartered Fellow of the Institution of Occupational Safety and Health (CFIOSH), a Fellow of the Institute of Environmental Management and Assessment (FIEMA), and an Emeritus Professional member of the American Society of Safety Professionals (ASSP).

Internal auditing is an essential tool for managing compliance, and for initiating and driving continual improvement in any organization's systematic HSEQ performance.

Health and Safety, Environment and Quality Audits includes the latest health and safety, environmental and quality management system standards – ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018. It delivers a powerful and proven approach to risk-based auditing of business-critical risk areas using ISO, or your organization's own management systems. It connects the 'PDCA' approach to implementing management systems with auditing by focusing on the organization's context and the needs and expectations of interested parties. The novel approach leads HSEQ practitioners and senior and line managers alike to concentrate on the most significant risks (Big Rocks and Black Swans) to their objectives. It provides a step-by-step route through The Audit Adventure™ to provide a high-level, future-focused audit opinion. The whole approach is aligned to the international standard guidance for auditing management systems, ISO 19011:2018.

With 1000s of copies now sold, this unique guide to HSEQ and operations integrity auditing has become the standard work in the field over four editions, while securing bestseller status in Australasia, Europe, North America, and South Africa. It is essential reading for senior managers and auditors alike. It remains the 'go to' title for those who aspire to drive a prosperous and thriving organization based on world-class HSEQ management and performance.



Innovative Technologies for Future Living

Sandip Sen and Aaroohi Sen

ISBN 9781032529837
September 14, 2023
228 Pages
Subject: Artificial Intelligence
www.routledge.com/9781032529837



Sandip Sen

is an engineer with over 30 years of experience in the energy and the manufacturing industry. In 2008 he decided to switch careers and enter the field of journalism. He worked in the national media including at *The Indian Express* and *The Delhi Press Magazines* as an Editor. He has also written 3 books on economic governance of which one, *India Emerging, From Policy Paralysis to Hyper Economics* (Bloomsbury, 2019) has been co-authored with Aaroohi Sen.



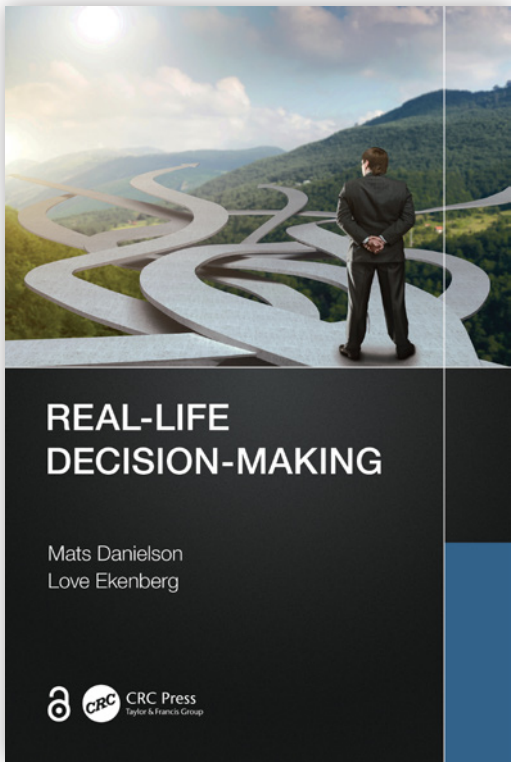
Aaroohi Sen

is an experienced thought leader at a leading global consultancy firm. He has been working on innovation in the future of IT and manufacturing for more than a decade. He is currently involved in managing a global research team that develops economic models around themes of agile innovation, digital transformation and operational flexibility, and provides research insights into key client engagements.

As of January 2023, there are 5 billion users of the internet. People who use technology and want to know about it—in simple language, without jargon. Many of those nurture dreams and aspirations to be quicker, smarter and 'be the change.' We bring to them relatable stories of everyday users, understood by consumers and gadget freaks alike.

We start with the Internet of Things (IoT) and show how consumers are using smart devices that teach them to manage their homes, travel and lifestyle through their smartphones. We see how cloud computing and artificial intelligence (AI) are enabling them to give feedback to IoT devices, and extracting multiple services from household products like the humble LED light, or the refrigerator, or sophisticated jet engines, or combined harvesters. As devices turn smart and AI and robots enter our workspace they run the risk of being hacked. So techies developed the Blockchain, with encrypted text that would secure digital assets. But with it arrived cryptocurrencies that threaten to bring unprecedented speculation, money laundering and cyber crimes.

We also explore new opportunities in telehealth, distant education and metaworld, and the strides made in digital transformation that has, in less than five years, empowered over 2 billion people across the world, giving them access to cost effective banking, education, travel, energy, food and health services. But the same technologies are used to fight wars and disrupt supply chains that cause acute distress and worldwide recessions. The book is relevant because the changes happening now are not incremental but tectonic. This opens the door to a future that is more fascinating and threatening than fiction. Read on to find out more.



Real-Life Decision-Making

Mats Danielson and Love Ekenberg

ISBN 9781032524399

August 8, 2023

140 Pages • 19 B/W Illustrations

Subject: Cognitive Ergonomics

www.routledge.com/9781032524399



Mats Danielson

is a Full Professor in Computer and Systems Sciences at Stockholm University, a Senior Advisor to the President, and a UNESCO Chair Professor. He is a former Dean of the Faculty of Social Sciences as well as a former Vice President for External Relations, Innovation, and ICT. He worked in the software industry for almost 20 years before joining academia to work with research and algorithm and software design and development within decision analysis and decision support.



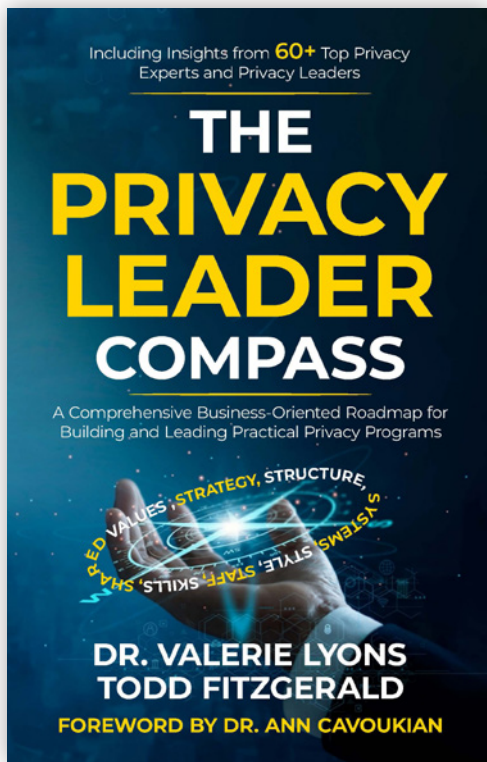
Love Ekenberg

was a Full Professor in Computer and Systems Sciences at Stockholm University and was a UNESCO Professor. He worked with risk and decision analysis, i.e. with development of theoretical frameworks and models, products, and methodologies within these areas, for more than 20 years, along with carrying out a large number of consultancy assignments.

Have you ever experienced a decision situation that was hard to come to grips with? Did you ever feel a need to improve your decision-making skills? Is this something where you feel that you have not learned enough practical and useful methods? In that case, you are not alone! Even though decision-making is both considered and actually is a very important skill in modern work-life as well as in private life, these skills are not to any reasonable extent taught in schools at any level. No wonder many people do indeed feel the need to improve but have a hard time finding out how. This book is an attempt to remedy this shortcoming of our educational systems and possibly also of our common, partly intuition-based, decision culture. Intuition is not at all bad, quite the contrary, but it has to co-exist with rationality. We will show you how.

Methods for decision-making should be of prime concern to any individual or organisation, even if the decision processes are not always explicitly or even consciously formulated. All kinds of organisations, as well as individuals, must continuously make decisions of the most varied nature in order to prosper and attain their objectives. A large part of the time spent in any organisation, not least at management levels, is spent gathering, processing, and compiling information for the purpose of making decisions supported by that information. The same interest has hitherto not been shown for individual decision-making, even though large gains would also be obtained at a personal level if important personal decisions were better deliberated. This book aims at changing that and thus attends to both categories of decision-makers.

This book will take you through a journey starting with some history of decision-making and analysis and then go through easy-to-learn ways of structuring decision information and methods for analysing the decision situations, beginning with simple decision situations and then moving on to progressively harder ones, but never losing sight of the overarching goal that the reader should be able to follow the progression and being able to carry out similar decision analyses in real-life situations.



The Privacy Leader Compass

A Comprehensive Business-Oriented Roadmap for Building and Leading Practical Privacy Programs

Valerie Lyons and Todd Fitzgerald

ISBN 9781032467306
November 22, 2023
376 Pages • 57 B/W Illustrations
Subject: Privacy & Data Protection
www.routledge.com/9781032467306



Dr. Valerie Lyons

COO of BH Consulting. Named Top 100 Women in Cybersecurity in Europe. Valerie has a PhD in Information Privacy and is a member of EDPB's privacy expert panel. She is a top-rated speaker and author on privacy, digital ethics and privacy as part of ESG. Former Head of Information Security Risk at KBC Bank Ireland for 15 years, Valerie is passionate about the value of privacy beyond mere compliance.



Todd Fitzgerald

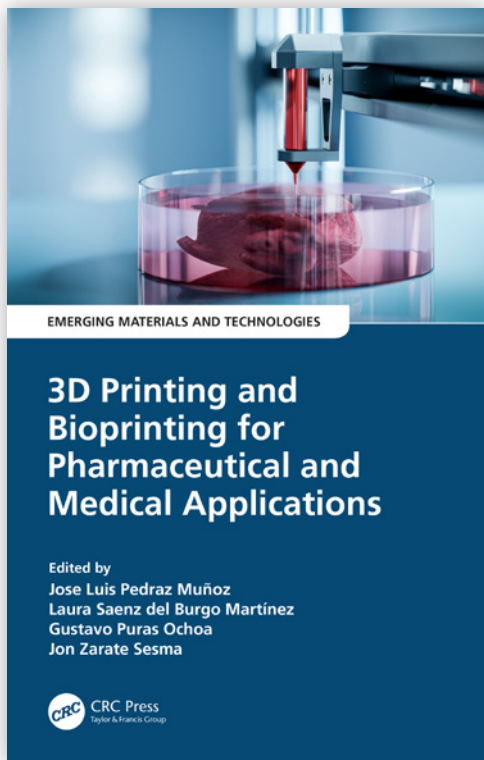
with decades of Fortune 500 security leadership experience, is #1 best-selling author of *CISO Compass: Navigating Cybersecurity Leadership Challenges with Insights from Pioneers*, host of CISO STORIES weekly podcast, and previously Global Chief Information Security Officer for Grant Thornton International & ManpowerGroup. Once named Chicago's CISO of the Year, Todd is a top-rated speaker on security and privacy issues.

Congratulations! Perhaps you have been appointed as the Chief Privacy Officer (CPO), or the Data Protection Officer (DPO) for your company. Or maybe you are an experienced CPO/DPO, and you wonder – “what can I learn from other successful privacy experts to be even more effective?” Or perhaps you are considering a move from a different career path and deciding if this is the right direction for you?

Seasoned award-winning Privacy and Cybersecurity leaders Dr. Valerie Lyons and Todd Fitzgerald have teamed up with over sixty award-winning CPOs, DPOs, highly respected privacy/data protection leaders, data protection authorities, and privacy standard setters who have fought the tough battle.

Just as the #1 best-selling and CANON Cybersecurity Hall of Fame winning *CISO Compass: Navigating Cybersecurity Leadership Challenges with Insights from Pioneers* book provided actionable advice to Chief Information Security Officers, *The Privacy Leader Compass* is about straight talk – delivering a comprehensive privacy roadmap applied to, and organized by, a time-tested organizational effectiveness model (the McKinsey 7S Framework) with practical, insightful stories and lessons learned.

You own your continued success as a privacy leader. If you want a roadmap to build, lead, and sustain a program respected and supported by your board, management, organization, and peers, this book is for you.



3D Printing and Bioprinting for Pharmaceutical and Medical Applications

Edited by Jose Luis Pedraz Muñoz,
Laura Saenz del Burgo Martínez, Gustavo Puras Ochoa
and Jon Zarate Sesma

ISBN 9781032228662
September 27, 2023
332 Pages • 73 B/W Illustrations
Subject: Biomedical Engineering
www.routledge.com/9781032228662



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is Professor at the University School of Nursing in Vitoria-Gasteiz and Associate Professor at University of the Basque Country (UPV/EHU) in the Department of Pharmacy and Food Sciences.



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Jon Zarate

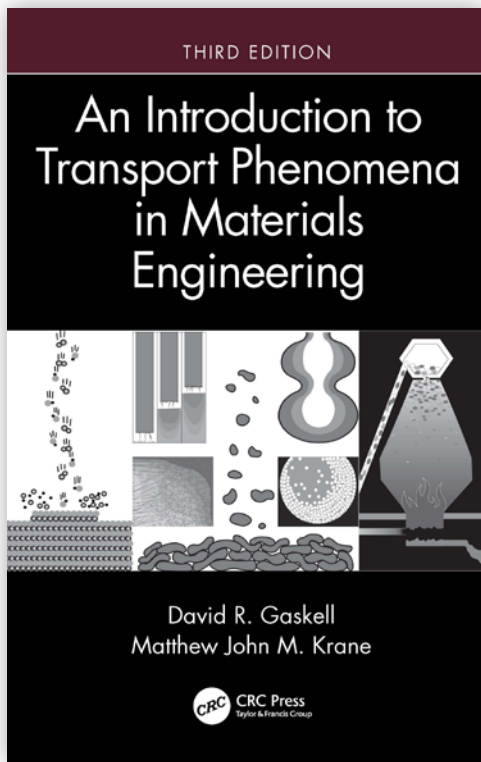
is Associate Professor, Department of Pharmacy and Food Sciences, Professor of the Doctoral Program in Drug Research and Evaluation, Application of Pharmaceutical Technology to the Development of Advanced Therapies, and Professor in the Master's Program in Pharmacology, Development, Evaluation and Rational Use of Medicines at University of the Basque Country (UPV/EHU).

The increasing availability and decreasing costs of 3D printing and bioprinting technologies are expanding opportunities to meet medical needs. *3D Printing and Bioprinting for Pharmaceutical and Medical Applications* discusses emerging approaches related to these game-changer technologies in such areas as drug development, medical devices, and bioreactors.

Key Features:

- Offers an overview of applications, the market, and regulatory analysis.
- Analyzes market research of 3D printing and bioprinting technologies.
- Reviews 3D printing of novel pharmaceutical dosage forms for personalized therapies and for medical devices, as well as the benefits of 3D printing for training purposes.
- Covers 3D bioprinting technology, including the design of polymers and decellularized matrices for bio-inks development, elaboration of 3D models for drug evaluation, and 3D bioprinting for musculoskeletal, cardiovascular, central nervous system, ocular, and skin applications.
- Provides risk-benefit analysis of each application.
- Highlights bioreactors, regulatory aspects, frontiers, and challenges.

This book serves as an ideal reference for students, researchers, and professionals in materials science, bioengineering, the medical industry, and healthcare.



An Introduction to Transport Phenomena in Materials Engineering

3rd Edition

David R. Gaskell and Matthew John M. Krane

ISBN 9780367821074
December 14, 2023
780 Pages • 393 B/W Illustrations
Subject: Materials Science
www.routledge.com/9780367821074

David R. Gaskell (1940–2013)

was Professor of Materials Engineering at Purdue University from 1982 until 2013. During his career, he served as a visiting professor at the NRC Atlantic Regional Laboratory, Canada and at the G. C. Williams Cooperative Research Centre for Extraction Metallurgy in the Department of Chemical Engineering, University of Melbourne, Australia.

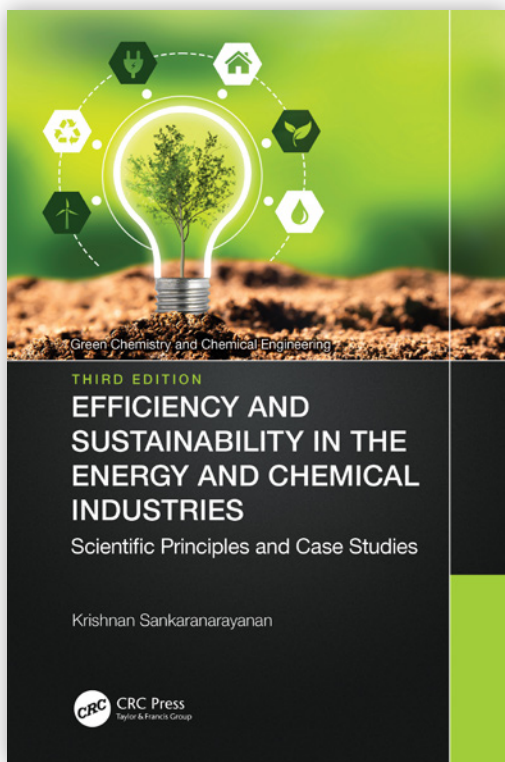


Matthew John M. Krane

is Professor of Materials Engineering at Purdue University and a member of the Purdue Center for Metal Casting Research and the Purdue Heat Treatment Center. Using modeling and experiments, his research is on the connection between macroscopic transport phenomena and defect formation during materials processes, particularly the study of solidification of metal alloys.

An Introduction to Transport Phenomena in Materials Engineering elucidates the important role of conduction, convection, and radiation heat transfer, mass transport in solids and fluids, and internal and external fluid flow in the behavior of materials processes. These phenomena are critical in materials engineering because of the connection of transport to the evolution and distribution of microstructural properties during processing. From making choices in derivation of fundamental conservation equations, to using scaling (order-of-magnitude) analysis showing relationships among different phenomena, to giving examples of how to represent real systems by simple models, the book takes the reader through the fundamentals of transport phenomena applied to materials processing. Fully updated, this Third Edition of a classic textbook offers a significant shift from the previous editions in the approach to this subject, representing an evolution incorporating the original ideas and extending them to a more comprehensive approach to the topic.

- Introduces order of magnitude (scaling) analysis and uses it to quickly obtain approximate solutions for complicated problems throughout the book.
- Focuses on building models to solve practical problems.
- Adds new sections on non-Newtonian flows, turbulence, and measurement of heat transfer coefficients.
- Offers expanded sections on thermal resistance networks, transient heat transfer, two-phase diffusion mass transfer, and flow in porous media.
- Features more homework problems, mostly on the analysis of practical problems, and new examples from a much broader range of materials classes and processes, including metals, ceramics, polymers, and electronic materials.
- Includes homework problems for the review of the mathematics required for a course based on this book and connects the theory represented by mathematics with real-world problems.



Efficiency and Sustainability in the Energy and Chemical Industries

Scientific Principles and Case Studies,
3rd Edition

Krishnan Sankaranarayanan

ISBN 9781032302980
September 5, 2023
372 Pages • 173 B/W Illustrations
Subject: Chemical Engineering
www.routledge.com/9781032302980



Krishnan Sankaranarayanan

received his PhD at Princeton University, New Jersey. At Delft, he did an extensive study of the energy efficiency of the polyolefin industry, for which activity DSM acted as host. After 12 years at ExxonMobil he joined SABIC where he worked on a variety of technology developments, circular economy, and energy transition. He is currently leading Digital Transformation for the technology organization and is based in Houston, Texas.

Using classic thermodynamic principles as the point of departure, this new edition supplies the understanding and tools required to measure process of efficiency and sustainability with much improved accuracy. Exploring the driving forces in the chemical and power industries, *Efficiency and Sustainability in the Energy and Chemical Industries* investigates why losses occur and explains how to reduce them. It focuses on the changing roles of refining and chemicals in industry and how the industry is transforming itself and considers economics as a key enabler to look at technology choices and whether shareholder returns will be there.

- Includes new chapters on plastics recycling technologies and challenges, low carbon energy sources, the changing energy mix, and project economics, taxes, and subsidies.
- Illustrates techniques with wide-ranging case studies related to energy conversion, mining, and the chemical industries as well as examples and problems.
- Considers engineering layouts that reduce the environmental impact of chemical operations.
- Explains how to use energy analysis to accurately assess the quality and performance of chemical processes.
- Supplies quantitative tools for analyzing sustainability and efficiency.
- Investigates the challenges of the hydrogen economy and CO₂ and low carbon.
- Discusses plastics recycling, economics, and a changing energy mix.

Machine Learning-Based Modelling in Atomic Layer Deposition Processes



Oluwatobi Adeleke
Sina Karimzadeh
Tien-Chien Jen



Machine Learning-Based Modelling in Atomic Layer Deposition Processes

Oluwatobi Adeleke, Sina Karimzadeh
and Tien-Chien Jen

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496 Pages • 126 B/W Illustrations

Subject: Artificial Intelligence / Machine Learning

www.routledge.com/9781032386706



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Sina Karimzadeh

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Tien-Chien Jen

is a full professor and the Head of Department, Mechanical Engineering, University of Johannesburg and the Director of Manufacturing Research Centre of the University of Johannesburg. SA National Research Foundation has awarded Prof Jen a NNEP grant (National Nano Equipment Program) worth of USD 1.5 million to acquire two state-of-the-art Atomic Layer Deposition (ALD) tools to be housed in a 220m² 10000 level (ISO 7) clean room facility for ultra-thin film coating.

While thin film technology has benefited greatly from artificial intelligence (AI) and machine learning (ML) techniques, there is still much to be learned from a full-scale exploration of these technologies in atomic layer deposition (ALD). This book provides in-depth information regarding the application of ML-based modelling techniques in thin film technology as a standalone approach and integrated with the classical simulation and modelling methods. It is the first of its kind to present detailed information regarding approaches in ML-based modelling, optimization, and prediction of the behaviors and characteristics of ALD for improved process quality control and discovery of new materials. As such, the book fills significant knowledge gaps in the existing resources as it provides extensive information on ML and its applications in film thin technology.

Aimed at materials scientists and engineers, this book fills significant knowledge gaps in existing resources as it provides extensive information on ML and its applications in film thin technology. It also opens space for future intensive research and intriguing opportunities for ML-enhanced ALD processes, which scale from academic to industrial applications.

NUMERICAL METHODS IN
CHEMICAL ENGINEERING
USING PYTHON®
AND SIMULINK®



Nayef Ghasem



Numerical Methods in Chemical Engineering Using Python® and Simulink®

Nayef Ghasem

ISBN 9781032419466

July 17, 2023

370 Pages • 194 B/W Illustrations

Subject: Chemical Engineering

www.routledge.com/9781032419466



Nayef Ghasem

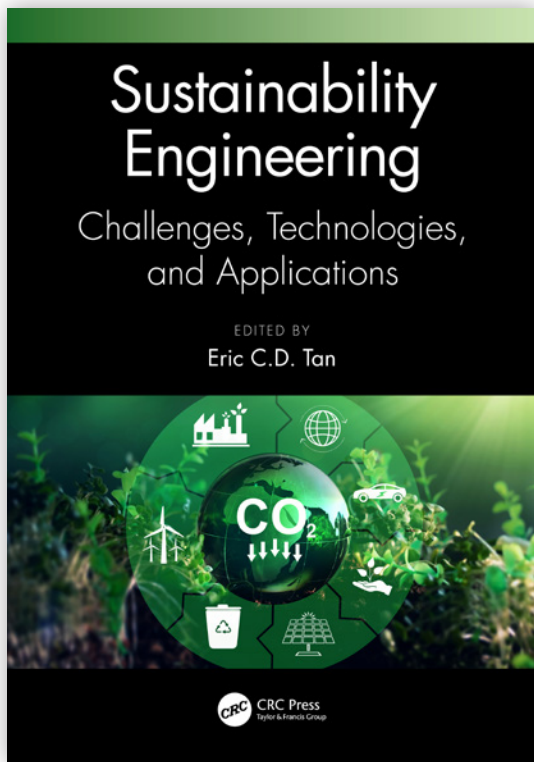
is a Professor of chemical engineering at the United Arab Emirates University, where he teaches undergraduate courses in process modeling and simulation, natural gas processing, reactor design in chemical engineering, and graduate and undergraduate courses in chemical engineering. He has published primarily in modeling and simulation, bifurcation theory, polymer reaction engineering, advanced control, and CO₂ absorption in gas-liquid membrane contactors.

Numerical methods are vital to the practice of chemical engineering, allowing for the solution of real-world problems. Written in a concise and practical format, this textbook introduces readers to the numerical methods required in the discipline of chemical engineering and enables them to validate their solutions using both Python and Simulink.

- Introduces numerical methods, followed by the solution of linear and nonlinear algebraic equations.
- Deals with the numerical integration of a definite function and solves initial and boundary value ordinary differential equations with different orders.
- Weaves in examples of various numerical methods and validates solutions to each with Python and Simulink graphical programming.
- Features appendices on how to use Python and Simulink.

Aimed at advanced undergraduate and graduate chemical engineering students, as well as practicing chemical engineers, this textbook offers a guide to the use of two of the most widely used programs in the discipline.

The textbook features numerous video lectures of applications and a solutions manual for qualifying instructors.



Sustainability Engineering

Challenges, Technologies,
and Applications

Edited by Eric C.D. Tan

ISBN 9780367766009
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358 Pages • 126 B/W Illustrations
Subject: Engineering & Technology
www.routledge.com/9780367766009



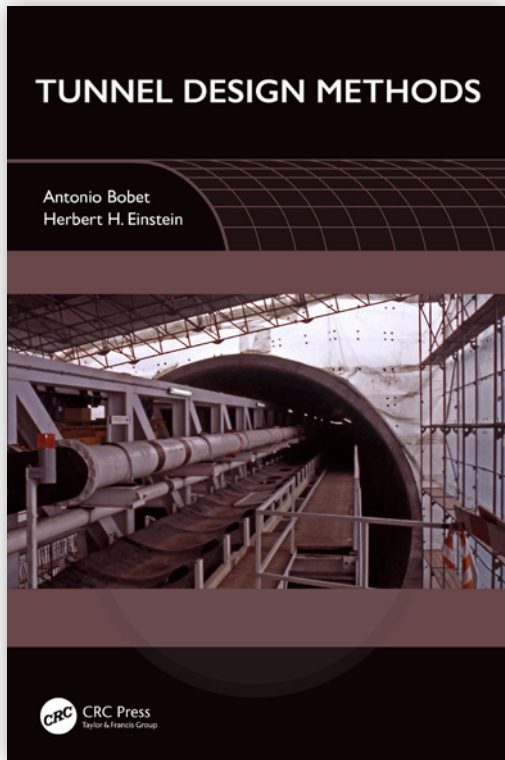
Eric C.D. Tan

is an accomplished expert in biorefinery and sustainability at the National Renewable Energy Laboratory (NREL). He is the Associate Editor of *Frontiers of Sustainability's Sustainable Chemical Process Design*, a technical advisor and vice-chair of the American Institute of Chemical Engineers' Sustainable Engineering Forum Leadership Team, and an American Center for Life Cycle Assessment certified LCA professional.

Sustainability Engineering: Challenges, Technologies, and Applications focuses on emerging topics within sustainability science and engineering, including the circular economy, advanced recycling technologies, decarbonization, renewable energy, and waste valorization. Readers will learn the trends driving today's sustainability research and innovation as well as the latest in sustainable process technologies.

- Addresses emerging sustainability development challenges, progress, and disruptive technologies
- Discusses biological sustainability, recycling technologies, and sustainable process design and manufacture
- Features a comprehensive view from renowned experts who are leaders in their respective research areas

This work is aimed at an interdisciplinary audience of engineers and scientists working on solutions to advance the development and application of sustainable technologies, including – but not limited to – chemical and environmental engineers.



Tunnel Design Methods

Antonio Bobet and Herbert H. Einstein

ISBN 9781032358444
September 12, 2023
640 Pages • 29 Color & 363 B/W Illustrations
Subject: Engineering
www.routledge.com/9781032358444



Antonio Bobet

is a professor at Purdue University, USA who has previously worked in industry and is a specialist in the seismic design of tunnels and ground-tunnel interaction.



Herbert H. Einstein

is a professor at MIT, USA. He has developed the widely used Schwartz–Einstein method and the Decision Aids for Tunnelling, a computer based interactive tool, and works on the use of AI and Machine Learning in tunnelling.

Tunnel Design Methods covers analytical, numerical, and empirical methods for the design of tunnels in soil and in rock. The material is intended for design engineers looking for detailed methods, for graduate students who are interested in tunnelling, and for researchers working on various aspects of ground-support interaction under static and seismic loading.

The book is divided into seven chapters, covering fundamental concepts on ground and support behavior and on ground-excavation-support interaction and provides detailed information on analytical and numerical methods used for the design of tunnels, with applications, and on the latest developments on empirical methods. The principles and formulations included are used, throughout the book, to provide insight into the response of tunnels under both simple and complex loading conditions, thus providing the reader with fundamental understanding of tunnel behavior.

Both authors have experience in tunnelling and have worked extensively in practice, designing tunnels both in the United States and abroad, and in research.



Building Your Career as a Statistician

A Practical Guide to Longevity, Happiness, and Accomplishment

Edited by Craig Mallinckrodt

ISBN 9781032368795
August 1, 2023
366 Pages • 25 Color & 8 B/W Illustrations
Subject: Statistics & Probability
www.routledge.com/9781032368795



Craig Mallinckrodt

is a Distinguished Biostatistician at Pentara Corporation. He is a Fellow of the American Statistical Association and he won the Royal Statistical Society's award for outstanding contribution to the pharmaceutical industry. Craig has led industry working groups and he has published extensively on a wide variety of clinical and methodological topics, most notably, missing data, estimands, and various aspects of clinical development optimization.

This book is intended for anyone who is considering a career in statistics or a related field, or those at any point in their career with sufficient work time remaining such that investing in additional learning could be beneficial.

Building Your Career as a Statistician focuses on the non-statistical aspects of being a statistician that are crucial for success. These factors include:

1. productivity and prioritization
2. innovation and creativity
3. communication
4. critical thinking and decisions under uncertainty
5. influence and leadership
6. working relationships
7. career planning and continued learning.

Each of these chapters includes sections on foundational principles and a section on putting those principles into practice. Connections between these individual skills are emphasized such that the reader can appreciate how the skills build upon each other leading to a whole that is greater than the sum of its parts. By including the individual perspectives from other experts on the fundamental principles and their application, readers will have a well-rounded view on how to build upon and fully leverage their technical skills in statistics.



Design Techniques for Origami Tessellation

Yohei Yamamoto
Jun Mitani



Design Techniques for Origami Tessellation

Yohei Yamamoto and Jun Mitani

ISBN 9781032453842

November 17, 2023

150 Pages • 100 Color & 229 B/W Illustrations

Subject: Geometry

www.routledge.com/9781032453842



Yohei Yamamoto

is a researcher of Information and Systems at University of Tsukuba. The origami artworks created by him have features that are geometric flat shapes.



Jun Mitani

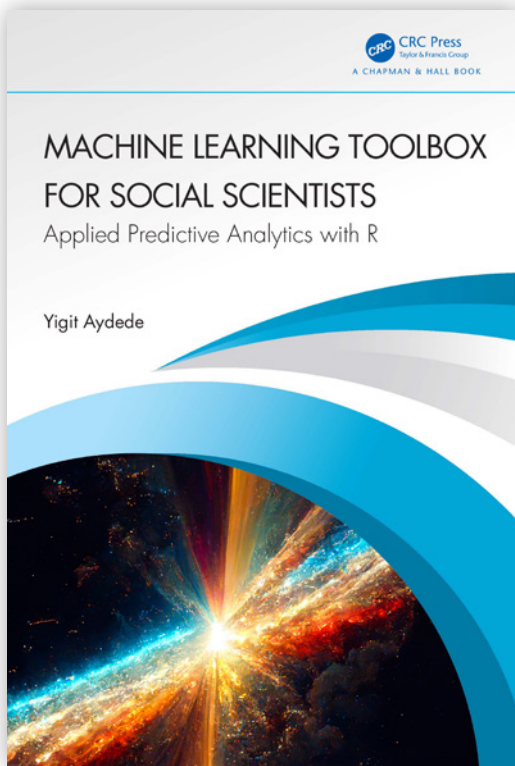
is a professor of Information and Systems at University of Tsukuba. The origami artworks created by him have features that are three-dimensional shapes with smooth curved surface. His work had inspired the design of the trophy for the Player of the Match winner of each game at the Rugby World Cup 2019. He was appointed as a Japan Cultural Envoy from the Agency for Cultural Affairs and travelled to eight Asian countries to promote cultural exchanges through origami in 2019.

Design Techniques for Origami Tessellations is both a collection of origami tessellations and a manual to design them.

This book begins by explaining general design methods, the history and definitions of origami tessellations, and the geometric features of flat origami, before moving on to introduce a brand-new design method: the “twist-based design method.” This method generates base parts that connect “twist patterns” (that can be folded with a twist) without using a lattice. Therefore, it can generate base parts such as regular pentagons, which cannot be generated with more conventional methods, and can generate new origami tessellations connected to them.

Features:

- No proofs or formulas in the text and minimal jargon
- Suitable for readers with a roughly middle school to high school level of mathematical background
- Web application implementing the method described in this book is available, allowing the readers to design their own patterns.



Machine Learning Toolbox for Social Scientists

Applied Predictive Analytics with R

Yigit Aydede

ISBN 9781032463957
September 22, 2023
594 Pages • 193 Color & 36 B/W Illustrations
Subject: Psychological Methods & Statistics / Machine Learning
www.routledge.com/9781032463957

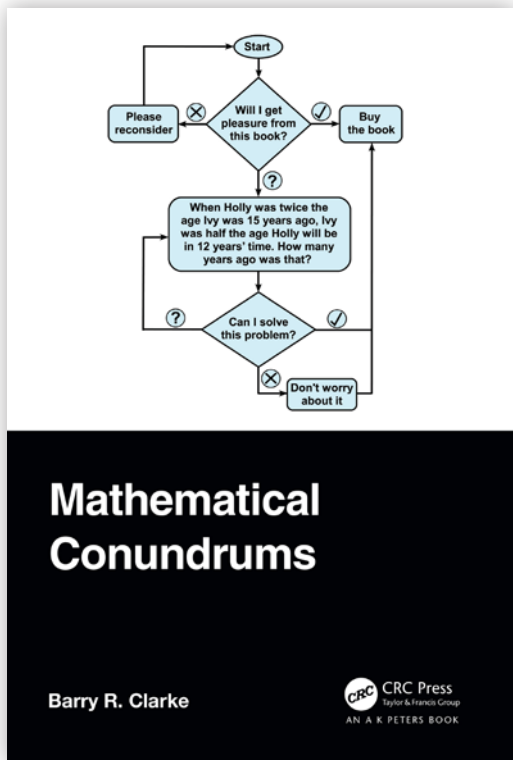


Yigit Aydede

is a Sobey Professor of Economics at Saint Mary's University, Halifax, Nova Scotia, Canada. He is a founder member of the Research Portal on Machine Learning for Social and Health Policy, a joint initiative by a group of researchers from Saint Mary's and Dalhousie universities.

Machine Learning Toolbox for Social Scientists covers predictive methods with complementary statistical “tools” that make it mostly self-contained. The inferential statistics is the traditional framework for most data analytics courses in social science and business fields, especially in Economics and Finance. The new organization that this book offers goes beyond standard machine learning code applications, providing intuitive backgrounds for new predictive methods that social science and business students can follow. The book also adds many other modern statistical tools complementary to predictive methods that cannot be easily found in “econometrics” textbooks: nonparametric methods, data exploration with predictive models, penalized regressions, model selection with sparsity, dimension reduction methods, nonparametric time-series predictions, graphical network analysis, algorithmic optimization methods, classification with imbalanced data, and many others.

The book is targeted at students and researchers who have no advanced statistical background, but instead coming from the tradition of “inferential statistics”. The modern statistical methods the book provides allows it to be effectively used in teaching in the social science and business fields.



Mathematical Conundrums

Barry R. Clarke

ISBN 9781032414584
August 4, 2023
192 Pages • 93 B/W Illustrations
Subject: Mathematics
www.routledge.com/9781032414584



Barry R. Clarke

has published over 1,500 puzzles in *The Daily Telegraph* and has contributed enigmas to *New Scientist*, *The Sunday Times*, *Reader's Digest*, *The Sunday Telegraph*, and *Prospect* magazine. His book *Challenging Logic Puzzles* *Mensa* has sold over 100,000 copies. As well as a PhD in Shakespeare Studies, Barry has a Master's degree in quantum mechanics. He is now working on a revised theory of the hydrogen atom. Other skills include mathematics tutor, film-maker, comedy-sketch writer, cartoonist, computer programmer, and blues guitarist! For more information, please visit <http://barryispuzzled.com>

Want to sharpen your mathematical wits? If so, then *Mathematical Conundrums* is for you.

Daily Telegraph enigmatologist, Barry R. Clarke, presents over 120 fiendish problems that will test both your ingenuity and persistence. Between these covers are puzzles in geometry, arithmetic, and algebra (there is even a section for computer programmers). And, for the smartest readers who wish to stretch their mind to its limits, a selection of engaging logic and visual lateral puzzles is included. Although no puzzle requires a greater knowledge of mathematics than the high school curriculum, this collection will take you to the edge. But are you equal to the challenge?

Features:

- High-school level of mathematics is the only pre-requisite
- Variety of algebraic, route-drawing, and geometrical conundrums
- Hints section for the lateral puzzles
- Warm-up exercises to sharpen the wits
- Full solutions to every problem

MODEL-BASED MACHINE LEARNING



John Winn

with Christopher M. Bishop, Thomas Diethe,
John Guiver and Yordan Zaykov

 **CRC Press**
Taylor & Francis Group
A CHAPMAN & HALL BOOK

Model-Based Machine Learning

John Winn

ISBN 9781498756815
October 16, 2023
416 Pages • 179 Color & 77 B/W Illustrations
Subject: Machine Learning / Mathematics
www.routledge.com/9781498756815

John Winn

is a Principal Researcher at
Microsoft Research, UK.

Today, machine learning is being applied to a growing variety of problems in a bewildering variety of domains. A fundamental challenge when using machine learning is connecting the abstract mathematics of a machine learning technique to a concrete, real world problem.

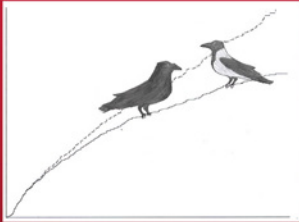
This book tackles this challenge through **model-based machine learning** which focuses on understanding the assumptions encoded in a machine learning system and their corresponding impact on the behaviour of the system.

The key ideas of model-based machine learning are introduced through a series of case studies involving real-world applications. Case studies play a central role because it is only in the context of applications that it makes sense to discuss modelling assumptions. Each chapter introduces one case study and works through step-by-step to solve it using a model-based approach. The aim is not just to explain machine learning methods, but also showcase how to create, debug, and evolve them to solve a problem.

Texts in Statistical Science

Models for Multi-State Survival Data

Rates, Risks, and Pseudo-Values



Per Kragh Andersen
Henrik Ravn

 **CRC Press**
Taylor & Francis Group
A CHAPMAN & HALL BOOK

Models for Multi-State Survival Data

Rates, Risks, and Pseudo-Values

Per Kragh Andersen and Henrik Ravn

ISBN 9780367140021

October 11, 2023

292 Pages • 94 B/W Illustrations

Subject: Statistics for the Biological Sciences

www.routledge.com/9780367140021



Per Kragh Andersen

is professor of biostatistics at the Department of Public Health, University of Copenhagen, Denmark since 1998. From 1993 to 2002 he worked half time as chief statistician at Danish Epidemiology Science. He is an author or co-author of more than 125 papers on statistical methodology and more than 250 papers in the medical literature.



Henrik Ravn

is senior statistical director at Novo Nordisk A/S, Denmark. He joined Novo Nordisk in late 2015 after more than 22 years of experience from biostatistical and epidemiological research, at Statens Serum Institut, Denmark and in Guinea-Bissau, West Africa. He has co-authored more than 160 papers, mainly within epidemiology and application of survival analysis and has taught several courses as external lecturer at Section of Biostatistics, University of Copenhagen.

Multi-state models provide a statistical framework for studying longitudinal data on subjects when focus is on the occurrence of events that the subjects may experience over time. They find application particularly in biostatistics, medicine, and public health. The book includes mathematical detail which can be skipped by readers more interested in the practical examples. It is aimed at biostatisticians and at readers with an interest in the topic having a more applied background, such as epidemiology. This book builds on several courses the authors have taught on the subject.

Features:

- Intensity-based and marginal models.
- Survival data, competing risks, illness-death models, recurrent events.
- Includes a full chapter on pseudo-values.
- Intuitive introductions and mathematical details.
- Practical examples of event history data.
- Exercises.

BRENNEN FAGAN, IAN HORWOOD,
NIAL J. MACKAY, CHRISTOPHER PRICE,
AND JAMIE WOOD



QUANTIFYING COUNTERFACTUAL MILITARY HISTORY

ASA

CRC Press
Taylor & Francis Group
A CHAPMAN & HALL BOOK

Quantifying Counterfactual Military History

Brennen Fagan, Ian Horwood, Niall J. Mackay,
Christopher Price and Jamie Wood

ISBN 9781138592384

September 27, 2023

216 Pages • 21 Color & 21 B/W Illustrations

Subject: Psychological Methods & Statistics / History

www.routledge.com/9781138592384



Dr Brennen Fagan

is a Postdoctoral Research Associate at the Leverhulme Centre for Anthropocene Biodiversity and the Department of Mathematics.



Dr Ian Horwood

is a historian at York St John University, where he is a Senior Lecturer.



Professor Niall MacKay

is a mathematician and theoretical physicist at the University of York.



Dr Christopher Price

is Senior Lecturer in History at York St John University.



Professor Andrew James (Jamie) Wood

is a mathematician and systems biologist at the University of York. He specialises in the simulation and analysis of complex systems, and has interests across a range of modern international history and the analysis of warfare.

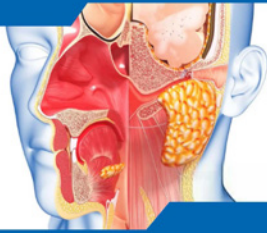
Forces shaping human history are complex, but the course of history is undeniably changed on many occasions by conscious acts. These may be premeditated or responsive, calmly calculated or performed under great pressure. They may also be considered to be successful or catastrophic, but how are historians to make such judgments and appeal to evidence in support of their conclusions? Further, and crucially, how exactly are we to distinguish probable unrealized alternatives from improbable ones?

This book describes some of the modern statistical techniques that can begin to answer this question, as well as some of the difficulties in doing so. Using simple, well-quantified cases drawn from military history, we claim that statistics can now help us to navigate the near-truths, the envelope around the events with which any meaningful historical analysis must deal, and to quantify the basis of such analysis. *Quantifying Counterfactual Military History* is intended for a general audience who are interested in learning more about statistical methods both in military history and for wider applications.

The book is written in a manner accessible to readers who have no formal training in History or Statistics.

Bailey & Love's

Essential Operations in Oral and Maxillofacial Surgery



Edited by
PETER A BRENNAN
RABINDRA P SINGH
KAVEH SHAKIB

Bailey & Love's

Essential Operations in Oral & Maxillofacial Surgery

Edited by Peter A. Brennan, Rabindra Singh
and Kaveh Shakib

ISBN 9780367772581
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732 Pages • 825 Color & 430 B/W Illustrations
Subject: Oral & Maxillofacial Surgery
www.routledge.com/9780367772581



Peter Brennan

is a Consultant Oral and Maxillofacial Surgeon in Portsmouth, UK with a personal chair in Surgery in recognition of his research and education profile. To date he has over 630 publications including more than 70 on human factors (HF) and patient safety. He is also Lead Editor for the recently published Gray's Surgical Anatomy, bringing Henry Gray's original 1858 concept of descriptive and surgical anatomy in to the 21st century.



Dr Rabindra Singh

is a Consultant in Oral and Maxillofacial Surgery with sub-specialty interest in ablative Head and Neck and microvascular reconstructive surgery. He is a fellow at the Higher Education Academy, UK and a member of the education faculty at the Royal College of Surgeons of England. He is an Associate Editor at the British Journal of Oral and Maxillofacial Surgery.



Professor Kaveh Shakib

PhD, FRCS, FRCS (OMFS), FDS is a consultant OMFS and Honorary Professor, Royal Free Hospital, London and the University of Buckingham.

A new oral and maxillofacial operative manual in *Bailey & Love's Essential Operations* series. Covering all the surgical techniques across the entire remit of the specialty, written by acknowledged experts and trainers, and with abundant diagrams and figures to explain the operative steps, this new resource will benefit oral and maxillofacial surgeons in training and in practice.

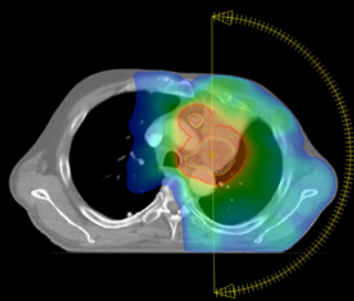
The content encompasses coverage of safe surgical practice, including human factors, and includes detailed coverage of the major OMFS sub-specialties: Oral Surgery and Implantology, Trauma, Oncology, Reconstructive Surgery, Salivary Gland & Thyroid Surgery, Temporomandibular Joint Disorders, Orthognathic and Craniofacial Surgery, Cleft Lip and Palate, Facial Aesthetic Surgery, and Advances in Operative Oral & Maxillofacial Surgery.

Trainees in oral and maxillofacial surgery must grasp the basic principles of operative surgical practice before developing skills and competence in a variety of OMFS procedures. This practical operative text ensures that OMFS surgeons are well prepared for a wide range of procedures, thus ensuring optimal surgical performance and patient outcomes.

Practical Radiotherapy Planning

Fifth Edition

Stephen Morris, Tom Roques,
Shahreen Ahmad, and Suat Loo



 **CRC Press**
Taylor & Francis Group

Practical Radiotherapy Planning

5th Edition

Stephen Morris, Tom Roques, Shahreen Ahmad
and Suat Loo

ISBN 9781138045972
September 19, 2023
484 Pages • 178 Color & 38 B/W Illustrations
Subject: Radiography / Oncology
www.routledge.com/9781138045972

Dr Stephen Morris

is a Consultant Clinical Oncologist at Guy's and St Thomas' and King's College Hospital. He is a clinical oncology college tutor and manages the clinical oncology specialist registrar training at Guy's and St Thomas'.

Dr Tom Roques

is a Consultant Clinical Oncologist at Norfolk and Norwich University Hospital NHS Foundation Trust. He leads the head and neck cancer multidisciplinary team, is co-chair of the cancer network head and neck group and chair of the cancer network radiotherapy group.

Dr Shahreen Ahmad

MRCP, FRCR, MD, is a Consultant Clinical Oncologist at Guy's and St Thomas' NHS Foundation Trust, London.

Dr Suat Loo

MRCP, FRCR, is a Consultant Oncologist at Colchester Hospital.

Good and effective treatment in radiotherapy requires careful consideration of the complex variables involved as well as critical assessment of the techniques. This new edition of an established classic takes into account advances in imaging and treatment delivery and reflects the current state of the art in the practice of radiotherapy, emphasizing the underlying principles of treatment that can be applied for conventional, conformal, and novel treatments.



Textbook of Assisted Reproductive Techniques

Volume 1: Laboratory Perspectives
Volume 2: Clinical Perspectives
6th Edition

Edited by David K. Gardner, Ariel Weissman,
Colin M. Howles and Zeev Shoham

Vol. 1 ISBN 9781032214764
November 7, 2023
384 Pages • 121 Color & 60 B/W Illustrations
www.routledge.com/9781032214764

Vol. 2 ISBN 9781032214801
November 13, 2023
560 Pages • 92 Color & 45 B/W Illustrations
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Subject: Obstetrics, Gynaecology & Women's Health



David K. Gardner

AM, FAA, DPhil is a Professor in the School of BioSciences at the University of Melbourne, and is the Scientific Director of Melbourne IVF, Melbourne, Australia.



Ariel Weissman MD

is a Senior Physician at the IVF Unit, Department of Obstetrics and Gynecology, Edith Wolfson Medical Center, Holon, and a full Professor of Obstetrics and Gynecology at the Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel.



Colin M. Howles

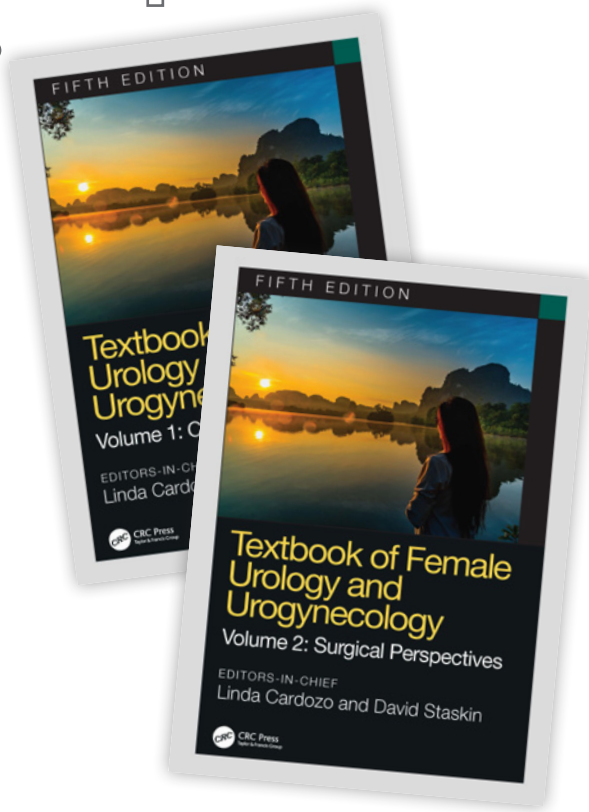
PhD, FRSM is based at Aries Consulting SARL, Geneva, Switzerland, and is an Honorary Fellow, University of Edinburgh, UK.



Zeev Shoham MD

is a Professor at the Hebrew University, Jerusalem, Israel, a consultant in IVF, and co-founder of IVF-Worldwide.

Established as the definitive reference for the IVF clinic, the sixth edition has been extensively revised, with the addition of several important new contributions on laboratory topics, including KPIs for the IVF laboratory, Quality control in the cloud, Artificial Intelligence, AI in gamete and embryo selection, Demystifying vitrification, Microfluidics, Gene editing, Disaster management, and Early human embryo development revealed by static imaging. As previously, methods, protocols, and techniques of choice are presented by IVF pioneers and eminent international experts.



Textbook of Female Urology and Urogynecology

Volume 1: Clinical Perspectives

Volume 2: Surgical Perspectives

5th Edition

Edited by Linda Cardozo and David Staskin

Vol. 1 ISBN 97803677700140

July 6, 2023

778 Pages • 261 Color & 93 B/W Illustrations

www.routledge.com/97803677700140

Vol. 2 ISBN 97803677700164

July 6, 2023

588 Pages • 449 Color & 31 B/W Illustrations

www.routledge.com/97803677700164

Subject: Obstetrics, Gynaecology & Women's Health

Linda Cardozo, OBE, MD, FRCOG

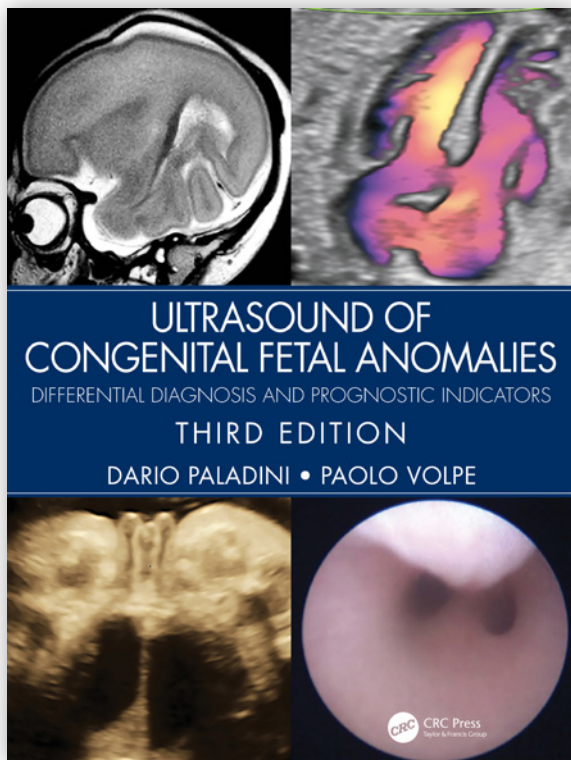
is Professor of Urogynecology
and Consultant Gynecologist
at King's College Hospital,
London, UK

David R. Staskin, MD

is Director, Female Urology
and Male Voiding Dysfunction,
St. Elizabeth's Medical Center
and Associate Professor of
Urology, Tufts University
School of Medicine, Boston,
Massachusetts, USA.

Featuring contributions by an international team of the world's experts in urology and gynecology, this fifth edition reinforces its status as the classic comprehensive resource on female urology and urogynecology and an essential clinical reference in the field.

There are new chapters throughout and new commentaries on important documents in the appendixes; each volume is now available separately. The book offers a comprehensive guide to surgical aspects. It covers important and common topics such as pelvic organ prolapse and robotic surgery and newer topics such as transgender surgery and presents a practical and manageable level of detail.



Ultrasound of Congenital Fetal Anomalies

Differential Diagnosis and Prognostic Indicators, *3rd Edition*

Dario Paladini and Paolo Volpe

ISBN 9780367499501
December 5, 2023
556 Pages • 550 Color & 334 B/W Illustrations
Subject: Maternal-Fetal Medicine
[www.routledge.com/ 9780367499501](http://www.routledge.com/9780367499501)



Dario Paladini

completed his internship at the University Medical school in Naples, Italy. He completed his residency in Obstetrics and Gynecology in 1990 at the Federico II University of Naples. In 1990-94 he moved to the National Cancer Institute of Milan for training in Gynecologic Oncology; he then returned to Naples and joined the faculty as lecturer and, since 2001, as associate professor of obstetrics and gynecology.



Paolo Volpe

is Director of Obstetrics and Gynecology at Ospedale "Di Venere", Carbonara di Bari, Italy.

An acclaimed overview of ultrasound for the prenatal diagnosis of congenital anomalies returns in a new enlarged edition. In particular, the coverage of both Central Nervous System congenital and acquired anomalies as well as Congenital Heart Disease has been expanded enormously, to make this an impressive comprehensive resource for Fetal Neurology and Fetal Cardiology.

Together with additional new chapters on guidelines and protocols, equipment, and disorders of sexual differentiation, and new insight into fetal surgery procedures, this third edition almost becomes three books in one.



Trends in Counterfeit Drugs

Edited by Kelly M. Elkins

ISBN 9781032024271

July 6, 2023

278 Pages • 66 Color & 23 B/W Illustrations

Subject: Pharmaceutical Science

www.routledge.com/9781032024271



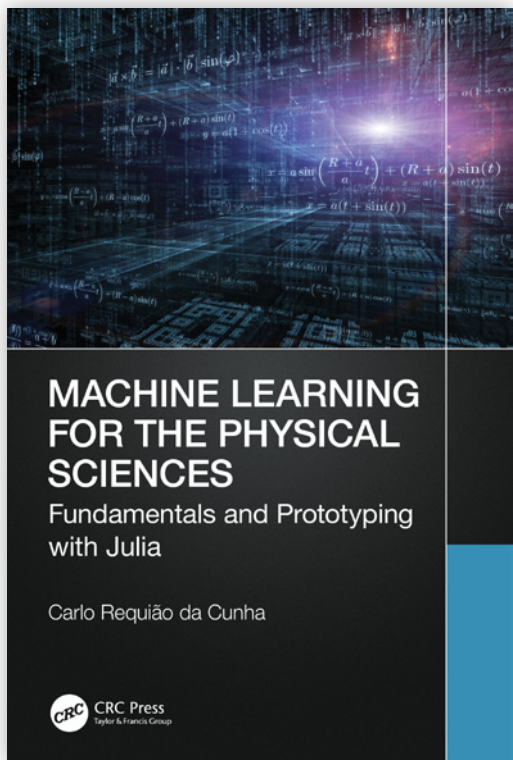
Dr. Elkins

is a Professor of Chemistry at Towson University and the author of more than 45 papers and invited book chapters on her research. Her work has been published in the *Journal of Forensic Sciences*, *Analytical Biochemistry*, *Drug Testing and Analysis*, and *Medicine, Science and the Law*. She is also one of the three founding editors of the *Journal of Forensic Science Education*. She has taught courses in forensic chemistry and forensic biology under various course numbers at four colleges and universities since 2006. She is a Fellow of the American Academy of Forensic Sciences, a member of the American Chemical Society, and a member of the Council of Forensic Science Educators and served as its President in 2012. She consults on forensic cases.

Counterfeit drugs continue to infiltrate the drug market in the United States, causing illness and death. This book addresses this issue and examines the recent trends in drug counterfeiting over the past 5-10 years. The text shows perspectives from crime lab and toxicology lab personnel and academic researchers, and includes topics such as a history of cases and issues with counterfeit drugs, trends observed in forensic labs, instrumental methods and approaches used in detecting counterfeit medicines, and policy approaches for controlling counterfeit drugs. There is a focus on ways to reduce counterfeit drugs in the market, to help improve the health and safety of people all over the world.

Features:

- Focuses on recent (5-10) year trends in counterfeit drugs and analysis.
- Shows perspectives from crime lab and toxicology lab personnel and academic researchers.
- Focuses on drugs seized by law enforcement and approaches to reducing counterfeit medicine in the market.
- Discusses the detection and analysis of counterfeit drugs, and appropriate tools for combating this issue.
- Emphasizes the global impact of illegal medicines.



Machine Learning for the Physical Sciences

Fundamentals and Prototyping with Julia

Carlo Requião da Cunha

ISBN 9781032395234
November 29, 2023
312 Pages • 90 B/W Illustrations
Subject: Computational Physics / AI
www.routledge.com/9781032395234



Carlo R. da Cunha

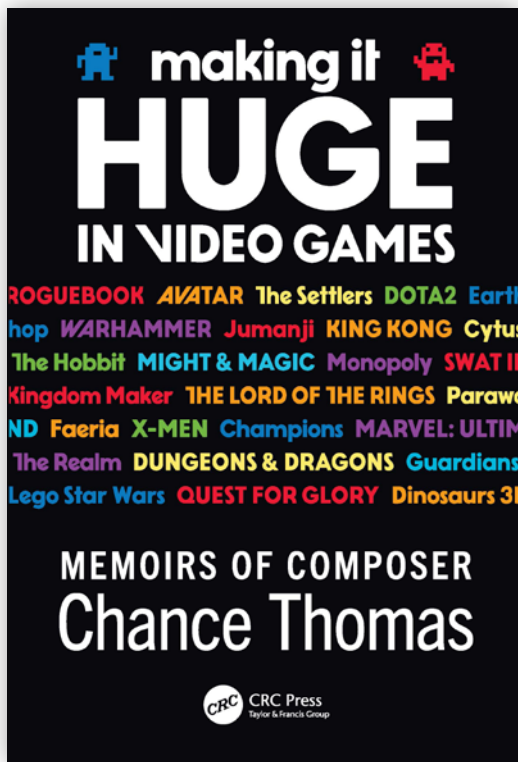
is currently an assistant professor at the School of Informatics, Computing, and Cyber Systems at Northern Arizona University. He holds a Ph.D. degree in electrical engineering from Arizona State University. Throughout his career, Dr. da Cunha has held various academic positions and research affiliations in institutions such as McGill University, Chiba University, and the Technical University of Vienna.

Machine learning is an exciting topic with a myriad of applications. However, most textbooks are targeted towards computer science students. This, however, creates a complication for scientists across the physical sciences that also want to understand the main concepts of machine learning and look ahead to applications and advancements in their fields.

This textbook bridges this gap, providing an introduction to the mathematical foundations for the main algorithms used in machine learning for those from the physical sciences, without a formal background in computer science. It demonstrates how machine learning can be used to solve problems in physics and engineering, targeting senior undergraduate and graduate students in physics and electrical engineering, alongside advanced researchers.

Features:

- Includes detailed algorithms.
- Supplemented by codes in Julia: a high-performing language and one that is easy to read for those in the natural sciences.
- All algorithms are presented with a good mathematical background.



Making it HUGE in Video Games

Memoirs of Composer Chance Thomas

Chance Thomas

ISBN 9781032022604
October 19, 2023
368 Pages • 1 Color Illustrations
Subject: Gaming & Animation
www.routledge.com/9781032022604



Chance Thomas

has been a trailblazer in the video game industry since the 1990's, pushing the bleeding edge of music soundscapes from 8-bit chiptunes into gorgeous symphonic orchestral scores, and from endlessly repeating loops into adaptive and massively generative musicscapes.

Chance has composed original video game music for some of the most valuable entertainment properties in the world, including Avatar, Marvel, The Lord of the Rings, Dungeons & Dragons, King Kong, Warhammer, DOTA 2, Might & Magic, and many more. Additionally, his music has underscored critical acclaim and blockbuster success in film and television, including an Oscar™, an Emmy™, and billions of dollars in sales worldwide.

Making it HUGE in Video Games recounts the astonishing journey of an unassuming, middle of the Bell Curve young man, rising from mundane beginnings to scale the dizzying heights of artistic distinction and financial success in the worldwide video game industry.

This is the story of Chance Thomas, a moderately talented musician who struggled and grew to compose original scores for some of the most well-known entertainment properties in the world. Detailed personal accounts and instructive side bars carry readers across the jagged peaks and valleys of an absolutely achievable career in video games.

World-famous IP's get personal treatment here – *The Lord of the Rings*, *Marvel*, *Avatar*, *Dungeons & Dragons*, *Warhammer*, *DOTA 2*, *King Kong*, *The Settlers*, and many more.

Readers will discover unvarnished true stories about starting out, pitching and pursuing gigs, negotiating contracts, composing and producing scores, multi-national corporations and personalities, funny anecdotes, daunting challenges, glorious successes, and instructive failures. Autobiographical details throughout provide intimate perspective, vibrant color, and inspiration. The book is written in a comfortable, conversational style.

Think of this as a career guidebook wrapped around a personal retrospective; a professional how-to manual woven into a memoir.

Growth and Decay of Coral Reefs

Fifty Years of Learning

Peter J. Vine



Growth and Decay of Coral Reefs

Fifty Years of Learning

Peter J. Vine

ISBN 9781032371955
September 15, 2023
194 Pages • 100 Color & 25 B/W Illustrations
Subject: Marine & Aquatic Science
www.routledge.com/9781032371955



Peter J. Vine

is a marine biologist and author with special interests in coral reef ecology, marine conservation, photography, and film-making. An adjunct lecturer at the National University of Ireland, Galway, he established one of the country's first commercial fish farms – a move that led to activities in the USA, Europe, and the Middle East. Returning to Ireland, a series of authorship commissions led to the establishment of three media companies involved in book publishing, film production, and project development in support of a series of award-winning national pavilions at World Expos in Spain, China, South Korea, and Italy.

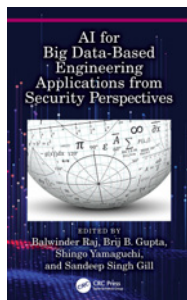
Growth and Decay of Coral Reefs: Fifty Years of Learning describes how coral reefs have alternately flourished and declined over the last 50 years and the dynamics of these changes. The study is based on recordings at 30 different locations along the Sudanese coast, visited by the author between 1971 and 1973.

Beyond the Red Sea's desert shores lie some of the richest and most diverse coral reefs on our planet. Over a thousand species of reef fishes, matched by a similar abundance of living corals, creating habitats scientists were only just beginning to understand. The complexity of the inter-relations was truly mesmerizing. A single intervention, such as removal of a key species, could cause the whole community to collapse. Healthy corals were transformed into green weed-smothered reefs, accompanied by the loss of both corals and fish.

Based on the author's observations of how knowledge and perspectives have changed over the last 50 years, this book highlights lessons learned from historical records that may help maintain and reestablish coral reefs in the years to come.

COMPUTING & IT SECURITY

AI for Big Data-Based Engineering Applications from Security Perspectives



Edited by **Balwinder Raj**, Brij B. Gupta, Director, International Center for AI & CCRI, **Shingo Yamaguchi**, Yamaguchi University and **Sandeep Singh Gill**, National Institute of Technical Teachers Training & Research

The book *AI for Big Data-Based Engineering Applications from Security Perspectives* is an integrated source which aims at understanding the basic concepts associated with the security of the advanced circuits. The content includes theoretical frameworks and recent empirical findings in the field to understand the associated principles, key challenges and recent real-time applications of the advanced circuits, AI and Big data security. It illustrates the notions, models and terminologies that are widely used in the area of VLSI circuits, security, identifies the existing security issues in the field, and evaluates the underlying

factors that influence the security of the systems.

CRC Press

Market: AI / Big Data

June 2023: 234x156: 266pp: 116 illus, 20 halftones, 96 line drawings

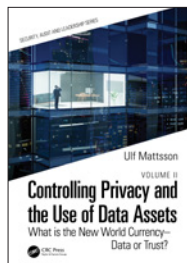
Hb: 978-1-032-13613-4: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032136134

Volume 2

Controlling Privacy and the Use of Data Assets

What is the New World Currency – Data or Trust?



Ulf Mattsson

Series: Security, Audit and Leadership Series

The book will review how new and old privacy-preserving techniques can provide practical protection for data in transit, use, and rest. It will use practical lessons in Data Integrity, and Trust, and data's business utility. This book is based on a good understanding and experience of new and old technologies, emerging trends, and a broad experience from many projects in this domain. It will provide unique context about the WHY (requirements and drivers), WHAT (to do), HOW (to implement), WHERE (in systems) and WHEN (roadmap). Unlike other academic texts, this book is being offers practical general advice,

outline actionable strategies, and include templates for immediate use.

CRC Press

Market: Privacy

August 2023: 254x178: 318pp: 261 illus, 261 line drawings

Pb: 978-1-032-18518-7: **£38.99**

★ For full contents and more information, visit: www.routledge.com/9781032185187

Cyber Resilience in Critical Infrastructure

Sinan Küfeoğlu and **Abdullah Talip Akgün**

Critical infrastructure sectors are those whose assets, systems, and networks, whether physical or virtual, are deemed so important to nations that their incapacitation or destruction would have a crippling effect on national security, economic security, public health or safety. In this book, we compiled 9 critical infrastructure sectors and also include 49 case studies from various parts of the world. Furthermore, we present sectoral analysis and case studies for each infrastructure by going through an in-depth analysis. A wide range of readers worldwide, from governments to policymakers, from industry to the finance sector can use this as a reference and guidebook.

CRC Press

Market: Cybersecurity

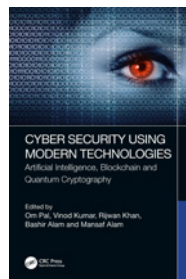
November 2023: 234x156: 312pp: 18 illus, 4 halftones, 14 line drawings

Hb: 978-1-032-58305-1: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032583051

Cyber Security Using Modern Technologies

Artificial Intelligence, Blockchain and Quantum Cryptography



Edited by **Om Pal**, University of Delhi, **Vinod Kumar**, University of Allahabad, **Rijwan Khan**, ABES Institute of Technology, **Bashir Alam**, Jamia Millia Islamia and **Mansaf Alam**, Jamia Millia Islamia University, New Delhi

The main objective of this book is to introduce cyber security using modern technologies like AI, Quantum Cryptography and Blockchain. The book provides in-depth coverage of important concepts related to cyber security. Additionally, it provides a comprehensive survey of cutting-edge research on cybersecurity of modern networks, giving the reader a general overview of the field. It also provides interdisciplinary solutions to protect modern networks from any type of attack/manipulation. This unique and comprehensive solution for cyber security of modern networks will greatly benefit researchers, graduate students and engineers in the fields of cryptography and network security.

CRC Press

Market: Network Security

August 2023: 254x178: 288pp: 108 illus, 22 halftones, 86 line drawings

Hb: 978-1-032-21319-4: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032213194

TEXTBOOK

Cybercrime and Cybersecurity

Paul A. Watters

The book starts by providing an overview of common threats and the risk management of cybercrime, further explaining the 3 key areas of cybersecurity: people, process, and technology. It explores the critical role of technology, including system security, identification and authentication, authorization and access control, and cryptography. The book is designed to be accessible to a wide range of readers, from first-year students to seasoned professionals who need to better understand the purpose of cybersecurity programs and controls. It is written in a clear and concise manner, with each chapter building on the previous one to provide a comprehensive overview of the field.

CRC Press

Market: Cybersecurity

November 2023: 234x156: 200pp: 6 illus, 6 line drawings

Hb: 978-1-032-52449-8: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032524498

Cybersecurity for Decision Makers



Edited by **Narasimha Rao Vajjhala**, University of New York Tirana and **Kenneth David Strang**

This book is aimed at managerial decision-makers, practitioners in any field, and the academic community. The chapter authors have integrated theory with evidence-based practice to go beyond merely explaining cybersecurity topics. Managers and leaders in organizations around the globe will find the explanations and suggestions useful for understanding cybersecurity risks. Cybersecurity practitioners in programming or espionage will find the literature and statistics fascinating. Academic scholars, instructors, and students will find the theories, models, frameworks, and discussions relevant to

support teaching as well as research.

CRC Press

Market: Cybersecurity

July 2023: 254x178: 424pp: 65 illus, 65 halftones

Pb: 978103234974: **£125.00**

Cybersecurity Operations and Fusion Centers

A Comprehensive Guide to SOC and TIC Strategy

Kevin Lynn McLaughlin

Series: *Security, Audit and Leadership Series*

With its comprehensive analysis of all aspects of the SOFC, from team building to incident response, this book is an invaluable resource for anyone looking to establish and operate a successful SOFC. Whether you are a security analyst, senior analyst, or executive, this book will provide you with the necessary insights and strategies to ensure maximum performance and long-term success for your SOFC. By having this book as your guide, you can rest assured that you have the knowledge and skills necessary to protect an organization's data, assets, and operations.

CRC Press

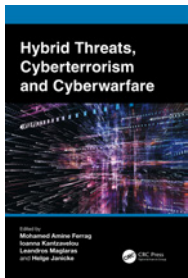
Market: cybersecurity

October 2023: 234x156: 152pp: 7 illus, 6 halftones, 1 line drawing

Hb: 978-1-032-19435-6: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032194356

Hybrid Threats, Cyberterrorism and Cyberwarfare



Edited by **Mohamed Amine Ferrag**, Guelma University, **Ioanna Kantzavelou**, **Leandros Maglaras** and **Helge Janicke**, Edith Cowan University

The book discusses and analyses current posture of cyberterrorism, cyberwarfare, and hybrid threats, sector specific cyber-attacks that have the form of cyberterrorism and presents the recent actions that EU, USA and other Nations have taken in order to strengthen their systems against such attacks. There has never been a higher risk of a major catastrophe as a result of the rise in offensive cyber activity, particularly the possibility of cyber-physical strikes against critical services. Recent cyber-attacks against critical infrastructures along with the

continuous migration crisis have been the main driving forces that led to the decision to publish this book.

CRC Press

Market: Cyber Crime

October 2023: 234x156: 248pp: 9 illus, 7 halftones, 2 line drawings

Pb: 978-1-032-32376-3: **£47.99**

★ For full contents and more information, visit: www.routledge.com/9781032323763

Internet of Things Security and Privacy

Practical and Management Perspectives



Edited by **Ali Ismail Awad**, Luleå University of Technology, Luleå, Sweden, **Atif Ahmad**, **Kim-Kwang Raymond Choo** and **Saqib Haqqa**

The Internet of Things (IoT) has emerged due to information and communication technology developments, expanding the ability to connect numerous objects. The provided state-of-the-art body of knowledge is essential for researchers, practitioners, postgraduate students, and developers interested in the security and privacy of the IoT paradigm, IoT-based systems, and any related research discipline. The book is a valuable companion and comprehensive reference for postgraduate and possibly some senior undergraduate students taking an advanced IoT security and privacy course.

CRC Press

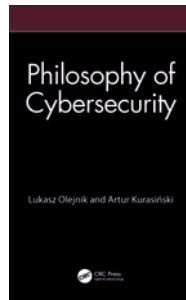
Market: Computer Engineering

December 2023: 234x156: 256pp: 58 illus, 5 halftones, 53 line drawings

Hb: 978-1-032-05771-2: **£150.00**

★ For full contents and more information, visit: www.routledge.com/9781032057712

Philosophy of Cybersecurity



Lukasz Olejnik and **Artur Kurasiński**

This is a book for everyone - a wide audience. Experts, academic lecturers, as well as students of technical fields such as computer science and social sciences will find the content interesting. Including in areas like international relations, diplomacy, strategy, and security studies. Cybersecurity is also a matter of State strategy and policy.

CRC Press

Market: Cybersecurity

September 2023: 234x156: 224pp: 8 illus, 8 line drawings

Pb: 978-1-032-52761-1: **£44.99**

★ For full contents and more information, visit: www.routledge.com/9781032527611

Security Risk Management - The Driving Force for Operational Resilience

The Firefighting Paradox



Jim Seaman and **Michael Gioia**

Series: *Security, Audit and Leadership Series*

In this book, we change the perspective on an organization's operational resilience capabilities so that it changes from being a reactive (tick box) approach to being proactive. The perspectives of every chapter in this book are with a focus on risk profiles and how your business can reduce these profiles using effective mitigation measures. Rather than looking at this from an Operational Resilience compliance capabilities aspect, we have written these to be agnostic of any specific Operational Resilience Framework with the idea of looking at Operational Resilience through a Risk Management lens instead.

CRC Press

Market: Risk Management

August 2023: 234x156: 288pp: 66 illus, 8 halftones, 58 line drawings

Pb: 978-1-032-26389-2: **£44.99**

★ For full contents and more information, visit: www.routledge.com/9781032263892

Security-First Compliance for Small Businesses



Karen Walsh

Expanding digital footprints and the rapid expansion of cloud strategies arising from the COVID-19 pandemic increase an organization's attack surface. This book bridges the gap between complex technical language and business objectives to create a security-first review of the security and compliance landscapes. This book starts by defining "security-first," then walking readers through the process of creating a holistic security and compliance program. Woven throughout are practical examples of solutions that enable small businesses to create "cybersustainable" security-focused policies, processes, and controls that protect today's future for tomorrow's digital ecosystem.

CRC Press

Market: IT Security

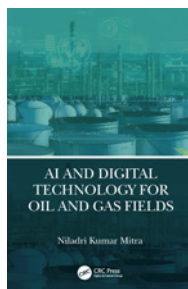
August 2023: 234x156: 220pp

Pb: 978-1-032-55072-5: **£44.99**

★ For full contents and more information, visit: www.routledge.com/9781032550725

CHEMICAL ENGINEERING

AI and Digital Technology for Oil and Gas Fields



Niladri Kumar Mitra, Petroleum Professional, Delhi, India

The book essentially covers the growing role of AI in oil and gas industry, including digital technology in exploration phase to customer sales service along with a cloud-based digital storage of reservoir simulation data for modeling. It initiates with the description of AI system and its role towards oil and gas business including agent base system, impact of industrial IoT on business models, ethics of robotics in AI implementation. It discusses reliability of operation leading to reduction of operating costs by localizing control functions, remote monitoring, and supervision. This book aims at Professionals in Petroleum and Chemical Engineering, Technology & Engineering Management.

CRC Press

Market: Energy, Fuels and Petrochemicals

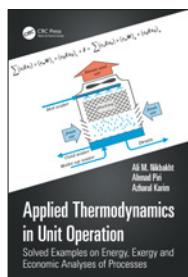
October 2023: 234x156: 266pp: 52 illus, 7 halftones, 45 line drawings

Hb: 978-1-032-30989-7: **£100.00**

★ For full contents and more information, visit: www.routledge.com/9781032309897

Applied Thermodynamics in Unit Operations

Solved Examples on Energy, Exergy, and Economic Analyses of Processes



Ali M. Nikbakht, School of Mechanical Medical and Process Engineering, Queensland University of Technology, Australia, **Ahmad Piri**, Department of Mechanical Engineering of Biosystems, Urmia, Iran and **Azharul Karim**, Queensland University of Technology, Brisbane, Australia

The growing demand of energy accounting in industries is the main challenge for academics and engineers working in chemical processing plants, food industries, and the energy sector. Applied Thermodynamics in Unit Operations addresses this demand and offers a clear contribution to the quantification of energy consumption in processes, while also solving the economic aspects of energy that are vital in real-life industrial contexts. The book is a handy reference for researchers and practitioners in the areas of process, chemical, and mechanical engineering, undergraduate and postgraduate students in those disciplines, and engineers working in industry and production managers.

CRC Press

Market: Chemical Engineering

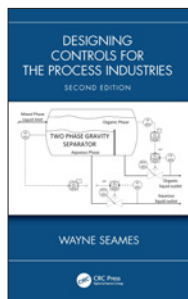
November 2023: 234x156: 400pp: 126 illus, 2 halftones, 124 line drawings

Hb: 978-1-032-54395-6: **£120.00**

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TEXTBOOK • 2nd Edition

Designing Controls for the Process Industries



Wayne Seames, University of North Dakota, Grand Forks, ND, USA

Offering a modern, process-oriented approach emphasizing process control scheme development instead of extended coverage of Laplace space descriptions of process dynamics, Designing Controls for the Process Industries focuses on aspects that are most important for contemporary practical process engineering and reflects the industry's use of digital distributed control-based systems. The new edition now features dozens of tutorial videos showing solutions to most of the example problems. Aimed at chemical engineering students in process control courses, this textbook offers an alternative to traditional texts and offers a practical, hand-on approach to design of process controls.

CRC Press

Market: Engineering - Chemical

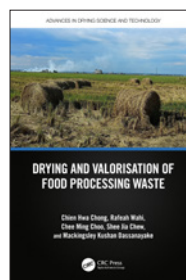
October 2023: 234x156: 604pp: 322 illus, 45 halftones, 277 line drawings

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Prev. Ed Hb: 978-1-138-70518-0

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Drying and Valorisation of Food Processing Waste



Chien Hwa Chong, Rafeah Wahi, Chee Ming Choo, Shee Jia Chew and Mackingsley Kushan Dassanayake

Series: *Advances in Drying Science and Technology*

Food waste is a far-reaching issue, impacting global food security, economies, and the environment. Drying is among the oldest technologies employed to deal with food waste and advances in this field are having a positive effect on its reduction. *Drying and Valorisation of Food Processing Waste* examines the role of advanced drying technologies in addressing food waste and reviews current research, technologies, and methodologies in food waste processing and valorisation. This book is aimed at chemical, food, and environmental engineers as well as

researchers and academics in these fields.

CRC Press

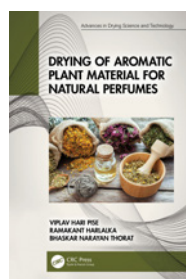
Market: Chemical Engineering

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Drying of Aromatic Plant Material for Natural Perfumes



Viplav Hari Pise, Ramakant Harlalka and Bhaskar Narayan Thorat

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Drying of Aromatic Biomass for Natural Perfumes provides readers with a deep understanding of the fascinating world of perfumery, from secretion of secondary metabolites in plant cells, to drying of the herbage, to extraction and applications. The book is organized into 4 sections: plant cell structures and role during dehydration, aromatic plants and their essential oil contents, composition and contribution towards perfumery, and dehydration and extraction technologies. This monograph serves as a handy tool for R&D, industrial, and academic researchers working in perfumery, fragrance, and food science, as well as chemical and agricultural engineering.

CRC Press

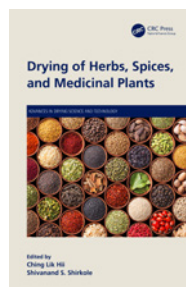
Market: Chemical Engineering

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CRC Press

Market: Chemical Engineering/Food Engineering

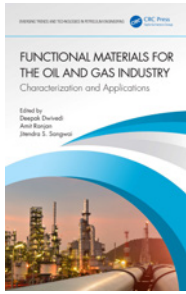
September 2023: 234x156: 254pp: 28 illus, 11 halftones, 17 line drawings

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Characterization and Applications



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This book discusses the latest techniques in characterization and applications of functional materials in the oil and gas industry. It provides an expert review of recent developments in variety of materials such as ceramics, composites, and alloys and covers all major aspects relevant to the industry, including asset management (corrosion), operation (EOR), purification, and applications in extreme environments. Written for industrial practitioners, academics, and researchers in petroleum, materials, chemical, and other fields of engineering, this work offers

significant insight into the state-of-the-art in the development and characterization of advanced functional materials.

CRC Press

Market: Materials Science/Oil and Gas Engineering

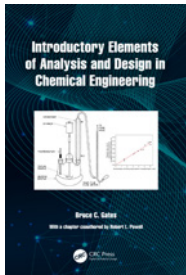
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TEXTBOOK

Introductory Elements of Analysis and Design in Chemical Engineering



Bruce C. Gates and Robert L. Powell

This textbook introduces readers to how chemical engineers think. It explains the application of analytical methods to phenomena important in chemical engineering and teaches analytical skills in the context of engineering design. A principal goal is to help readers reinforce their understanding of mathematics (especially calculus) and science as they are introduced to engineering thinking. Aimed at readers beginning their studies in chemical engineering, this textbook offers an approachable introduction to the principles of analysis and design in chemical engineering to help readers learn to think quantitatively and with a foundation of chemical engineering concepts.

CRC Press

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Artificial Neural Network-based Designs of Prestressed Concrete and Composite Structures



Won-Keel Hong, Kyung Hee University, Republic of Korea

This book introduces artificial neural network-based Lagrange optimization techniques for structural design in prestressed concrete based on Eurocode 2 and composite structures based on American Institute of Steel Construction and American Concrete Institute standards. ANN-based design charts show how to use the Lagrange multiplier method to optimize multi-objective functions for the design of a post-tensioned beam, composite columns encasing H-shaped steel sections subjected to biaxial loads, composite beams, and the concrete and reinforcing steel portions of a composite structure. Robust design charts for both prestressed concrete and composite structures are also provided.

CRC Press

Market: Structural Engineering

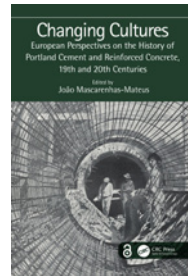
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Changing Cultures

European Perspectives on the History of Portland Cement and Reinforced Concrete, 19th and 20th Centuries



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Written by international specialists, this two-part book is centered on case studies. The first part explores the mutual international influence between these countries and their intrinsic characteristics in this field, resulting from each nation's particular economic, social, political, cultural and technological conditions. The second part of the book focuses on the history of public works companies. Capable of carrying out both private works and major infrastructures, these players exemplify the technological and business advances that the construction sector has experienced over the last two centuries. A must-read for researchers on contemporary construction history in Europe.

CRC Press

Market: Construction

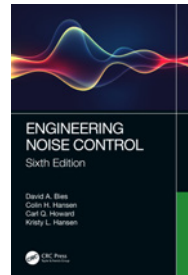
August 2023: 246x174: 346pp: 231 illus, 221 halftones, 10 line drawings

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TEXTBOOK • 6th Edition

Engineering Noise Control



David A. Bies, University of Adelaide, Australia, **Colin H. Hansen**, University of Adelaide, Australia, **Carl Q. Howard**, The University of Adelaide, Australia and **Kristy L. Hansen**, Flinders University, Australia

This textbook sets out the foundations of noise control technology in detail, and can be used to solve the real world problems encountered by consultants and engineers. It covers the fundamentals of acoustics, theoretical concepts, and practical application of current noise control technology. This new edition particularly develops material on sound propagation, especially outdoor noise; subjective response to noise; resonator mufflers; and porous absorbers. Detail is added

on microphones and sensors; free-field simulation; and wind turbine sound. It is well illustrated with practical examples, with further problems on www.causalsystems.com

CRC Press

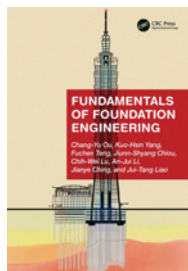
Market: Acoustical Engineering

August 2023: 254x178: 922pp: 253 illus, 253 line drawings

Pb: 978-0-367-41478-8: **£54.99**

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TEXTBOOK

Fundamentals of Foundation Engineering

Chang-Yu Ou, National Taiwan University of Science and Technology, Taiwan, **Kuo-Hsin Yang**, National Taiwan University (NTU), Taiwan, **Fuchen Teng**, National Taiwan University of Science and Technology, Taiwan, **Jiunn-Shyang Chiou**, National Taiwan University, Taiwan, **Chih-Wei Lu**, National Taiwan University of Science and Technology, Taiwan, **An-Jui Li**, National Taiwan University of Science and Technology, Taiwan, **Jianye Ching**, National Taiwan University, Taiwan and **Jui-Tang Liao**, National Taiwan University of Science and Technology, Taiwan

Fundamentals of Foundation Engineering is a basic course book for civil engineering students. This book introduces the basic

design of building foundation, including site investigation, design for various types of building foundation, retaining wall, etc. The book will provide basic knowledge of foundation engineering. The book is simple but understandable for students of foundation engineering. If students fully understand the contents, they should be capable of doing basic design of foundation. The book's primary audience will be undergraduate students, but it will also be of interest to practicing engineers.

CRC Press

Market: Civil Engineering

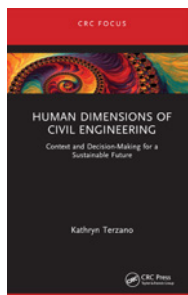
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Human Dimensions of Civil Engineering

Context and Decision-Making for a Sustainable Future



Kathryn Terzano, University of Bristol, UK

Besides technical knowledge, civil engineers need to understand the socio-cultural contexts to be effective in their profession and to recognise their work has a direct impact on how sustainably we are able to live, which derives from our larger social, cultural, economic, historical, and political environment. With case studies, takeaway messages, and questions for further thought, this outlines the breadth of the factors, with an understanding of the contextual factors themselves, and insight into how they influence values. Each is explicitly linked to the UN's Sustainable Development Goals, showing how context matters for making engineering decisions for a sustainable future.

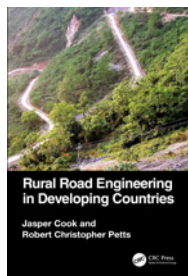
CRC Press

Market: Civil Engineering

August 2023: 216x138: 102pp: 6 illus, 6 line drawings

Hb: 978-1-032-49070-0: **£48.99**

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Rural Road Engineering in Developing Countries

Jasper Cook, OTB Engineering, UK and **Robert Christopher Petts**

Rural Road Engineering in Developing Countries provides a comprehensive coverage of the planning, design, construction, and maintenance of rural roads in developing countries and emerging nations. It covers a wide range of technical and non-technical problems that may confront road engineers working in the developing world, focusing on rural roads which provide important links from villages and farms to markets and offer the public access to health, education, and other services essential for sustainable development. The book particularly suits transportation engineers, development professionals, and graduate students in civil engineering.

CRC Press

Market: Civil Engineering

August 2023: 234x156: 486pp: 223 illus, 134 halftones, 89 line drawings

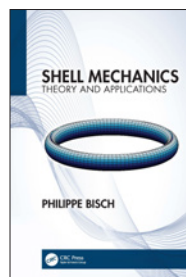
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TEXTBOOK

Shell Mechanics

Theory and Applications



Philippe Bisch, Ecole des Ponts ParisTech, France

This book is devoted to shells, a natural or human construction, whose modelling as a structure was particularly developed during the 20th century, leading to current numerical models. It highlights the very strong link between the deformation of geometric surfaces and the mechanics of shells. The book is based on the knowledge acquired by the reader in structural mechanics and provides the necessary information on the geometry of surfaces. It is particularly aimed at students in the fields of engineering using mechanics, as well as professionals wishing to deepen their knowledge of shells.

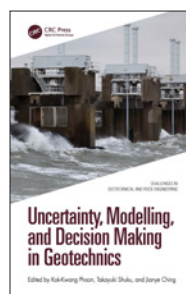
CRC Press

Market: Structural and Mechanical Engineering

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Hb: 978-1-138-31059-9: **£125.00**

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Uncertainty, Modelling, and Decision Making in Geotechnics

Edited by **Kok-Kwang Phoon**, Singapore University of Technology and Design, Singapore, **Takayuki Shuku**, Okayama University, Japan and **Jianye Ching**, National Taiwan University, Taipei

Series: Challenges in Geotechnical and Rock Engineering

This book shows how uncertainty quantification and numerical modeling can complement each other to enhance decision making in geotechnical practice, filling a critical gap in guiding practitioners to address uncertainties directly. Bringing together statistical characterization, reliability analysis, reliability-based design, probabilistic inverse analysis, and physical insights drawn from case studies, this reference guide from an international team of experts offers an excellent resource for state-of-the-

practice uncertainty-informed geotechnical design for specialist practitioners and the research community.

CRC Press

Market: Civil Engineering

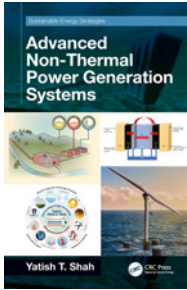
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CRC Press

Market: Energy Engineering

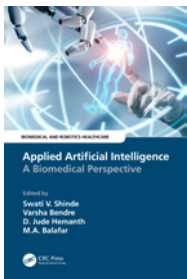
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A Biomedical Perspective



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This book explores the advancements and future challenges in biomedical application developments using breakthrough technologies like AI, IoT, and Signal Processing. It will also contribute to biosensors, MEMS, and related research. The chapters include a blend of many healthcare use cases using AI as a solution that can be readily deployed by the industry. The book will be beneficial to the researchers, industry persons, faculty, and students working in biomedical applications of

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Blockchain and Artificial Intelligence-Based Solution to Enhance the Privacy in Digital Identity and IoT



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In the different chapters of this book, we explored the main domains that represent considerable risks for the respect of privacy, such as education, health, finance or social media. Digital identity is presented as a bulwark for the protection of privacy. It opens up new avenues for improving digital trust. Concretely, there are a set of challenges that are associated with the management of digital identity mainly in relation with the compliance and governance of personnel data in order to eliminate privacy and security risks.

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Market: Engineering - Electrical & Computer

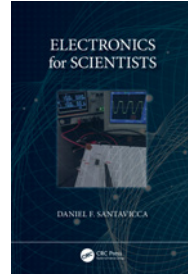
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Daniel F. Santavica

Electronics for Scientists provides a practical and concise introduction to electrical circuits, signals, and instrumentation for undergraduate students in the physical sciences. The subject of electronics is indispensable to a wide array of scientific and technical fields, and this book seeks to provide an approachable point of access to this rich and important subject.

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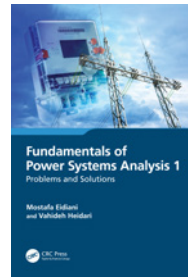
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Fundamentals of Power Systems Analysis 1

Problems and Solutions



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CRC Press

Market: Electrical Engineering

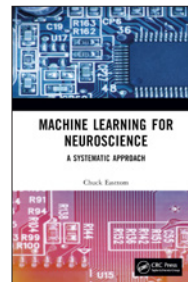
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Machine Learning for Neuroscience

A Systematic Approach



Chuck Easttom

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CRC Press

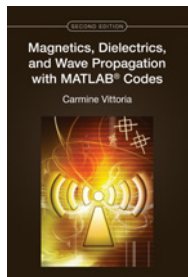
Market: Computer Engineering

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CRC Press

Market: Electrical Engineering

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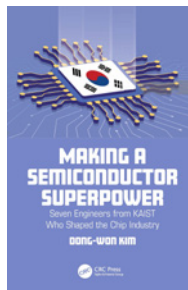
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Making a Semiconductor Superpower

The Seven Engineers from KAIST Who Shaped the Chip Industry



Dong-Won Kim

This book provides the readers with real stories of South Korean semiconductor community. It explores the lives of seven influential semiconductor engineers that all worked or studied at KAIST in South Korea, under the mentorship of Dr. Kim Choong-Ki and became known as Kim's Mafia because of the important positions they held in industry, government and research institutes. This book will be of interest to semiconductor engineers and electronics engineers, it will also be of interest to historians of science and technology, and scholars and students of East Asian studies.

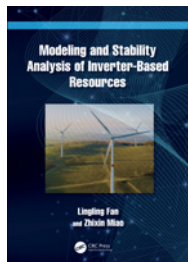
CRC Press

Market: Electrical Engineering

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CRC Press

Market: Engineering

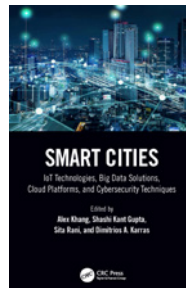
November 2023: 254x178: 288pp: 251 illus, 251 line drawings

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Smart Cities

IoT Technologies, Big Data Solutions, Cloud Platforms, and Cybersecurity Techniques



Edited by **Alex Khang, Shashi Kant Gupta, Sita Rani**, GNDEC, Ludhiana and **Dimitrios A. Karras**

This book discusses the basic principles of sustainable development in a smart city ecosystem to better serve the life of citizens. It examines smart city systems driven by emerging IoT-powered technologies and the other dependent platforms. The book will provide the technologies, solutions as well as designs about the application design of the smart cities with advanced tools and techniques to students, researchers, engineers and academics.

CRC Press

Market: Electrical Engineering

November 2023: 234x156: 480pp: 130 illus, 115 halftones, 15 line drawings

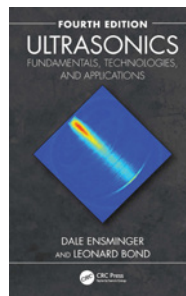
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4th Edition

Ultrasonics

Fundamentals, Technologies, and Applications



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What Every Engineer Should Know About Smart Cities

Valdemar Vicente Graciano Neto and Mohamad Kassab

Series: What Every Engineer Should Know

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CRC Press

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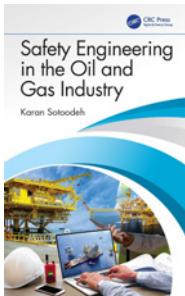
October 2023: 234x156: 254pp: 60 illus, 44 halftones, 16 line drawings

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Safety Engineering in the Oil and Gas Industry



Karan Sotoodeh, University of Stavanger, Norway

Safety Engineering in the Oil and Gas Industry discusses how to improve safety and reliability in the oil and gas industry so that hazards can be reduced to the lowest level feasible. It covers the techniques needed to operate safety in an oil and/or gas industry setting, the standards that should be adhered to, the impacts of PPE, fire and explosions, equipment and infrastructure failures and storage and reliability engineering, amongst many other topics. This book is written in an easy-to-read and appealing style and multiple-choice questions are included to help with learning and understanding the concepts included.

CRC Press

Market: Occupational Health & Safety

August 2023: 234x156: 460pp: 223 illus, 154 halftones, 69 line drawings

Hb: 978-1-032-47973-6: **£130.00**

★ For full contents and more information, visit: www.routledge.com/9781032479736

New Perspectives in Behavioral Cybersecurity

Human Behavior and Decision-Making Models



Edited by **Wayne Patterson**, Private Consultant for Howard University

New Perspectives in Behavioral Cybersecurity offers direction for readers in areas related to human behavior and cybersecurity, by exploring some of the new ideas and approaches in this subject, specifically with new techniques in this field coming from scholars with very diverse backgrounds in dealing with these issues. It seeks to show an understanding of motivation, personality, and other behavioral approaches to understand cyberattacks and create cyberdefenses. This title is an ideal read for senior undergraduates, graduate students, and professionals in fields including ergonomics, human factors, human-computer interaction, computer engineering, and psychology.

CRC Press

Market: Ergonomics and Psychology

September 2023: 234x156: 192pp: 66 illus, 27 halftones, 39 line drawings

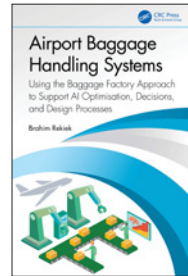
Hb: 978-1-032-41477-5: **£74.99**

★ For full contents and more information, visit: www.routledge.com/9781032414775

INDUSTRIAL ENGINEERING & MANUFACTURING

Airport Baggage Handling Systems

Using the Baggage Factory Approach to Support AI Optimisation, Decisions, and Design Processes



Brahmi Rekiek

Airport Baggage Handling Systems introduces the concept of the Baggage Factory, an Industry 4.0 based approach that simplifies baggage handling processes from the moment passengers drop off their bags at check-in until the destination. The book presents how BHS designers can use AI technology, bridging the gap between airport BHS designers and experts in AI and optimization. It describes algorithms for sorting bags and details how systems are designed. It provides a behind-the-scenes look at the BHS industry and how it affects the daily lives of travelers.

CRC Press

Market: Engineering: Industrial Engineering and Manufacturing

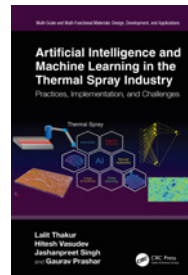
October 2023: 234x156: 236pp: 143 illus, 53 halftones, 90 line drawings

Pb: 978-1-032-55925-4: **£42.99**

★ For full contents and more information, visit: www.routledge.com/9781032559254

Artificial Intelligence and Machine Learning in the Thermal Spray Industry

Practices, Implementation, and Challenges



Lalit Thakur, NIT Kurukshetra, India, **Hitesh Vasudev**, LPU, India, **Jashanpreet Singh**, Chandigarh University, India and **Gaurav Prashar**, Rayat Bahra Institute of Engineering and Nano-Technology, India

Series: Multi-Scale and Multi-Functional Materials

Artificial Intelligence and Machine Learning in the Thermal Spray Industry: Practices, Implementation, and Challenges highlight how AI and ML techniques are used in the TS industry. It sheds light on AI's versatility, revealing its applicability in solving problems related to conventional simulation and numeric modeling techniques. The book combines automated technologies with expert machines to show several advantages. This reference book is

directed toward professors, students, practitioners, and researchers of higher education institutions working in the fields that deal with the application of AI and ML technology.

CRC Press

Market: Engineering: Industrial Engineering and Manufacturing

December 2023: 234x156: 152pp: 59 illus, 22 halftones, 37 line drawings

Hb: 978-1-032-50224-3: **£100.00**

★ For full contents and more information, visit: www.routledge.com/9781032502243

Artificial Intelligence, Fintech, and Financial Inclusion

Edited by **Rajat Gera**, Manav Rachna International Institute of Research and Studies, Faridabad, **Djamchid Assadi**, Burgundy School of Business, Lyon Campus and **Marzena Starnawska**

Series: Innovations in Big Data and Machine Learning

This book covers Big Data, Machine Learning, and Artificial Intelligences-related technologies and how these technologies can enable the design, development, and delivery of customer-focused financial services to both corporate and retail customers, as well as how to extend the benefits to the financially excluded sections of society. It describes the applications of Big Data and its tools such as Artificial Intelligence and Machines Learning in products and services, marketing, risk management, and business operations. The book suits practitioners, researchers, experts, graduate students, engineers, business leaders, and analysts researching contemporary issues in the area.

CRC Press

Market: Engineering: Industrial and Manufacturing

December 2023: 234x156: 200pp: 20 illus, 20 line drawings

Hb: 978-0-367-64568-7: **£130.00**

★ For full contents and more information, visit: www.routledge.com/9780367645687

2nd Edition

Conveyors

Application, Selection, and Integration

Patrick M. McGuire, Glidepath, LLC, TX, USA

Series: *Systems Innovation Book Series*

This new edition continues on its journey of being an introduction to the wide variety of conveyor types and application methods available. It discusses conveyor and system design and in its new edition, expands on information about sorters and motorized roller conveyors, new information on robotic interfaces, as well as some of the tradeoffs made when conveyor design rules are intentionally broken. Each chapter now also includes questions and problems to help reinforce the material covered.

CRC Press

Market: Engineering - Industrial Engineering and Manufacturing
 December 2023: 234x156: 240pp: 183 illus, 47 halftones, 136 line drawings
 Hb: 978-1-032-45118-3: **£74.99**
 Prev. Ed Hb: 978-1-4398-0388-2

★ For full contents and more information, visit: www.routledge.com/9781032451183

Handbook of Artificial Intelligence for Smart City Development

Management Systems and Technology Challenges



Edited by **Sandhya Makkar**, Lal bahadur Shastri Institute of Management, Delhi, **Gobinath Ravindran**, Ripon Kumar Chakraborty, Capability Systems Centre, SEIT and **Arindam Pal**

Series: *Big Data for Industry 4.0*

Handbook of Artificial Intelligence for Smart City Development: Management Systems and Technology Challenges covers the whole journey of the development of Smart Cities, from the foundations to the usage of technologies, including the challenges and issues that policymakers and technologists may face during the concept, development, management, and implementation stage. The book also covers sustainable strategies and safety measures and offers real-life cases, advancements in manufacturing approaches for

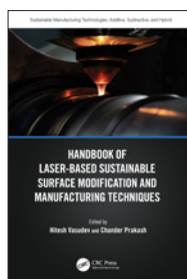
Smart Cities which includes AI technologies such as big data analytics, blockchain, machine learning, and fault diagnostics.

CRC Press

Market: Engineering: Industrial and Manufacturing
 November 2023: 234x156: 296pp: 88 illus, 73 halftones, 15 line drawings
 Hb: 978-1-032-12592-3: **£150.00**

★ For full contents and more information, visit: www.routledge.com/9781032125923

Handbook of Laser-Based Sustainable Surface Modification and Manufacturing Techniques



Edited by **Hitesh Vasudev**, LPU, India and **Chander Prakash**
 Series: *Sustainable Manufacturing Technologies*

Handbook of Laser-Based Sustainable Surface Modification and Manufacturing Techniques discusses the main mechanism behind the surface degradation of structural components in strenuous environments. It highlights the capacity of laser cladding to operate on a wide range of substrate materials and shapes as well as presents how laser cladding can offer new possibilities in the reconditioning of components and how in many cases, these approaches are the only solution for economical efficiency.

CRC Press

Market: Engineering - Industrial Engineering and Manufacturing
 July 2023: 234x156: 204pp: 85 illus, 59 halftones, 26 line drawings
 Hb: 978-1-032-38767-3: **£150.00**

★ For full contents and more information, visit: www.routledge.com/9781032387673

Handbook of Post-Processing in Additive Manufacturing

Requirements, Theories, and Methods



Edited by **Gurminder Singh**, University College Dublin, **Ranvijay Kumar**, Chandigarh University, Mohali, **Kamalpreet Sandhu**, Plaksha University, Punjab, **Eujin Pei** and **Sunpreet Singh**, National University of Singapore

Series: *Sustainable Manufacturing Technologies*

This handbook presents experimental breakthroughs of novel methodologies that treat additively manufactured parts, which are suitable for demanding engineering applications. The handbook emphasizes the various types of post-processing technologies that can effectively eliminate the inferiorities of the additively manufactured components. It also provides a collection of key principles, literature, methodologies, experimental results, case studies, and the theoretical aspects of

the different types of post-processing techniques along with different classes of materials and end applications.

CRC Press

Market: Engineering: Industrial and Manufacturing Engineering
 October 2023: 234x156: 232pp: 90 illus, 37 halftones, 53 line drawings
 Hb: 978-1-032-23172-3: **£150.00**

★ For full contents and more information, visit: www.routledge.com/9781032231723

Inclusion by Design

Future Thinking Approaches to New Product Development



Frances Alston, ESH Director - Lawrence Livermore National Laboratory, California, USA and **Emily Millikin DeKerchove**, Millikin - S&H Consulting, Richland, Washington, USA

This book formalizes the use of speculative design as a means for more inclusive NPD and promotes management of the design process as a needed skill for future engineers and designers. It provides a novel design methodology of VEDT for engaging vision conceiving, through the use of Design Lenses in engaging speculative design practices and offers an implementation framework to support the sustainable adoption and use of future design methods. The 4-D Algorithm for New Product Development promotes inclusivity in design while addressing practical aspects of managing the design process in

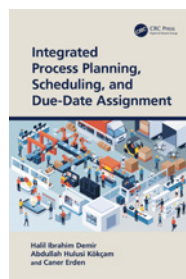
today's corporate business environment.

CRC Press

Market: Engineering - Industrial & Manufacturing
 August 2023: 234x156: 202pp: 44 illus, 44 line drawings
 Hb: 978-0-367-41687-4: **£74.99**

★ For full contents and more information, visit: www.routledge.com/9780367416874

Integrated Process Planning, Scheduling, and Due-Date Assignment



Halil Ibrahim Demir, Sakarya University, Turkey, **Abdullah Hulusi K  k  m**, Sakarya University, S  rdivan and **Caner Erden**

Integrated Process Planning, Scheduling, and Due-Date Assignment combines the most important manufacturing functions to use manufacturing resources better, reduce production costs, and eliminate bottlenecks with increased production efficiency. The book covers how the integration will help eliminate scheduling conflicts and how to adapt to irregular shop floor disturbances. It also explains other elements, such as how tardiness and earliness are penalized and how prioritizing helps to improve weight performance function.

CRC Press

Market: Engineering: Industrial and Manufacturing Engineering
 August 2023: 234x156: 152pp: 34 illus, 10 halftones, 24 line drawings
 Hb: 978-1-032-10426-3: **£74.99**

★ For full contents and more information, visit: www.routledge.com/9781032104263

Lean Six Sigma 4.0 for Operational Excellence Under the Industry 4.0 Transformation



Edited by **Rajeev Rathi**, Jose Arturo Garza-Reyes, The University of Derby, UK, **Mahender Singh Kaswan**, Lovely Professional University and **Mahipal Singh**

Series: *Sustainable Manufacturing Technologies*

This book presents innovative breakthroughs in Operational Excellence that can solve the operational issues of smart factories. The book illustrates various tools and techniques of Lean Six Sigma 4.0 and details their suitability for manufacturing and service systems.

CRC Press

Market: Engineering - Industrial Engineering and Manufacturing

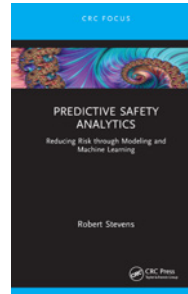
October 2023: 234x156: 160pp: 24 illus, 24 line drawings

Hb: 978-1-032-46099-4: **£84.99**

★ For full contents and more information, visit: www.routledge.com/9781032460994

Predictive Safety Analytics

Reducing Risk through Modeling and Machine Learning



Robert Stevens

Series: *Reliability, Maintenance, and Safety Engineering*

Predictive Safety Analytics: Reducing Risk through Modeling and Machine Learning contains real use cases where organizations have reduced incidents by employing predictive analytics to foresee and mitigate future risks. It discusses how Predictive Safety Analytics is an opportunity to break through the plateau problem where safety rate improvements have stagnated in many organizations. The book is written for professionals and researchers in system reliability, risk and safety assessment, quality control, operational managers in selected industries, data scientists, and ML engineers.

CRC Press

Market: Engineering - Industrial Engineering & Manufacturing

September 2023: 216x138: 104pp: 31 illus, 31 line drawings

Hb: 978-1-032-42438-5: **£48.99**

★ For full contents and more information, visit: www.routledge.com/9781032424385

Lean Sustainability

A Pathway to a Circular Economy



Elizabeth A. Cudney, Maryville University, St. Louis, USA, **Sandra L. Furterer**, University of Dayton, OH, **Chad M. Laux** and **Gaganpreet S. Hundal**

Series: *Continuous Improvement Series*

Lean Sustainability: A Pathway to a Circular Economy illustrates an integrated Lean and sustainability approach that is applicable to manufacturing, healthcare, service, and other industries. This comprehensive approach will guide organizations toward a circular economy to drive competitive business practices further while being environmentally, socially, and economically responsible. The ebook version includes full color images.

CRC Press

Market: Engineering - Industrial & Manufacturing

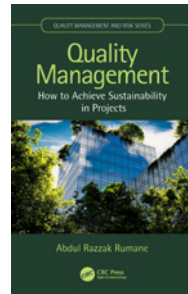
November 2023: 234x156: 288pp: 142 illus, 37 halftones, 105 line drawings

Pb: 978-1-138-58410-5: **£74.99**

★ For full contents and more information, visit: www.routledge.com/9781138584105

Quality Management

How to Achieve Sustainability in Projects



Abdul Razzak Rumane, Sijjeel General Commerce & Contracting Co., Kuwait

Series: *Quality Management and Risk Series*

Quality Management: How to Achieve Sustainability in Projects takes the reader from start to finish with a focus on the sustainability elements needed to manage quality in projects and details the application of sustainability principles at different stages. The book discusses the quality tools used in managing sustainability and provides concise and complete information on how to easily achieve it through to the project handover stage.

CRC Press

Market: Engineering - Industrial Engineering and Manufacturing

December 2023: 234x156: 240pp: 139 illus, 139 line drawings

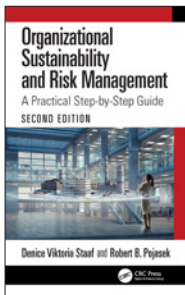
Hb: 978-1-032-45438-2: **£150.00**

★ For full contents and more information, visit: www.routledge.com/9781032454382

2nd Edition

Organizational Sustainability and Risk Management

A Practical Step-by-Step Guide



Denice Viktoria Staaf and **Robert B. Pojasek**, Pojasek & Associates LLC & Harvard University, USA

Organizational Sustainability and Risk Management: A Practical Step-by-Step Guide, Second Edition will remind all stakeholders how organizations work through a measurement transformation that affects everything they do, including following the International Organization for Standardization's (ISO) Guide for Sustainability and climate change. It is enriched with a discussion on life cycle thinking that has been introduced in the ISO high-level structure. The book covers a fundamental change in how organizations approach sustainability and how we view organizational sustainability.

CRC Press

Market: Engineering - Industrial & Manufacturing

July 2023: 234x156: 222pp: 21 illus, 3 halftones, 18 line drawings

Hb: 978-1-032-18554-5: **£74.99**

★ For full contents and more information, visit: www.routledge.com/9781032185545

Smart Technologies for Improved Performance of Manufacturing Systems and Services



Edited by **Bikash Chandra Behera**, **Bikash Ranjan Moharana**, **Kamalakanta Muduli**, The Papua New Guinea University of Technology and **Sardar M.N. Islam**, Victoria University, Australia

Series: *Advances in Intelligent Decision-Making, Systems Engineering, and Project Management*

This book discusses smart technologies and their influence in the field of manufacturing and industrial systems engineering, in the context of performance enhancement, and explores the development of the workforce for the execution of such smart and advanced technologies. It discusses the integration of smart technology into the production process and supply chain to enhance the overall performance of manufacturing industries.

Managers and stakeholders seeking coverage on techniques and methods for integration into their organizations, as well as students and researchers in the field, will find this book very useful.

CRC Press

Market: Engineering - Industrial Engineering and Manufacturing

September 2023: 234x156: 210pp: 75 illus, 16 halftones, 59 line drawings

Hb: 978-1-032-38689-8: **£120.00**

★ For full contents and more information, visit: www.routledge.com/9781032386898

Sustainable Digital Technologies

Trends, Impacts, and Assessments



Edited by **Vandana Sharma, Balamurugan Balusamy, Shiv Nadar Uni., Munish Sabharwal, Galgotias Uni. and Mariya Ouaisa**

Sustainable Digital Technologies: Trends, Impacts, and Assessments discusses the critical factors leading to sustainable initiatives in a global economy. It highlights the impact of digital technology and Industry 4.0 in today's world. The book focuses on the role, responsibility, and the effect of the Internet of Things for digital sustainability and practices. It describes implementation strategies for green cloud computing and presents additional strategies for sustainable practices in a post-pandemic world.

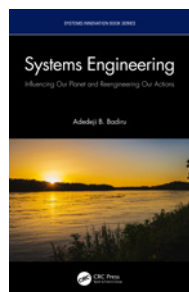
CRC Press

Market: Engineering: Industrial Engineering and Manufacturing
September 2023: 234x156: 222pp: 104 illus, 51 halftones, 53 line drawings
Hb: 978-1-032-38766-6: **£99.99**

★ For full contents and more information, visit: www.routledge.com/9781032387666

Systems Engineering

Influencing Our Planet and Reengineering Our Actions



Adedeji B. Badiru, Air Force Institute of Technology, Dayton, Ohio, USA

Series: Systems Innovation Book Series

This book illustrates a hierarchical Systems Engineering view of the world with each individual in mind as a link in the chain. It uses an Industrial Engineering framework for action implementations and identifies humans' interconnected actions. The book discusses the implementation of the Systems Engineering problem-solving methodology and leverages existing concepts of environmental sustainability. A template is present for personal actions for environment social responsibility using a Systems Engineering problem-solving approach and focuses on the foundational use of the trademarked DEJI Systems Model® for action design,

evaluation, justification, and integration.

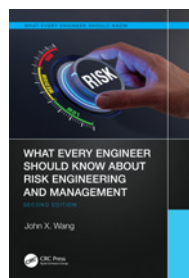
CRC Press

Market: Engineering - Industrial and Manufacturing Engineering
September 2023: 234x156: 234pp: 25 illus, 17 halftones, 8 line drawings
Hb: 978-1-032-24510-2: **£82.99**

★ For full contents and more information, visit: www.routledge.com/9781032245102

2nd Edition

What Every Engineer Should Know About Risk Engineering and Management



John X. Wang

Series: What Every Engineer Should Know

Completely updated, this new edition uniquely explains how to assess and handle technical risk, schedule risk, and cost risk efficiently and effectively for complex systems that include Artificial Intelligence, Machine Learning, and Deep Learning. It enables engineering professionals to anticipate failures and highlight opportunities to turn failure into success through the systematic application of Risk Engineering. *What Every Engineer Should Know About Risk Engineering and Management, Second Edition* discusses Risk Engineering and how to deal with System Complexity and Engineering Dynamics, as it highlights how AI

can present new and unique ways that failures can take place.

CRC Press

Market: Engineering - Industrial Engineering and Manufacturing
July 2023: 234x156: 264pp: 87 illus, 29 halftones, 58 line drawings
Pb: 978-1-032-43982-2: **£39.99**

★ For full contents and more information, visit: www.routledge.com/9781032439822

SOFTWARE ENGINEERING & SYSTEMS DEVELOPMENT

Artificial Intelligence of Health-Enabled Spaces



Edited by **Fadi Al-Turjman**, Near East Uni., Nicosia

Artificial Intelligence of Health-Enabled Spaces has made revolutionary advances in clinical studies. The AI-powered solutions are expected to communicate with cellular networks smoothly in the next generation networks for more effective/critical medical applications. This book is dedicated to addressing the major challenges in fighting diseases and psychological issues using AI. The aim of this book is to focus on both the design and implementation aspects of the AI-based approaches in proposed health-related solutions. Targeted readers are from varying disciplines who are interested in implementing the smart planet/environments vision via intelligent enabling technologies.

CRC Press

Market: Artificial Intelligence
June 2023: 234x156: 202pp: 82 illus, 37 halftones, 45 line drawings
Hb: 978-1-032-34580-2: **£99.99**

★ For full contents and more information, visit: www.routledge.com/9781032345802

TEXTBOOK

Computer Arithmetic in Practice

Exercises and Programming



Slawomir Gryś

Computer Arithmetic in Practice - Exercises and Programming is a simple, brief introductory volume for undergraduate and graduate students at university courses interested in understanding the foundation of computers. It is focused on numeric data formats and capabilities of computer to perform basic arithmetic operations.

CRC Press

Market: Computer Arithmetic / Programming
September 2023: 234x156: 212pp: 8 illus, 1 halftone, 7 line drawings
Hb: 978-1-032-42563-4: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032425634

Dark World

A Book on the Deep Dark Web

Atif Ali and Muhammad Qasim

This book's objective is to present an interdisciplinary and easily understandable book on the Dark Web. This research will benefit security agencies, security professionals, counter-terrorism experts, and policymakers. This book has covered dark web topics that give a reader a good idea about the dark web. Mainly it focused on the dark market and also mentioned the positive side of dark web. We have also mentioned the emerging dark web trends and mitigation techniques. What are the cyber crimes on the dark web? How people are doing business, and which areas are mostly focused on the dark web.

CRC Press

Market: Cybersecurity
November 2023: 234x156: 312pp: 200 illus, 120 halftones, 80 line drawings
Hb: 978-1-032-51887-9: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032518879

Digital Freedom



Faizur Rashid and Sadaf Rashid

The primary goal of this book is to explain how newly emerging digital technologies and social media have significantly altered and aided in the growth of every organization in existence today and how the freedom of using these technologies proved to be beneficial, particularly during the COVID-19 pandemic. By providing real-world cases from both established and developing nations, particularly India. The book also investigates how digital transformation may help every industry and organization run more quickly and with agility. In this book, the benefits and challenges of digitization, digital tools, and other technologies in diverse fields are also examined.

CRC Press

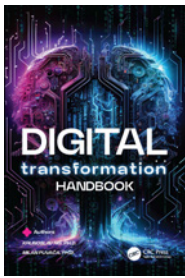
Market: Information Technology

October 2023: 234x156: 336pp: 28 illus, 28 line drawings

Pb: 978-1-032-51752-0: **£44.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032517520

Digital Transformation Handbook



Krnoslav Ris and Milan Puvaca

In a time when change is the only constant, it is essential to think about digital transformation constantly. Technology improvement, availability, and scalability give us no room for excuses for not using them. Who can say that we are not living in dynamic and exciting times? Authors took their 20 years of practical experience and put it into one book. A more appropriate title is a handbook since many cases can be found where not each time is a success story. The *Digital Transformation Handbook* is prepared to provide some insights, give you a fresh overview of what such change can enable, and set up an environment for new technology that arrives shortly.

CRC Press

Market: Digital Transformation

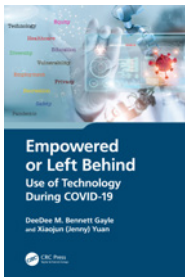
September 2023: 234x156: 248pp: 51 illus, 48 halftones, 3 line drawings

Pb: 978-1-032-30452-6: **£44.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032304526

Empowered or Left Behind

Use of Technology During COVID-19



DeeDee M. Bennett Gayle and Xiaojun (Jenny) Yuan

Focused on the United States, this book summarizes the secondary impacts of COVID-19 due to the increased use of technology. Establishing the global response of social distancing, mandates for non-essential business, and working from home, the book centers on the disparate guidance provided at the State and local levels, domestically. Marginalized populations are highlighted to identify areas where technology facilitated access and reach or contributed to difficulties catapulted by digital literacy or digital access issues.

CRC Press

Market: Technology

July 2023: 234x156: 176pp: 7 illus, 1 halftone, 6 line drawings

Hb: 978-1-032-33498-1: **£45.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032334981

Green Machine-Learning Protocols for Future Communication Networks



Edited by **Saim Ghafoor and Mubashir Husain Rehmani**

This book covers different aspects of green machine learning for future communication networks. It highlights mainly the green machine learning protocols for cellular communication, federated learning-based models and protocols for beyond 5th-generation networks, approaches for cloud-based communications, and Internet-of-Things. This book also highlights the design considerations and challenges for green machine learning protocols for different future applications.

CRC Press

Market: Communication Networks

October 2023: 234x156: 268pp: 49 illus, 3 halftones, 46 line drawings

Hb: 978-1-032-13685-1: **£110.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032136851

4th Edition

Information Technology and Organizational Learning

Managing Behavioral Change in the Digital Age

Arthur M. Langer, Columbia University, New York, USA

This book focuses on organizational development and the need to integrate digital technology fully into the culture of all organizations. Fundamentally this 4th Edition takes an even stronger position than the previous editions, that organizational learning is crucial to the success of what has been coined "digital transformation." It includes new topics such as the future of work that addresses the challenges of assimilating multiple generations of employees and how to establish working cultures that are more resilient, adaptive and can be configured as a platform driven by data assets.

CRC Press

Market: Business & Management

November 2023: 234x156: 480pp: 61 illus, 1 halftone, 60 line drawings

Hb: 978-1-032-32623-8: **£110.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032326238

Machine Learning with oneAPI

Shriram K. Vasudevan, Nitin Vamsi Dantu, Northeastern University,
Sini Raj Pulari and T.S. Muruges

Intel OneAPI is a unified programming model and software development kit (SDK) that empowers developers to generate high performance applications that can run on different devices, comprising CPUs, GPUs, FPGAs, and other accelerators. It lets developers write code once and deploy it on multiple architectures, decreasing the complexity as well as the cost of software development. One of the significant strengths of OneAPI is in its capability to support an eclectic range of devices and architectures including artificial intelligence, high-performance computing, data analytics, and more.

CRC Press

Market: Artificial Intelligence

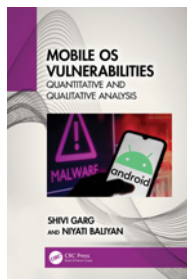
November 2023: 234x156: 212pp: 232 illus, 81 halftones, 151 line drawings

Hb: 978-1-032-49310-7: **£110.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032493107

Mobile OS Vulnerabilities

Quantitative and Qualitative Analysis



Shivi Garg, J.C. Bose University and **Niyati Baliyan**, Indira Gandhi Delhi Technical University for Women

This book offers in-depth analysis of security vulnerabilities in different mobile operating systems. It provides methodology and solutions for handling Android malware and vulnerabilities. It also focuses on the detection of malicious applications that compromise users' security and privacy, the detection performance of the different program analysis approach, and the influence of different input generators during static and dynamic analysis on detection performance. Furthermore, we propose a novel framework of mapping malware to vulnerabilities exploited using Android malware's behavior reports leveraging pre-trained language models and deep learning techniques.

CRC Press

Market: Cybersecurity

August 2023: 234x156: 189pp: 78 illus, 5 halftones, 73 line drawings

Hb: 978-1-032-40746-3: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032407463

Reaching Your New Digital Heights

32 Pivotal Mindset Leaps of Digital Transformation



David W. Wang

The 4th Industry Revolution is the catalyst of our mindset changes in this world of digital transformation. This book dedicates to digital mindset leaps from key concepts and comparative approaches, to best practices, following the so-called Cognitive Model of Digital Transformation. This Model categorizes the process of digital mindset leaps into 5 different layers; 1 as the foundation or starting key concepts, 2 for digital ways of thinking, 3 on digital behaviors and capabilities, 4 on digital transformation, all the way to Layer 5 of wisdom in digital space, walking through the entire journey of digital mindset leaps.

CRC Press

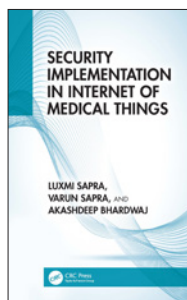
Market: Digital Transformation

August 2023: 234x156: 270pp: 64 illus, 64 halftones

Pb: 978-1-032-30456-4: **£44.99**

★ For full contents and more information, visit: www.routledge.com/9781032304564

Security Implementation in Internet of Medical Things



Edited by **Luxmi Sapra**, Dev Bhoomi Uttarakhand University, **Varun Sapra**, University of Petroleum and Energy Studies and **Akashdeep Bhardwaj**, University of Petroleum and Energy Studies

Security implementation is crucial in the Internet of Medical Things (IoMT) as it ensures the protection of sensitive medical data and prevents unauthorized access or manipulation of devices and systems. This book covers different aspects of security implementations and challenges in IoMT and aims to bring researchers together to contribute their findings to recommend new methodologies and feasible solutions for implementing security and novel architectures in artificial intelligence, machine learning and data science in the field of

healthcare and IoT.

CRC Press

Market: Internet of Medical Things

September 2023: 234x156: 204pp: 60 illus, 12 halftones, 48 line drawings

Hb: 978-1-032-21603-4: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032216034

Seven Deadly Sins of Organizational Culture

Lessons From Some of The Most Infamous Corporate Failures

L.T. San

Series: Security, Audit and Leadership Series

The book is about the primary symptoms present in a dysfunctional culture that could have devastating outcomes for any organization. The book outlines each of the seven sins in each chapter. In each chapter and for each organizational sin, the author offers seven attributes of a healthy culture to counter the cultural dysfunction. The seven healthy attributes for each of the seven sins are all original content. There are seven Appendices, most of which are original content from the author with one exception whereby the maturity of risk management references an OECD (government entity) risk management maturity framework.

CRC Press

Market: Organizational Culture

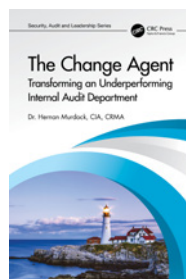
October 2023: 234x156: 142pp

Hb: 978-1-032-26546-9: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032265469

The Change Agent

Transforming an Underperforming Internal Audit Department



Hernan Murdock, Murdock Global Advisors, Wayland, Massachusetts, USA

Series: Security, Audit and Leadership Series

This is the story of a visionary leader who needs a strategy to transform the processes and deliver better results for stakeholders at all levels within the organization. The audit committee, all levels of management, and employees expect more from internal audit. Now John must lead the group through twelve challenging months as they focus on what matters most when performing audit and advisory services. They must communicate results faster and better, leverage existing quality control and data analytics techniques, and with

every encounter, help the organization address strategic, operational, compliance and financial risks.

CRC Press

Market: Internal Audit

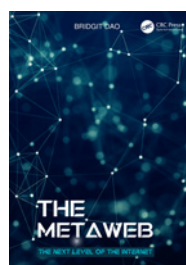
November 2023: 234x156: 320pp

Hb: 978-1-032-34578-9: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032345789

The Metaweb

The Next Level of the Internet



Bridgit DAO

The Web's next frontier is the Metaweb, a hyper-dimensional web over Today's Web that connects people and information silos, with accountability and fair value exchange. The Metaweb can drastically reduce false information, abuse, and scams, as well as enable the unprecedented level of collaboration needed to address humanity's global challenges. The book posits a symbiotic relationship between AI and the Metaweb, where AI assists in generating, organizing, and curating content, while the Metaweb provides the necessary data and context for AI to function effectively, transparently, and in alignment with humanity.

CRC Press

Market: Internet Trust

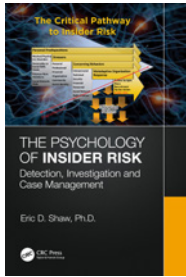
October 2023: 254x178: 320pp: 40 illus, 15 halftones, 25 line drawings

Hb: 978-1-032-12551-0: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032125510

The Psychology of Insider Risk

Detection, Investigation and Case Management



Eric Shaw, Insider Risk Group, LLC

Clinical Psychologist and former intelligence officer Eric Shaw brings over 30 years of psychological consultation experience to the national security community, corporate investigations and law enforcement to this work on insider risk. Case examples are drawn from intelligence community, corporate and law enforcement investigations. Specific insider cases where the use of behavioral science tools is described in detail include leaks, anonymous threats, erotomania, hacking, violence risk, mass destruction threats, and espionage. The work closes with consideration of the many current and future challenges insider risk professionals face.

CRC Press

Market: Cybersecurity - Insider Threat

July 2023: 234x156: 222pp: 35 illus, 2 halftones, 33 line drawings

Pb: 978-1-032-48248-4: **£44.99**

★ For full contents and more information, visit: www.routledge.com/9781032482484

The Spirit of Recovery

IT Perspectives, Experiences, and Applications during the COVID-19 Pandemic



Edited by **Aji Prasetya Wibawa**

The scope of this book focuses on how information technology may assist in achieving goals and provide solutions to problems like the pandemic. This book explores and describes the current state-of-the-art research conducted during the pandemic. Topics covered include the IT Viewpoint and the rules governing digital transformation throughout the epidemic. The book includes five topics: Multidisciplinary Artificial Intelligence, Smart city and Internet of Things applications, Game Technology and Multimedia Processing, Data Science and Business Intelligence, IT Hospitality, and Information Systems.

CRC Press

Market: Information Technology

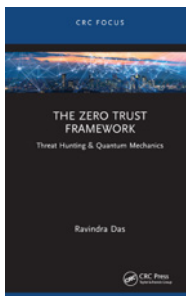
October 2023: 234x156: 320pp: 174 illus, 84 halftones, 90 line drawings

Pb: 978-1-032-36383-7: **£110.00**

★ For full contents and more information, visit: www.routledge.com/9781032363837

The Zero Trust Framework

Threat Hunting & Quantum Mechanics



Ravindra Das, Apollo Biometrics, Inc., Chicago, Illinois, USA

The Cybersecurity landscape is a daunting one, it has become very complex, dynamic and stealthy. The password is still the favored way of authenticating and authorizing an individual, despite its grave limitations. What is needed now is *The Zero Trust Framework*, in this methodology, absolutely nobody can be trusted in either the internal or the external environments. The mantra here is to keep verifying everybody, all the time. In this book, we review both the concepts and mechanics behind the Zero Trust Framework. We also introduce advanced technologies into it as well, including the use of Biometrics, the Public Key Infrastructure, and Quantum Mechanics/Quantum Cryptography.

CRC Press

Market: Cybersecurity

May 2023: 216x138: 158pp: 33 illus, 8 halftones, 25 line drawings

Hb: 978-1-032-49278-0: **£48.99**

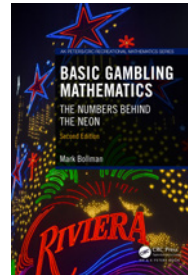
★ For full contents and more information, visit: www.routledge.com/9781032492780

MATHEMATICS

2nd Edition

Basic Gambling Mathematics

The Numbers Behind the Neon, Second Edition



Mark Bollman, Albion College, Albion, Michigan, USA

Series: AK Peters/CRC Recreational Mathematics Series

This book explains the mathematics involved in analyzing games of chance, including casino games, horse racing and other sports, and lotteries. It is also suitable as a textbook for an introductory course on probability. Along with discussing the mathematics of well-known casino games, the author examines game variations that have been proposed or used in actual casinos. Numerous examples illustrate the mathematical ideas in a range of casino games while end-of-chapter exercises go beyond routine calculations to give readers hands-on experience with casino-related

computations in this thoroughly revised new edition.

A K Peters/CRC Press

Market: Mathematics

August 2023: 234x156: 322pp: 38 illus, 13 halftones, 25 line drawings

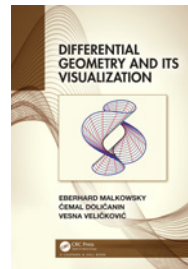
Pb: 978-1-032-41460-7: **£48.99**

Prev. Ed Pb: 978-1-4822-0893-1

★ For full contents and more information, visit: www.routledge.com/9781032414607

TEXTBOOK

Differential Geometry and Its Visualization



Eberhard Malkowsky, University of Nis, Serbia,
Cemal Dolicanin and **Vesna Veličković**

This book is suitable for graduate level courses in differential geometry, serving both students and teachers. It can also be used as a supplementary reference for research in mathematics and the natural and engineering sciences. A great number of illustrating examples, visualizations and genuine figures created by the authors' own software are included to support the understanding of the presented concepts and results, and to develop an adequate perception of the shapes of geometric objects, their properties and the relations between them.

Chapman and Hall/CRC

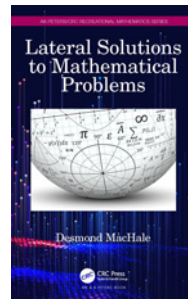
Market: Mathematics

August 2023: 254x178: 492pp: 215 illus, 215 line drawings

Hb: 978-1-032-43666-1: **£82.99**

★ For full contents and more information, visit: www.routledge.com/9781032436661

Lateral Solutions to Mathematical Problems



Desmond MacHale

Series: AK Peters/CRC Recreational Mathematics Series

This book offers a fresh approach to mathematical problem solving via lateral thinking. Lateral thinking has long been used informally by good mathematics teachers and lecturers to spice up their material and interest their students in the more artistic aspects of mathematical problem solving. This book is appropriate for interested high school students, undergraduates and postgraduates, looking for relief from technical material and also looking for insight into the methodology of mathematics; for teachers and lecturers looking for a novel approach to course material; and anyone interested in both mathematics and lateral thinking.

A K Peters/CRC Press

Market: Recreational Mathematics

August 2023: 234x156: 120pp: 72 illus, 72 line drawings

Pb: 978-1-032-37092-7: **£26.99**

★ For full contents and more information, visit: www.routledge.com/9781032370927

Miracles, Mystics, Mathematicians

Searching for Deep Reality

Sasho Kalajdzievski, University of Manitoba, Winnipeg, Canada

This book focuses on the lives and writings of some of history's most influential mathematicians, and the impact that their mystical beliefs had on their lives and on their mathematical work. Modern biographers often cleanse the lives of renowned scientists of any hint of mysticism or occultism. This book represents a minor attempt to push back against this tendency, and to examine these aspects of the history of mathematics with seriousness and intellectual curiosity.

A K Peters/CRC Press

Market: Mathematics

November 2023: 234x156: 244pp: 53 illus, 34 halftones, 19 line drawings

Hb: 978-1-032-25230-8: **£170.00**

★ For full contents and more information, visit: www.routledge.com/9781032252308

Sustainable Life Insurance

Managing Risk Appetite for Insurance Savings and Retirement Products



Aymeric Kalife, Ludovic Goudenège, Tan Xiaolu, Mouti Saad and Mounir Bellmane

Series: Chapman and Hall/CRC Financial Mathematics Series

This book gives an overview of all relevant aspects of traditional and non-traditional savings and retirement products from both insurers' and policyholders' respective risk appetites. Examples of such products include general accounts, whole life, annuities (variable, fixed and fixed indexed, structured), index linked products, CPPI-based products etc. The book contains technical details associated with both practice and theory, specifically related to modelling, product design, investments and risk management challenges and solutions, tailored to both insurers' and policyholders' perspectives.

Chapman and Hall/CRC

Market: Mathematics

August 2023: 280x210: 540pp: 442 illus, 442 line drawings

Hb: 978-1-032-08155-7: **£89.99**

★ For full contents and more information, visit: www.routledge.com/9781032081557

2nd Edition

The Navier-Stokes Problem in the 21st Century



Pierre Gilles Lemarie-Rieusset, University of Evry Val d'Essonne, France

The complete resolution of the Navier-Stokes equation—one of the Clay Millennium Prize Problems—remains an important open challenge in partial differential equations (PDEs) research despite substantial studies on turbulence and three-dimensional fluids. *The Navier-Stokes Problem in the 21st Century, Second Edition* continues to provide a self-contained guide to the role of harmonic analysis in the PDEs of fluid mechanics, now revised to include fresh examples, theorems, results, and references that have become relevant since the first edition published in 2016.

Chapman and Hall/CRC

Market: Mathematics

December 2023: 254x178: 802pp

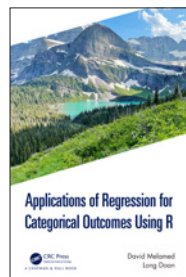
Hb: 978-0-367-48726-3: **£99.99**

Prev. Ed Hb: 978-1-4665-6621-7

★ For full contents and more information, visit: www.routledge.com/9780367487263

PROBABILITY & STATISTICS

Applications of Regression for Categorical Outcomes Using R



David Melamed and Long Doan, Associate Professor, University of Maryland

This book covers the main models within the GLM (i.e., logistic, Poisson, negative binomial, ordinal, and multinomial). It focuses on graphic displays of results as these are a core strength of using R for statistical analysis. Many in the social sciences are transitioning away from using Stata, SPSS and SAS, to using R, and this book uses statistical models which are relevant to the social sciences. *Social Science Applications of Regression for Categorical Outcomes Using R* will be useful for graduate students in the social sciences who are looking to expand their statistical knowledge, and for Quantitative social scientists due to its ability to act as a practitioners guide.

Chapman and Hall/CRC

Market: Statistics

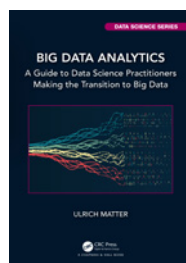
July 2023: 234x156: 238pp: 65 illus, 65 line drawings

Pb: 978-1-032-50951-8: **£59.99**

★ For full contents and more information, visit: www.routledge.com/9781032509518

Big Data Analytics

A Guide to Data Science Practitioners Making the Transition to Big Data



Ulrich Matter, Assistant Professor of Economics at Uni of St. Gallen, Switzerland.

Series: Chapman & Hall/CRC Data Science Series

Successfully navigating the data-driven economy presupposes understanding the technologies and methods to gain insights from Big Data. This book helps data science practitioners to successfully manage the transition to Big Data. The book combines conceptual and theoretical material with the practical application of the concepts using R and SQL. The reader will acquire the skills to analyse large data sets, both locally and in the cloud. Various code examples and tutorials, focused on empirical economic and business research, illustrate practical

techniques to handle and analyse Big Data. This book is a valuable resource for data science practitioners, graduate students and researchers.

Chapman and Hall/CRC

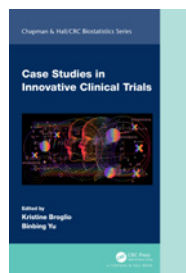
Market: Statistics

September 2023: 254x178: 328pp: 62 illus, 14 halftones, 48 line drawings

Pb: 978-1-032-45814-4: **£39.99**

★ For full contents and more information, visit: www.routledge.com/9781032458144

Case Studies in Innovative Clinical Trials



Edited by Binbing Yu, MedImmune, LLC, Gaithersburg, Maryland, USA and Kristine Broglio

Series: Chapman & Hall/CRC Biostatistics Series

Despite advances in statistical methods, the availability of information, and computing power, the experience with innovative design in clinical trials across industry and academia is limited. This book will be an important showcase of the potential for these innovative designs in modern drug development and will be an important resource to guide those who wish to undertake them for themselves. This book is ideal for professionals in the pharmaceutical industry and regulatory agencies, but will also be useful to academic researchers, faculty

members, and graduate students in statistics, biostatistics, public health, and epidemiology due to its focus on innovation.

Chapman and Hall/CRC

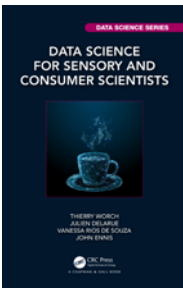
Market: Statistics

November 2023: 254x178: 336pp: 59 illus, 59 line drawings

Hb: 978-1-032-26265-9: **£130.00**

★ For full contents and more information, visit: www.routledge.com/9781032262659

Data Science for Sensory and Consumer Scientists



Thierry Worch, FrieslandCampina, Netherlands,
Julien Delarue, AgroParisTech, France,
Vanessa Rios De Souza, Aigora, USA
and **John Ennis**, Aigora, USA

Series: Chapman & Hall/CRC Data Science Series

Data Science for Sensory and Consumer Scientists is a comprehensive textbook that provides a practical guide to using data science in the field of sensory and consumer science through real-world applications. It covers key topics including data manipulation, preparation, visualization, and analysis, as well as automated reporting, machine learning, text analysis, and dashboard creation.

Written by leading experts in the field, this book is an essential resource for anyone looking to master the tools and techniques of data science and apply them to the study of consumer behavior and sensory-led product development.

Chapman and Hall/CRC

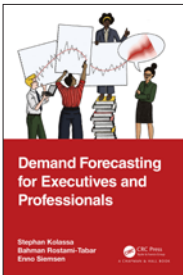
Market: Statistics

September 2023: 234x156: 346pp: 66 illus, 1 halftone, 65 line drawings

Hb: 978-0-367-86287-9: **£74.99**

★ For **full contents** and more information, visit: www.routledge.com/9780367862879

Demand Forecasting for Executives and Professionals



Stephan Kolassa, Data Science Expert, SAP Switzerland,
Bahman Rostami-Tabar, Prof, Uni of Cardiff and
Enno Siemsen, Associate Dean, Wisonsin Sch of Business

This book surveys what executives who make decisions based on forecasts and professionals responsible for forecasts should know about forecasting. It discusses how individuals and firms should think about forecasting. This is a great book to start learning about forecasting if you are new to the area or have some preliminary exposure to forecasting. It is designed as a first introduction to the non-expert who needs to be familiar with the broad outlines of forecasting without specializing in it, including managers overseeing a forecasting group, students

enrolled in an MBA program, an executive education course, or programs not specialising in analytics.

Chapman and Hall/CRC

Market: Statistics

September 2023: 234x156: 268pp: 64 illus, 64 line drawings

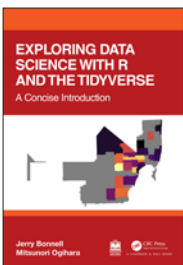
Hb: 978-1-032-50773-6: **£115.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032507736

TEXTBOOK

Exploring Data Science with R and the Tidyverse

A Concise Introduction



Jerry Bonnell and **Mitsunori Ogihara**, University of Miami, Coral Gables, Florida, USA

This book introduces the reader to data science using R and the tidyverse. No prerequisite knowledge is needed in college-level programming or mathematics (e.g., calculus or statistics). The book is self-contained so readers can immediately begin building data science workflows without needing to reference extensive amounts of external resources for onboarding. The contents are targeted for undergraduate students but are equally applicable to students at the graduate level and beyond. The book develops concepts using many real-world examples to motivate the reader. An exercise set is made available and designed for compatibility with automated grading tools for instructor use.

Chapman and Hall/CRC

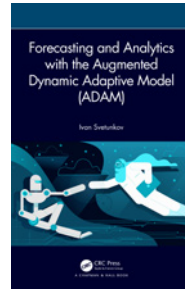
Market: Statistics

August 2023: 254x178: 492pp: 200 illus, 200 line drawings

Pb: 978-1-032-34170-5: **£74.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032341705

Forecasting and Analytics with the Augmented Dynamic Adaptive Model (ADAM)



Ivan Svetunkov, Lancaster University, U.K.

Forecasting and Analytics with ADAM focuses on a time series model in Single Source of Error state space form, called "ADAM" (Augmented Dynamic Adaptive Model). The book demonstrates a holistic view to forecasting and time series analysis using dynamic models, explaining how a variety of instruments can be used to solve real life problems. ADAM can do all of that in one and the same framework. Given the rising interest in forecasting, ADAM, being able to do all those things, is a useful tool for data scientists, business analysts and machine learning experts who work with time series, as well as any researchers working in the area of dynamic models.

Chapman and Hall/CRC

Market: Statistics

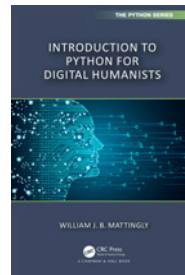
November 2023: 234x156: 480pp: 165 illus, 2 halftones, 163 line drawings

Hb: 978-1-032-59037-0: **£89.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032590370

TEXTBOOK

Introduction to Python for Humanists



William Mattingly

Series: Chapman & Hall/CRC The Python Series

This book will introduce digital humanists at all levels of education to Python. It provides background and guidance on learning the Python computer programming language, and as it presumes no knowledge on the part of the reader about computers or coding concepts allows the reader to gradually learn the more complex tasks that are currently popular in the field of digital humanities. This book will be aimed at undergraduates, graduates, and faculty who are interested in learning how to use Python as a tool within their workflow, and will act as a primer for students who wish to use Python,

allowing them to engage with more advanced textbooks.

Chapman and Hall/CRC

Market: Statistics

July 2023: 254x178: 362pp: 89 illus, 59 halftones, 30 line drawings

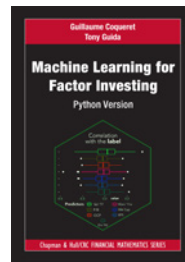
Pb: 978-1-032-37837-4: **£44.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032378374

TEXTBOOK

Machine Learning for Factor Investing

Python Version



Guillaume Coqueret and **Tony Guida**

Series: Chapman and Hall/CRC Financial Mathematics Series

Machine learning (ML) is progressively reshaping the fields of quantitative finance and algorithmic trading. ML tools are increasingly adopted by hedge funds and asset managers, notably for alpha signal generation and stocks selection. The technicality of the subject can make it hard for non-specialists to join the bandwagon, as the jargon and coding requirements may seem out-of-reach. This book bridges this gap. It provides a comprehensive tour of modern ML-based investment strategies that rely on firm characteristics. *Machine Learning for Factor Investing: Python Version* deepens your financial and technical expertise.

Chapman and Hall/CRC

Market: Statistics

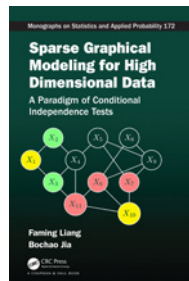
August 2023: 254x178: 358pp: 88 illus, 1 halftone, 87 line drawings

Pb: 978-0-367-63972-3: **£66.99**

★ For **full contents** and more information, visit: www.routledge.com/9780367639723

Sparse Graphical Modeling for High Dimensional Data

A Paradigm of Conditional Independence Tests



Faming Liang, Purdue University, West Lafayette, IN and
Bochoa Jia, Eli Lilly and Company, Corporate Center,
Indianapolis IN 46285

Series: *Chapman & Hall/CRC Monographs on Statistics and Applied Probability*

This book provides a general framework for learning sparse graphical models with conditional independence tests. It includes complete treatments for Gaussian, Poisson, multinomial, and mixed data; unified treatments for covariate adjustments, data integration, and network comparison. The methods possess an embarrassingly parallel structure in performing conditional independence tests, and the computation can be significantly accelerated by running in parallel on a multi-core computer or a parallel architecture. This book is intended to serve researchers and scientists interested in high-dimensional statistics, and graduate students in broad data science disciplines.

Chapman and Hall/CRC

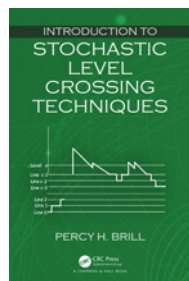
Market: Statistics

August 2023: 234x156: 150pp: 15 illus, 15 line drawings

Hb: 978-0-367-18373-8: **£89.99**

★ For full contents and more information, visit: www.routledge.com/9780367183738

Introduction to Stochastic Level Crossing Techniques



Percy H. Brill

Introduction to Stochastic Level Crossing Techniques describes stochastic models using the System Point Level Crossing method. This involves deriving probability density functions (pdfs) or cumulative probability distribution functions (cdfs) of key random variables, applying simple level-crossing limit theorems. The pdfs and/or cdfs are used to specify operational characteristics about the stochastic model of interest. This book is meant for students of mathematics, management science, engineering, natural sciences, and researchers who use applied probability. It will also be useful to technical workers in a range of professions.

Chapman and Hall/CRC

Market: Statistics

October 2023: 234x156: 288pp: 59 illus, 59 line drawings

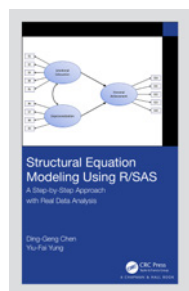
Hb: 978-0-367-27735-2: **£120.00**

★ For full contents and more information, visit: www.routledge.com/9780367277352

TEXTBOOK

Structural Equation Modeling Using R/SAS

A Step-by-Step Approach with Real Data Analysis



Ding-Geng Chen and **Yiu-Fai Yung**

There has been considerable attention to making the methodologies of structural equation modeling available to researchers, practitioners, and students along with commonly used software. *Structural Equation Modelling Using R/SAS* aims to bring it all together to provide a concise point-of-reference for the most commonly used structural equation modeling from the fundamental level to the advanced level. This book is intended to contribute to the rapid development in structural equation modeling and its applications to real-world data.

This book is appropriate for anyone who is interested in learning and practicing structural equation modeling, especially in using R and SAS.

Chapman and Hall/CRC

Market: Statistics

August 2023: 234x156: 428pp: 37 illus, 37 line drawings

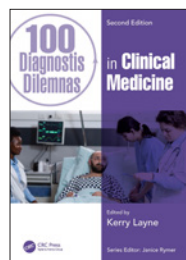
Hb: 978-1-032-43123-9: **£89.99**

★ For full contents and more information, visit: www.routledge.com/9781032431239

GENERAL MEDICINE

2nd Edition

100 Diagnostic Dilemmas in Clinical Medicine



Kerry Layne, Guy's & St Thomas' NHS Foundation Trust,
London, UK

Series: *100 Cases*

100 Diagnostic Dilemmas in Clinical Medicine presents 100 real-life scenarios seen in the hospital. A summary of the patient's history, examination and any initial investigations is followed by a detailed consideration of the diagnosis and management of each case, in the short, medium and, where appropriate, long term. Making speedy and appropriate clinical decisions, and choosing the best course of action to take as a result, is one of the most important and challenging parts of training to become

a doctor. These extended true cases will teach students and junior doctors to recognize important medical conditions and develop their diagnostic and management skills.

CRC Press

Market: Medicine

November 2023: 246x174: 368pp: 90 illus, 84 halftones, 6 line drawings

Pb: 978-1-032-37737-7: **£29.99**

Prev. Ed Pb: 978-1-4822-3817-4

★ For full contents and more information, visit: www.routledge.com/9781032377377

Anxiety and Depression in Primary Care

International Perspectives

Edited by **Felicity Goodyear-Smith** and **Sherina Mohd-Sidik**

Series: *WONCA Family Medicine*

This book provides practical information about depression and anxiety in primary care, with a focus on the approach in different countries and incorporating global ranges/prevalence, risk factors and health burden including that associated with COVID-19 and its pandemic. To ensure the challenges of a wide international primary care community are reflected fully, authors from different world regions – Africa, Asia Pacific, East Mediterranean, Europe, Iberoamericana-CIMF, North America and South Asia – have co-contributed to individual chapters on the detection and management of depression and anxiety in primary care in their own countries, including the screening tools used.

CRC Press

Market: Medicine

December 2023: 234x156: 200pp: 14 illus, 14 line drawings

Hb: 978-1-032-48940-7: **£99.99**

★ For full contents and more information, visit: www.routledge.com/9781032489407

Challenging Cases in Clinical Research Ethics



Edited by **Benjamin S. Wilfond**, Seattle Children's Research Institute, USA, **Devan M. Duenas**, **Liza-Marie Johnson**, St. Jude Children's Research Hospital, USA and **Holly A. Taylor**, National Institutes of Health, USA

Presenting challenging cases to stimulate reflection, the book provides invaluable guidance to clinicians in training and in practice and to investigators, bioethics consultants, regulators, and oversight bodies.

CRC Press

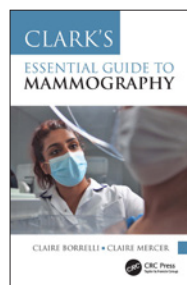
Market: Medicine

November 2023: 246x174: 360pp: 1 illus, 1 line drawing

Pb: 978-1-032-37095-8: **£38.99**

★ For full contents and more information, visit: www.routledge.com/9781032370958

Clark's Essential Guide to Mammography



Claire Borrelli, Uni of Salford and **Claire Mercer**, St George's Breast Edu Cen

Series: *Clark's Companion Essential Guides*

This easy-to-understand pocketbook in the highly respected Clark's stable of imaging texts is an invaluable tool and training aid, providing essential information for mammographic positioning, technique and interpretation for mammography practitioners at all levels. *Clark's Essential Guide to Mammography* is ideal as an educational tool for trainee mammographers, trainee assistant and associate apprenticeship mammographers, mammography training teams and universities delivering mammography education and a convenient clinical guide for practising mammographers, including assistant and associate apprenticeship mammographers.

CRC Press

Market: Medicine

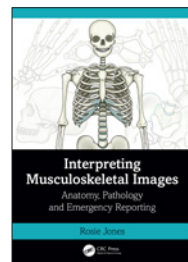
July 2023: 198x129: 104pp: 34 illus, 20 halftones, 14 line drawings

Pb: 978-1-032-03362-4: **£18.99**

★ For full contents and more information, visit: www.routledge.com/9781032033624

Interpreting Musculoskeletal Images

Anatomy, Pathology and Emergency Reporting



Rosie Jones, Uni Hospitals of North Midlands

This visual manual is an accessible guide to musculoskeletal image interpretation and reporting, including common trauma pathologies, arthropathies, mechanisms of injury and classification systems. Beautifully illustrated with schematic line diagrams, supplemented with radiographs and scans, the content has been developed to enhance learning and understanding of both radiology and anatomy, and the relationship between them. The book delivers hands-on support to junior doctors, other emergency medicine personnel and practicing radiographers for use in the clinical setting and is also ideal for students preparing for qualifying examinations in medicine and radiography.

CRC Press

Market: Medicine

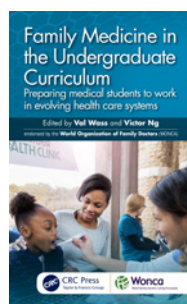
August 2023: 246x174: 232pp: 300 illus, 63 halftones, 237 line drawings

Pb: 978-1-032-39891-4: **£29.99**

★ For full contents and more information, visit: www.routledge.com/9781032398914

Family Medicine in the Undergraduate Curriculum

Preparing medical students to work in evolving health care systems



Edited by **Val Wass**, Aberdeen Uni. and **Victor Ng**

Series: *WONCA Family Medicine*

This practical guide is the first designed specifically to support those planning and conducting family medicine/primary care education within medical schools around the world. It offers medical educators a collection of pithy, easy to follow chapters, guiding the reader through the curriculum requirements with key references for further detail. Plain English and practical, deliverable advice, adaptable to different contexts, ensures the content is accessible to those educating medical students in any country, while the structure within sections ensures that family medicine doctors and educators can dip into chapters relevant to their roles.

CRC Press

Market: Medicine

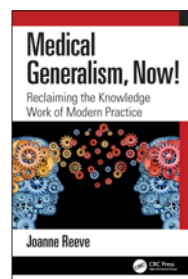
September 2023: 246x174: 302pp: 18 illus, 18 line drawings

Pb: 978-1-032-35184-1: **£32.99**

★ For full contents and more information, visit: www.routledge.com/9781032351841

Medical Generalism, Now!

Reclaiming the Knowledge Work of Modern Practice



Joanne Reeve, Hull York Medical School, UK

The book is a unique and timely consideration of generalist medical practice. With a focus on the knowledge work of clinical practice and by taking a whole healthcare system view, the book responds to a recognized need to strengthen generalist practice within modern healthcare delivery in both primary and secondary care settings.

CRC Press

Market: Medicine

October 2023: 234x156: 198pp: 25 illus, 7 halftones, 18 line drawings

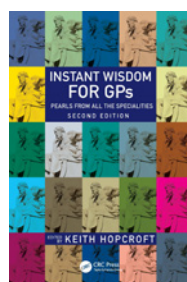
Pb: 978-1-032-27290-0: **£32.99**

★ For full contents and more information, visit: www.routledge.com/9781032272900

2nd Edition

Instant Wisdom for GPs

Pearls from All the Specialities



Edited by **Keith Hopcroft**

Every consultant has pearls of wisdom they wish they could share with GPs: knowledge they have acquired from years of experience and evidence-based study, which could lead to improved speed and decision in referral, more efficient use of resources and, overall, better patient care. *Instant Wisdom for GPs* gathers these pearls together, presenting ten bullet-point gems from a comprehensive range of clinical specialties, together with advice on obscure or overlooked diagnoses, guidance on how to distinguish tricky differentials and tips on prescribing.

CRC Press

Market: Medicine

November 2023: 234x156: 250pp

Pb: 978-1-032-30336-9: **£29.99**

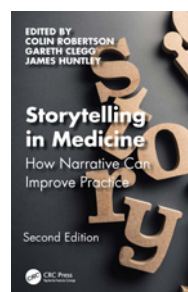
Prev. Ed Pb: 978-1-138-19620-9

★ For full contents and more information, visit: www.routledge.com/9781032303369

2nd Edition

Storytelling in Medicine

How narrative can improve practice



Edited by **Colin Robertson**, Professor in Accident and Emergency Medicine, University of Edinburgh, UK, **Gareth Clegg**, University of Edinburgh, UK and **James Huntley**

This unique, practical book for healthcare trainees, practitioners and educators explores the ideas and practice of narrative and storytelling that lie at the very heart of clinical medicine and the patient 'experience' of care. It shows how story and narrative can be used effectively to help convey concepts such as prognosis and the effect of illness upon life, and to prepare patients and their relatives for difficult and painful news.

CRC Press

Market: Medicine

September 2023: 216x138: 184pp: 31 illus, 19 halftones, 12 line drawings

Pb: 978-1-032-49067-0: **£22.99**

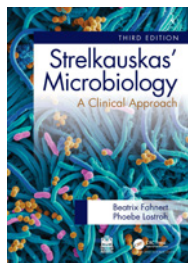
Prev. Ed Pb: 978-1-78523-137-7

★ For full contents and more information, visit: www.routledge.com/9781032490670

TEXTBOOK • 3rd Edition

Strelkauskas' Microbiology

A Clinical Approach



Beatrix Fahnert, Uni. of Lincoln and **Phoebe Lostroh**, Colorado College, USA

This third edition of this much-celebrated title remains a comprehensive introductory textbook written specifically for pre-nursing, nursing and allied health students. Clinically relevant throughout, it uses the theme of infection as its foundation, fitting closely with the 'One Health' approach. It has been thoroughly revised and updated to reflect the latest developments, including the emergence of the SARS-CoV-2 virus and associated COVID-19 pandemic. The book is accompanied by a robust instructor ancillary package including downloadable figures for use in lectures, and includes additional materials for

students to supplement classroom learning.

Garland Science

Market: Microbiology

August 2023: 751 pp: 459 illus, 191 halftones, 268 line drawings

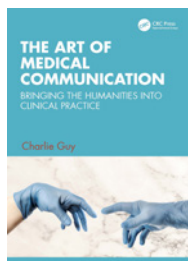
Pb: 978-1-032-04347-0: **£54.99**

Prev. Ed Pb: 978-0-8153-4513-8

★ For full contents and more information, visit: www.routledge.com/9781032043470

The Art of Medical Communication

Bringing the Humanities into Clinical Practice



Charlie Guy, NHS

The field of medical humanities is growing rapidly and offers many valuable insights for medical education generally and to enhancing and improving communication specifically. Through practical and thought-provoking examples, this innovative new text demonstrates how engaging with the arts and humanities can benefit the work of doctors and make them better, more effective practitioners with a focus on achieving this through better communication and by stimulating self-reflection. This new book is written specifically for medical students, junior doctors and medical educators looking to develop or teach communication skills.

CRC Press

Market: Medicine

September 2023: 246x174: 226pp: 10 illus, 2 halftones, 8 line drawings

Pb: 978-1-032-27272-6: **£28.99**

★ For full contents and more information, visit: www.routledge.com/9781032272726

What do I say next? Everyday Mental Health Conversations in Primary Care

A Practical Guide

Sophie Jadwiga Ball and **Liz Moulton**

A significant problem experienced by some GPs and many trainees is the challenge of completing a useful and safe consultation with patients with mental health problems within the constraints of a standard-length appointment. These challenges may arise from a lack of specific expertise in this area, poor training in the relevant skills and, perhaps, the attitude that there is not much that the primary care practitioner can do to help. This new book focuses on enhancing the repertoire of communication skills available for mental health consultation. Essential reading for all primary care practitioners in training and in practice.

CRC Press

Market: Medicine

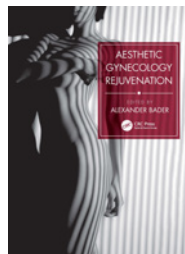
January 2024: 234x156: 200pp: 4 illus, 4 line drawings

Hb: 978-1-032-52917-2: **£66.99**

★ For full contents and more information, visit: www.routledge.com/9781032529172

SPECIALIST MEDICINE

Aesthetic Gynecology Rejuvenation



Edited by **Alexander Bader**, Bader Medical Institute, London

Aesthetic Gynaecology is a fast-growing market amid much new demand from patients, since gynaecological defects can have considerable impact on their quality of life. This fully illustrated text provides an authoritative guide from international experts on the anatomical, functional, and medical aspects, details the surgical treatments, and documents the clinical and procedural points arising.

CRC Press

Market: Gynecology

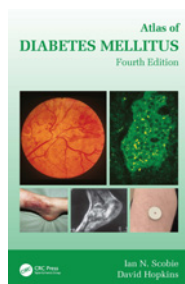
December 2023: 280x210: 136pp: 263 illus, 227 halftones, 36 line drawings

Hb: 978-0-367-37290-3: **£125.00**

★ For full contents and more information, visit: www.routledge.com/9780367372903

4th Edition

Atlas of Diabetes Mellitus



Ian N. Scobie and **David Hopkins**

This completely revised and updated Fourth Edition of the *Atlas of Diabetes Mellitus* provides a broad coverage of all aspects of diabetes mellitus and an extensive collection of common and rare clinical images. It aims to provide an invaluable resource for anyone interested in the management of this ubiquitous clinical condition including primary care/ family physicians, endocrinologists, physicians in training, diabetic specialist nurses and other key professionals who are likely to be involved in the care of patients with diabetes mellitus.

CRC Press

Market: Medicine

December 2023: 254x178: 168pp: 160 illus, 152 halftones, 8 line drawings

Hb: 978-1-032-37945-6: **£99.99**

Prev. Ed Hb: 978-0-415-37649-5

★ For full contents and more information, visit: www.routledge.com/9781032379456

Chemical Peels in Clinical Practice

A Practical Guide to Superficial, Medium, and Deep Peels



Xavier G. Goodarzan, Dr Xavier Clinic, Southampton and London, UK

Series: *Series in Cosmetic and Laser Therapy*

This book has been written with the aim of making a practitioner's peeling experience easier and more practical. It contains sample patient forms, over 250 illustrations, and a wealth of tips for patient guidance and safe clinical practice.

CRC Press

Market: Dermatology

October 2023: 246x174: 216pp: 246 illus, 238 halftones, 8 line drawings

Hb: 978-1-032-15428-2: **£99.99**

★ For full contents and more information, visit: www.routledge.com/9781032154282

Clinical Consultation Skills in Medicine

A Primer for MRCP PACES



Ernest Suresh, Ng Teng Fong General Hospital, Singapore

Series: *MasterPass*

This book follows the revised format of the Practical Assessment Clinical Examination Skills (PACES) exam conducted by the Royal College of Physicians in the UK, where 'clinical consultation skills' will be tested twice in two separate stations. Thus, coming closest to what doctors do in real life: obtain a structured history, perform a focused examination, and explain the problem to the patient in lay terms. This book takes readers through a rational approach to sixty common presenting symptoms or laboratory abnormalities in medicine. It improves the clinical consultation skills of young doctors and prepares

them for the new format of MRCP PACES.

CRC Press

Market: Medicine

August 2023: 254x178: 332pp: 34 illus, 34 line drawings

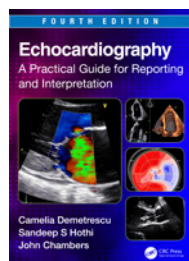
Pb: 978-1-032-55342-9: **£39.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032553429

4th Edition

Echocardiography

A Practical Guide for Reporting and Interpretation



John Chambers, Guy's and St Thomas' Hospitals, London, UK, **Sandeep S. Hothi**, University of Birmingham, UK and **Camelia Demetrescu**, Guy's and St Thomas' Hospitals, London, UK

This book sets echocardiography within a routine clinical context. It aims to synthesize guidelines into a pragmatic clinical approach to real patients providing a step-by-step guide to performing, reporting and interpreting a study. Written with the imagination of the calm voice of a senior echocardiographer teaching a junior, this edition has been extensively revised with an expansion of sections on acute, intensive care and emergency medicine. COVID-19 has necessitated limiting exposure of both

patient and operator to infection and also caused a huge increase in waiting lists. It also highlights the importance of collaboration between clinicians and echocardiographers.

CRC Press

Market: Medicine/Cardiology

September 2023: 246x174: 268pp: 81 illus, 58 halftones, 23 line drawings

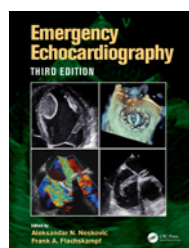
Pb: 978-1-032-15158-8: **£49.99**

Prev. Ed Pb: 978-1-4822-3192-2

★ For **full contents** and more information, visit: www.routledge.com/9781032151588

3rd Edition

Emergency Echocardiography



Edited by **Aleksandar N. Neskovic**, University of Belgrade, Serbia and **Frank A. Flachskampf**, University of Uppsala, Sweden

Echocardiography is the most powerful and cost-effective imaging technique for assessing patients suffering from unstable cardiovascular diseases. This new edition of *Emergency Echocardiography* contains fully re-written chapters by well known, internationally recognized contributors. It includes new chapters on echo-guided patient management in the ICU, lung ultrasound and complications of percutaneous interventions with special attention to Focus Cardiac Ultrasound in emergency settings.

Uses over 600 video loops of illustrative cases to interest a wide readership of all medical professionals involved in diagnostics and treatment of emergency cardiovascular patients.

CRC Press

Market: Medicine/Cardiology

September 2023: 280x210: 340pp: 173 illus, 163 halftones, 10 line drawings

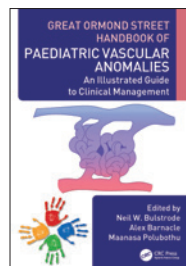
Pb: 978-1-032-15700-9: **£99.99**

Prev. Ed Pb: 978-1-4822-4385-7

★ For **full contents** and more information, visit: www.routledge.com/9781032157009

Great Ormond Street Handbook of Paediatric Vascular Anomalies

An Illustrated Guide to Clinical Management



Edited by **Neil W. Bulstrode**, Great Ormond Street Hospital for Children, UK, **Alex Barnacle** and **Maanasa Polubothu**

Series: *Great Ormond Street Handbook Series*

This new text is a practical guide to the current multi-disciplinary clinical management of paediatric vascular anomalies. Aiming to share their valuable expertise, this book offers a much-needed clinical resource for the multi-disciplinary team. From haematology to orbital vascular malformations, it provides a comprehensive overview of paediatric vascular anomalies, offering a wealth of tips from practical experience. Including illustrations from current practice, this book is a valuable addition to all those involved in the care of children with these rare conditions.

CRC Press

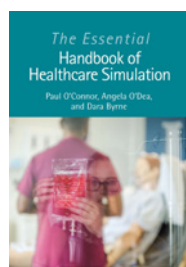
Market: Paediatrics

October 2023: 246x174: 196pp: 253 illus, 251 halftones, 2 line drawings

Pb: 978-1-032-19028-0: **£74.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032190280

Handbook of Healthcare Simulation



Paul O'Connor, Irish Centre for Applied Patient Safety and Simulation, Galway, **Angela O'Dea**, University of Galway, Galway and **Dara Byrne**, Irish Centre for Applied Patient Safety and Simulation, Galway

Based on an award-winning postgraduate course, this text provides the background knowledge required to: run a healthcare simulation centre; use simulation for training and education; and support simulation-based quality improvement and research activities.

CRC Press

Market: Medical Education

December 2023: 254x178: 152pp: 7 illus, 7 line drawings

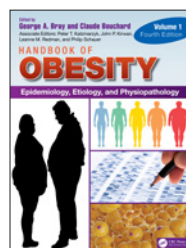
Hb: 978-1-032-28467-5: **£99.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032284675

4th Edition • Volume 1

Handbook of Obesity

Epidemiology, Etiology, and Physiopathology



Edited by **George A. Bray**, Pennington Biomedical Research Center, Baton Rouge, Louisiana and **Claude Bouchard**, Pennington Biomedical Research Center, Baton Rouge, Louisiana

Associate Editor **Peter T. Katzmarzyk**, Pennington Biomedical Research Center, Baton Rouge, Louisiana, **John P. Kirwan**, Pennington Biomedical Research Center, Baton Rouge, Louisiana, **Leanne M. Redman**, Pennington Biomedical Research Center, Baton Rouge, Louisiana and **Philip R. Schauer**, Pennington Biomedical Research Center, Baton Rouge, Louisiana

The fourth edition of Volume 1 of *Handbook of Obesity* written by global experts covers the basic science aspects under the broad topic areas of epidemiology, etiology, and pathophysiology of obesity. Divided into 5 sections and detailed in 66 chapters, this edition covers the important advances occurring over the past decades. With a focus on science of obesity and factors participating in the etiology of obesity, this topic is studied from biological, behavioural, and environmental perspectives.

CRC Press

Market: Medical

November 2023: 280x210: 624pp: 217 illus, 25 halftones, 192 line drawings

Hb: 978-1-032-55862-2: **£150.00**

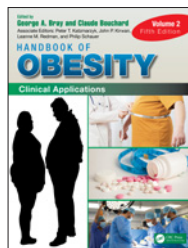
Prev. Ed Hb: 978-1-84214-556-2

★ For **full contents** and more information, visit: www.routledge.com/9781032558622

5th Edition • Volume 2

Handbook of Obesity

Clinical Applications



Edited by **George A. Bray**, Pennington Biomedical Research Center, Baton Rouge, Louisiana and **Claude Bouchard**, Pennington Biomedical Research Center, Baton Rouge, Louisiana

Volume 2 of the 5th Edition of the *Handbook of Obesity* spotlights on clinical applications for evaluation, diagnosis, prevention, and treatment of obesity. It covers on the several major developments occurred between the previous and the new edition, including the effect of SARS-CoV-2 on people with obesity, the concept of "Precision Medicine", and new medications approved by USFDA aiding patients with obesity weight loss of 15 to 20%.

CRC Press

Market: Medicine

November 2023: 280x210: 480pp: 140 illus, 27 halftones, 113 line drawings

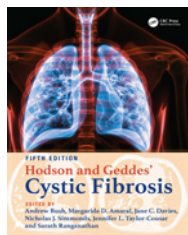
Hb: 978-1-032-55108-1: **£150.00**

Prev. Ed Hb: 978-1-84184-981-2

★ For **full contents** and more information, visit: www.routledge.com/9781032551081

5th Edition

Hodson and Geddes' Cystic Fibrosis



Edited by **Andrew Bush**, Imperial College, London, **Margarida D. Amaral**, University of Lisboa, **Jane C. Davies**, Imperial College, UK, **Nicholas J. Simmonds**, Royal Brompton Hospital, **Jennifer L. Taylor-Cousar**, University of Colorado and **Sarath C. Ranganathan**, University of Melbourne

Cystic Fibrosis has seen dramatic advances in treatment since the last edition, including targeted (CFTR) protein modulators for most CFTR gene abnormalities. This new edition is an update of the rapid clinical and scientific advances in improving prognosis,

and the impact of CoVID-19, which has transformed conventional models of care. It covers basic science, such as how detailed understanding of the biology of the CFTR gene and protein has led to novel and beneficial therapies, as well as all aspects of clinical management in high-, middle- and low-income settings, and the voices of patients from across the world.

CRC Press

Market: Pulmonary Medicine

October 2023: 280x210: 784pp: 199 illus, 59 halftones, 140 line drawings

Hb: 978-1-032-20220-4: **£170.00**

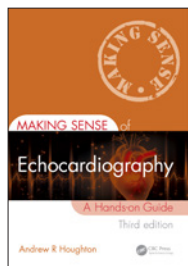
Prev. Ed Hb: 978-1-4441-8000-8

★ For **full contents** and more information, visit: www.routledge.com/9781032202204

3rd Edition

Making Sense of Echocardiography

A Hands-on Guide



Andrew R. Houghton, Consultant Cardiologist, United Lincolnshire Hospitals NHS Trust and Visiting Fellow, University of Lincoln, UK

Series: Making Sense of

Building on the success of the second edition, the third edition of *Making Sense of Echocardiography: A Hands-on Guide* provides a timely overview for those learning echocardiography for the first time as well as an accessible handbook that experienced sonographers can refer to. The strong clinical focus and concentration on real-life scenarios make this book relevant in day-to-day practice. Key updates for this edition include the latest guidelines for the evaluation of diastolic function and

pulmonary hypertension, and fully updated reference intervals throughout.

CRC Press

Market: Medicine

August 2023: 254x178: 324pp: 150 illus, 119 halftones, 31 line drawings

Pb: 978-1-032-30354-3: **£54.99**

Prev. Ed Pb: 978-1-4441-6318-6

★ For **full contents** and more information, visit: www.routledge.com/9781032303543

Making Sense of the Pediatric EEG



Edited by **Maria Augusta Santos Montenegro**

Series: Making Sense of

Most neurologists, fellows, and residents are familiar with adult EEG, but have not developed a similar understanding of pediatric EEG. There are fewer resources covering pediatric electroencephalography and existing books are either too comprehensive or lack the main details

that differentiate the EEG in childhood. This accessible text includes the most recent classification and nomenclature published by the International League Against Epilepsy. It provides a practical and well illustrated text of value to residents, fellows, and neurologists in need of an update on pediatric EEG.

CRC Press

Market: Medicine

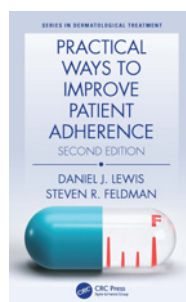
September 2023: 374pp: 292 illus, 292 halftones

Pb: 978-1-032-48607-9: **£39.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032486079

2nd Edition

Practical Ways to Improve Patient Adherence



Daniel J. Lewis, Department of Dermatology, University of Pennsylvania Health System, USA and **Steven R. Feldman**, Wake Forest Baptist Medical Center, NC, USA

Series: Series in Dermatological Treatment

This book offers novel, potent ways to get patients to use their medications and improve treatment outcomes – tools healthcare providers can use day in and day out. A medical education is not complete without a thorough understanding of the hurdles that contribute to poor adherence and what health professionals can and should do about it.

CRC Press

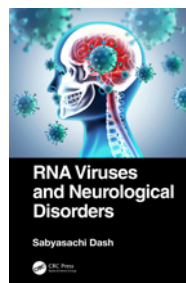
Market: Clinical Practice

August 2023: 229x152: 140pp: 29 illus, 4 halftones, 25 line drawings

Pb: 978-1-032-43501-5: **£44.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032435015

RNA Viruses and Neurological Disorders



Edited by **Sabyasachi Dash**, Weill Cornell Medicine, NY, USA

An accessible introduction to RNA viruses and the infectious outcomes that they cause in the central nervous system. Including the major RNA viruses, their impact on the central nervous system (CNS), and the similarities and differences in pathological outcomes that can be observed. Readers will be able to use the book to clearly understand the cellular and molecular mechanisms governing pathological outcomes of RNA virus infection in the cell types of human brain based on summarized case studies, and gain insight into how cell-type specific defects affects the brain function and causes poor clinical outcomes.

CRC Press

Market: Medicine

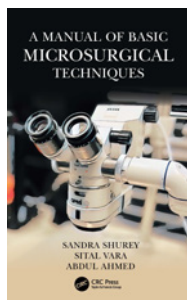
December 2023: 234x156: 288pp: 78 illus, 78 halftones

Pb: 978-1-032-25956-7: **£59.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032259567

SURGERY

A Manual of Basic Microsurgical Techniques



Sandra Shurey, Sital Vara and Abdul Ahmed

A practical surgical manual providing a step-by-step guide to basic microsurgical techniques for the reconstruction of small vessels, nerves, and vas deferens. Includes access to videos demonstrating core microsurgical techniques. Microsurgery is not difficult provided it is taught properly: there is no magic formula, but it must be learnt slowly, patiently and step by step. This valuable resource will be useful for surgeons in training and in practice, and for research workers increasingly using microsurgical techniques in their experiments.

CRC Press

Market: Medicine

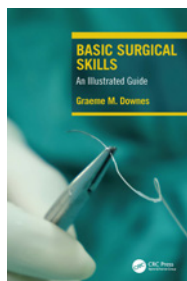
November 2023: 234x156: 220pp: 192 illus, 187 halftones, 5 line drawings

Hb: 978-1-032-53674-3: **£99.99**

★ For full contents and more information, visit: www.routledge.com/9781032536743

Basic Surgical Skills

An Illustrated Guide



Graeme M. Downes

An easy to follow step-by-step guide to the most useful surgical skills from knot tying to simple procedures. Illustrated with colour photographs and video clips to demonstrate techniques, this book makes these practical skills as clear and easy to follow as possible. Including coverage of surgical instruments, wound management and suturing, and minor surgical procedures, it also explains how to use these essential surgical skills to make the most of a surgical placement. Learning basic surgical skills is important for such placements, as well as for undertaking exams such as the Membership of the Royal College of Surgeons (MRCs).

CRC Press

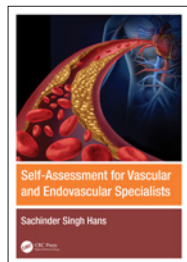
Market: Medicine

May 2023: 234x156: 132pp: 148 illus, 148 halftones

Pb: 978-1-032-42326-5: **£26.99**

★ For full contents and more information, visit: www.routledge.com/9781032423265

Self-Assessment for Vascular and Endovascular Specialists



Sachinder Singh Hans, Henry Ford Macomb Hospital, USA, St. John Macomb Hospital, USA, Wayne State University, USA

Advances in the treatment of vascular disease have played a significant role in rising life expectancy over the past 70 years, resulting in lower morbidity, mortality, and quicker recoveries. However, there remains an urgent challenge in controlling risk factors such as obesity, sedentary lifestyles, and tobacco abuse. Including over 500 multiple choice questions covering a wide range of vascular disorders to test the skills of all vascular specialists. Suitable for postgraduate trainee vascular medicine internists, interventional radiologists, vascular surgeons, and endovascular therapists as they prepare for

exams or ensure that they remain up to date.

CRC Press

Market: Medicine

November 2023: 254x178: 304pp: 177 illus, 163 halftones, 14 line drawings

Hb: 978-1-032-48612-3: **£145.00**

★ For full contents and more information, visit: www.routledge.com/9781032486123

BIOLOGY, LIFE & PLANTS SCIENCE

Aquatic Medicinal Plants



Edited by Archana Bachheti, Graphic Era University, India, Rakesh Kumar Bachheti, Addis Ababa Science and Technology University, Ethiopia and Azamal Husen, Wolaita Sodo University, Ethiopia

Series: *Exploring Medicinal Plants*

This book provides information on ethnomedicinal uses, chemical constituents and pharmacological properties of aquatic plants growing in fresh and marine water bodies.

CRC Press

Market: Plants Sciences

August 2023: 254x178: 278pp: 64 illus, 33 halftones, 31 line drawings

Hb: 978-1-032-18540-8: **£150.00**

★ For full contents and more information, visit: www.routledge.com/9781032185408

Wild Mushrooms and Health

Diversity, Phytochemistry, Medicinal Benefits, and Cultivation



Edited by Kamal Ch. Semwal, Steven L. Stephenson and Azamal Husen, Wolaita Sodo University, Ethiopia

Series: *Exploring Medicinal Plants*

This book provides an overview of wild medicinal mushrooms covering taxonomy, distribution, ethnomycology, ecology, and their potential medicinal uses. It will be helpful in establishing reports on wild mushrooms species and their potential uses in new drug discovery and bioactive molecules.

CRC Press

Market: Medicine

September 2023: 254x178: 312pp: 73 illus, 62 halftones, 11 line drawings

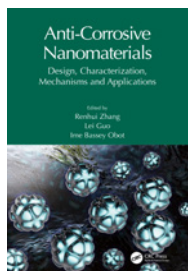
Hb: 978-1-032-37219-8: **£150.00**

★ For full contents and more information, visit: www.routledge.com/9781032372198

CHEMISTRY & PHARMACEUTICAL SCIENCE

Anti-Corrosive Nanomaterials

Design, Characterization, Mechanisms and Applications



CRC Press

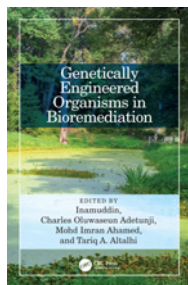
Market: Material Science

September 2023: 254x178: 348pp: 149 illus, 29 halftones, 120 line drawings

Hb: 978-1-032-36260-1: **£150.00**★ For full contents and more information, visit: www.routledge.com/9781032362601Edited by **Renhui Zhang, Lei Guo and Ime Bassey Obot**

Corrosion is a great challenge in many industries, especially in the automotive, aerospace, and Oil & Gas industries, with conservative estimations accounting losses of around 2.2 trillion US dollars per year in the US alone. Providing a comprehensive overview of the history and development of nanomaterials, this book discusses various practices for protection against corrosion.

Genetically Engineered Organisms in Bioremediation



CRC Press

Market: Bioremediation/ Biotechnology

November 2023: 254x178: 288pp: 47 illus, 37 halftones, 10 line drawings

Hb: 978-1-032-03696-0: **£160.00**★ For full contents and more information, visit: www.routledge.com/9781032036960

Edited by **Dr Inamuddin, Charles Oluwaseun Adetunji, Edo University, Iyamho, Nigeria, Mohd Imran Ahamed and Tariq Altalhi**

This comprehensive book explores biotechnological applications of genetically engineered microorganisms for the bioremediation of polluted environments. Chapters are contributed by international scientists with in-depth knowledge, expertise, vision, and commitment in their scientific profession. They detail several genetically engineered microorganisms and their enzymes that could be applied to biologically break down persistent organic pollutants and recombinant DNA technologies which entail development of "suicidal-GEMs for effective and safe rejuvenation of heavily polluted sites. Written for researchers, engineers and

academics working in bioremediation, microbiology and biotechnology.

Mechanochemistry and Emerging Technologies for Sustainable Chemical Manufacturing



CRC Press

Market: Chemistry

July 2023: 254x178: 336pp: 191 illus, 101 halftones, 90 line drawings

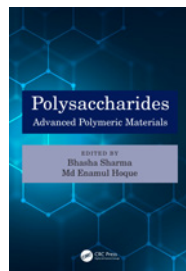
Hb: 978-0-367-77501-8: **£115.00**★ For full contents and more information, visit: www.routledge.com/9780367775018

Edited by **Evelina Colacino and Felipe Garcia, NTU, Singapore**

This unique volume describes advances in the field of mechanochemistry, in particular the scaling up of mechanochemical processes. Scalable techniques employed to carry out solvent-free synthesis are evaluated. Comparability to continuous flow chemistry, the current industrial benchmark for continuous efficient chemical synthesis, is presented. The book concludes that mechanochemical synthesis can be scaled up into a continuous, sustainable process.

Polysaccharides

Advanced Polymeric Materials



CRC Press

Market: Polymer Science/Materials Science

December 2023: 254x178: 336pp: 125 illus, 47 halftones, 78 line drawings

Hb: 978-1-032-20750-6: **£160.00**★ For full contents and more information, visit: www.routledge.com/9781032207506

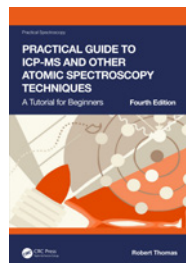
Edited by **Bhasha Sharma, School of Applied Sciences, University of Delhi, India. and M. Enamul Hoque**

This contributed work presents comprehensive information about carbohydrate polymers, providing readers with an enhanced appreciation of carbohydrate structure and function, a new enzyme library, and extraction strategies that will help to advance a number of exciting domains of research, including genomics, proteomics, chemical synthesis, materials science, and engineering.

4th Edition

Practical Guide to ICP-MS and Other Atomic Spectroscopy Techniques

A Tutorial for Beginners



Robert Thomas, Scientific Solutions, Gaithersburg, Maryland, USA

Series: Practical Spectroscopy

Written by one of the very first practitioners of ICP-MS, a *Practical Guide to ICP-MS and Other AS Techniques: A Tutorial for Beginners* presents ICP-MS in a completely novel and refreshing way. The book is not only suited for novices and beginners, but also for more experienced analytical scientists who want to know more about recent ICP-MS developments and where the technique might be heading in the future. Furthermore, it offers much needed guidance on how best to evaluate commercial AS instrumentation and what might be the best technique, based

on your lab's specific application demands.

CRC Press

Market: Analytical Chemistry/Spectroscopy

August 2023: 254x178: 460pp: 216 illus, 31 halftones, 185 line drawings

Hb: 978-1-032-03502-4: **£120.00**

Prev. Ed Hb: 978-1-4665-5543-3

★ For full contents and more information, visit: www.routledge.com/9781032035024

Surface Active Agents

Historical Perspectives and Future Developments

**Guido Bognolo**

Covering all surfactant classes in a clear and concise style, from their properties and applications to an overview of the evolution of their production processes, this book is a comprehensive overview of the field. It is both a record of important documents and intellectual property as well as a springboard for possible future developments. Key features:

- Covers both man-made and natural surfactants
- Includes abundant references to production processes and developments of intellectual property
- Provides a complete background to the field of surface active agents today.

CRC Press

Market: Chemistry

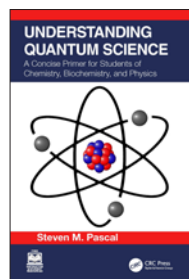
August 2023: 234x156: 142pp: 6 illus, 6 line drawings

Hb: 9781032517681: **£155.00**

TEXTBOOK

Understanding Quantum Science

A Concise Primer for Students of Chemistry, Biochemistry and Physics

**Steven M. Pascal**

This book provides a brief tour of some of the wonders of Quantum science. But it is more than that: it is designed to be the most concise tour possible that truly explains how these wonders arise so you can develop a working understanding of Quantum concepts. If your goal is loftier and you wish to become a Quantum specialist, the conceptual groundwork presented here, along with rationalization of the mathematics required, will position you well for higher level classes.

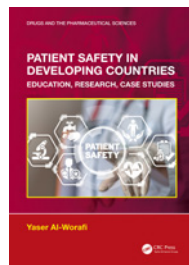
CRC Press

Market: Chemistry / Physics

August 2023: 234x156: 118pp: 43 illus, 13 halftones, 30 line drawings

Pb: 978-1-032-41083-8: **£42.99**★ For **full contents** and more information, visit: www.routledge.com/9781032410838**Patient Safety in Developing Countries**

Education, Research, Case Studies

**Yaser Al-Worafi**, University of Science and Technology of Fujairah, United Arab Emirates*Series: Drugs and the Pharmaceutical Sciences*

Understanding the various aspects of patient safety education, practice, and research in developing countries is vital in preparing a plan to overcome the challenges of improving patient safety. This unique volume discusses patient safety in developing countries, and the achievements and challenges faced in those places when trying to improve patient safety education and practice. This book includes a compilation of over 100 case studies surrounding patient safety in all aspects of health care. Both real and simulated scenarios are provided to

help medical students and professionals apply their knowledge to solve the cases and prepare for real practice.

CRC Press

Market: Pharmaceutical Science

October 2023: 254x178: 506pp: 1 illus, 1 line drawing

Hb: 978-1-032-13694-3: **£150.00**★ For **full contents** and more information, visit: www.routledge.com/9781032136943

4th Edition

Process Validation in Manufacturing of BiopharmaceuticalsEdited by **Anurag Singh Rathore, Harold Baseman and Scott Rudge***Series: Biotechnology and Bioprocessing*

The fourth edition of *Process Validation in Manufacturing of Biopharmaceuticals* is a practical and comprehensive resource illustrating the different approaches for successful validation of biopharmaceutical processes. Providing a thorough understanding of the key concepts that form the basis of a good process validation program, this book will help readers ensure that PV is carried out and exceeds expectations. Fully illustrated, this is a much-needed practical guide for biopharmaceutical manufacturers.

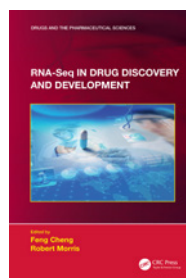
CRC Press

Market: Pharmaceutical Validation

December 2023: 254x178: 552pp: 105 illus, 8 halftones, 97 line drawings

Hb: 978-0-367-69762-4: **£155.00**

Prev. Ed Hb: 978-1-4398-5093-0

★ For **full contents** and more information, visit: www.routledge.com/9780367697624**RNA-Seq in Drug Discovery and Development**Edited by **Feng Cheng and Robert Morris***Series: Drugs and the Pharmaceutical Sciences*

The research and development process in modern drug discovery and development is a complex and challenging task. Using traditional biological test methods such as PCR to measure the expression levels or function of these genes is costly and time-consuming. RNA-seq can measure the expression patterns of thousands of genes simultaneously and provide insights into functional pathways or regulations in biological processes, which has revolutionized the way biological scientists examine gene functions. This book addresses the various aspects of the RNA-seq technique, especially its application in drug discovery and development.

CRC Press

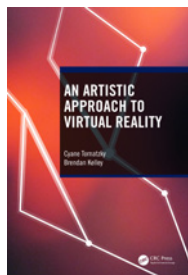
Market: Chemistry

August 2023: 229x152: 278pp: 165 illus, 69 halftones, 96 line drawings

Hb: 978-1-032-00406-8: **£115.00**★ For **full contents** and more information, visit: www.routledge.com/9781032004068

COMPUTER SCIENCE
& COMPUTER GRAPHICS

An Artistic Approach to Virtual Reality



Cyane Tornatzky, Colorado State University, USA
and Brendan Kelley

An Artistic Approach to Virtual Reality traces the lineage of artist/technologists who have worked with virtual reality in its infancy to the interactive virtual work of contemporary artists. Interlaced within a survey of artists whose works fit in the boundary of the interactive virtual medium, this book teases out what qualifies as interactive virtual artworks.

CRC Press

Market: Games and Animation

October 2023: 229x152: 222pp: 44 illus, 44 halftones

Hb: 978-1-032-42669-3: £110.00

★ For full contents and more information, visit: www.routledge.com/9781032426693

Conquering JavaScript

D3.js



Edited by Sufyan bin Uzayr

Series: *Conquering JavaScript*

Conquering JavaScript - D3.js helps the reader master the d3.js framework for faster and robust development. The book is a detailed guide that will help developers and coders do more with d3.js. It discusses the basics in brief, and then moves on to more advanced and detailed exercises to help readers quickly gain the required knowledge.

CRC Press

Market: Computer Science

August 2023: 229x152: 222pp: 8 illus, 8 halftones

Pb: 978-1-032-41170-5: £39.99

★ For full contents and more information, visit: www.routledge.com/9781032411705

Conquering JavaScript

Node.js



Edited by Sufyan bin Uzayr

Series: *Conquering JavaScript*

Conquering JavaScript - Node.js helps the reader master the Node.js framework for faster and robust development. The book is a detailed guide that will help developers and coders do more with Node.js. It discusses the basics in brief, and then moves on to more advanced and detailed exercises to help readers quickly gain the required knowledge.

CRC Press

Market: Computer Science

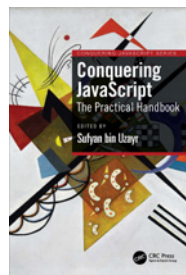
August 2023: 229x152: 188pp: 5 illus, 5 halftones

Pb: 978-1-032-41313-6: £39.99

★ For full contents and more information, visit: www.routledge.com/9781032413136

Conquering JavaScript

The Practical Handbook



Edited by Sufyan bin Uzayr

Series: *Conquering JavaScript*

Conquering JavaScript - The Practical Handbook helps the reader master the JavaScript programming language for faster and robust development. JavaScript is a highly popular language, and is often termed as the "language of the web". However, in addition to the internet, JS is also being used actively in game development, mobile apps, progressive applications, and now even desktop apps.

CRC Press

Market: Computer Science

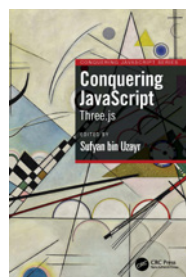
September 2023: 229x152: 588pp: 60 illus, 44 halftones, 16 line drawings

Pb: 978-1-032-41166-8: £52.99

★ For full contents and more information, visit: www.routledge.com/9781032411668

Conquering JavaScript

Three.js



Edited by Sufyan bin Uzayr

Series: *Conquering JavaScript*

Conquering JavaScript: Three.js helps the reader master the Three.js framework for faster and robust development. This book is a detailed guide that will help developers and coders do more with Three.js. It covers the basics in brief, and then moves on to more advanced and detailed exercises to help readers quickly gain the required knowledge.

CRC Press

Market: Computer Science

August 2023: 229x152: 212pp: 4 illus, 4 halftones

Pb: 978-1-032-41271-9: £39.99

★ For full contents and more information, visit: www.routledge.com/9781032412719

CSS Frameworks

The Ultimate Guide



Sufyan bin Uzayr

Series: *The Ultimate Guide*

CSS Frameworks: The Ultimate Guide discusses the fundamental concepts of CSS that will help developers and coders do more with CSS Frameworks. This book is for anyone who wants to create a website and write optimized and well-structured code in CSS. It follows a hands-on approach and offers practical lessons and tutorials related to CSS Frameworks.

CRC Press

Market: Computer Science

September 2023: 234x156: 456pp: 148 illus, 148 halftones

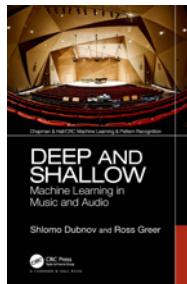
Pb: 978-1-032-41322-8: £48.99

★ For full contents and more information, visit: www.routledge.com/9781032413228

TEXTBOOK

Deep and Shallow

Machine Learning in Music and Audio



Shlomo Dubnov and Ross Greer

Series: Chapman & Hall/CRC Machine Learning & Pattern Recognition

Providing an essential and unique bridge between the theories of signal processing, machine learning and artificial intelligence (AI) in music, this book provides a holistic overview of foundational ideas in music, from the physical and mathematical properties of sound to symbolic representations. Surveying state of the art methods in applications of deep neural networks to audio and sound computing, as well as offering a research perspective that suggests future challenges in music and AI research, this book appeals to both students of AI and music, as well as industry professionals in the fields of machine learning, music and AI.

Chapman and Hall/CRC

Market: Computer Science

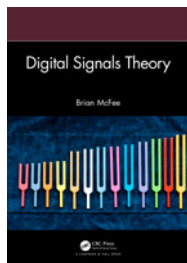
November 2023: 234x156: 320pp: 108 illus, 2 halftones, 106 line drawings

Pb: 978-1-032-13391-1: £44.99

★ For full contents and more information, visit: www.routledge.com/9781032133911

TEXTBOOK

Digital Signals Theory



Brian McFee

Where most introductory texts to the field of digital signal processing assume a degree of technical knowledge, this class-tested textbook provides a comprehensive introduction to the fundamentals of digital signal processing in a way that is accessible to all.

Chapman and Hall/CRC

Market: Computer Science

October 2023: 254x178: 274pp: 132 illus, 132 line drawings

Pb: 978-1-032-20050-7: £42.99

★ For full contents and more information, visit: www.routledge.com/9781032200507

HTML

The Ultimate Guide



Sufyan bin Uzayr

Series: The Ultimate Guide

This was created to make everyone understand and learn its concepts, an open-source; its code is a programming language used in website building and website templates. It is used to format the look and format of a web page, to set design features such as basic layout, colors, and fonts. CSS allows for continuity between different web pages on the site and makes webpage development easier and faster. CSS frameworks are used for developing responsive and mobile-friendly websites. This book teaches us the fundamental concepts of CSS and JavaScript and guides us through creating websites and games with it.

CRC Press

Market: Computer Science

July 2023: 234x156: 324pp: 41 illus, 41 halftones

Pb: 978-1-032-41325-9: £48.99

★ For full contents and more information, visit: www.routledge.com/9781032413259

Mastering CSS

A Beginner's Guide



Edited by Sufyan bin Uzayr

Series: Mastering Computer Science

CSS is used to format the look and format of a web page, to set design features such as basic layout, colors, and fonts. CSS allows for continuity between different web pages on the site and makes webpage development easier and faster. CSS are used for developing responsive and mobile-friendly websites. This book teaches us the fundamental concepts of CSS with their properties, functions and guides us through creating websites with it. *Mastering CSS* is for anyone who wants to create a website. After finishing this book, anyone will quickly build their website with absolute ease, even if they were utterly oblivious to it before.

CRC Press

Market: Computer Science

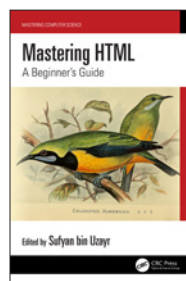
August 2023: 234x156: 446pp: 144 illus, 144 halftones

Pb: 978-1-032-41432-4: £24.99

★ For full contents and more information, visit: www.routledge.com/9781032414324

Mastering HTML

A Beginner's Guide



Edited by Sufyan bin Uzayr

Series: Mastering Computer Science

Mastering HTML is for anyone who wants to create a website. After finishing this book, anyone will quickly build their website with absolute ease, even if they were utterly oblivious to it before.

CRC Press

Market: Computer Science

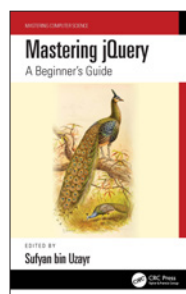
July 2023: 229x152: 342pp: 26 illus, 4 halftones, 22 line drawings

Pb: 978-1-032-41433-1: £24.99

★ For full contents and more information, visit: www.routledge.com/9781032414331

Mastering jQuery

A Beginner's Guide



Edited by Sufyan bin Uzayr

Series: Mastering Computer Science

With a combination of flexibility and flexibility, jQuery has changed the way millions of people write JavaScript. It makes things like HTML document conversion, animation, event management, and AJAX much easier with an easy-to-use API that works on a wide variety of browsers. *Mastering jQuery: A Beginner's Guide* is a detailed guide for beginners to understand jQuery and its programming techniques. This book discusses the fundamental concepts of jQuery and provides a guide to create websites using jQuery programming.

CRC Press

Market: Computer Science

September 2023: 234x156: 276pp: 80 illus, 80 halftones

Pb: 978-1-032-41519-2: £24.99

★ For full contents and more information, visit: www.routledge.com/9781032415192

Mastering Objective-C

A Beginner's Guide



Edited by **Sufyan bin Uzayr**

Series: *Mastering Computer Science*

Mastering Objective C is a detailed guide for beginners that gives a modern programmer's viewpoint on Objective-C. It introduces the principles of Objective-C and current Apple programming skills and libraries allowing the reader to make the best use of the tools available.

CRC Press

Market: Computer Science

October 2023: 234x156: 276pp: 10 illus, 6 halftones, 4 line drawings

Pb: 978-1-032-41528-4: **£24.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032415284

Mastering Scala

A Beginner's Guide



Edited by **Sufyan bin Uzayr**

Series: *Mastering Computer Science*

Scala is a multi-paradigm, general-purpose scripting language. *Mastering Scala: A Beginner's Guide* is a detailed guide for beginners to understand Scala. Concise and easy to understand, this book covers a comprehensive understanding of Scala, components, libraries, and advance concepts, to help readers quickly advance with the necessary information.

CRC Press

Market: Computer Science

November 2023: 234x156: 288pp: 14 illus, 1 halftone, 13 line drawings

Pb: 978-1-032-41527-7: **£24.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032415277

Mastering Perl

A Beginner's Guide



Edited by **Sufyan bin Uzayr**

Series: *Mastering Computer Science*

Mastering Perl helps the readers in learning Perl programming language with real-world examples. High-level, interpreted, and multipurpose, Perl's roots are in text manipulation. It's used for UI development in system administration, networking, and other fields, borrowing heavily from C and Shell scripts.

CRC Press

Market: Computer Science

September 2023: 234x156: 312pp: 21 illus, 13 halftones, 8 line drawings

Pb: 978-1-032-41510-9: **£24.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032415109

Mastering SQL

A Beginner's Guide



Edited by **Sufyan bin Uzayr**

Series: *Mastering Computer Science*

Mastering SQL helps the readers gain a firm understanding of the Structured Query Language. Structured Query Language, more often known as SQL, is the de facto standard language for working with databases. It is a specialized language for handling data-related tasks like creating a database, putting information into tables, modifying and extracting that information, and much more. MySQL, PostgreSQL, Oracle, SQL light, etc., are only a few examples of SQL implementations.

CRC Press

Market: Computer Science

August 2023: 229x152: 268pp: 12 illus, 12 halftones

Pb: 978-1-032-41506-2: **£24.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032415062

Mastering R

A Beginner's Guide



Edited by **Sufyan bin Uzayr**

Series: *Mastering Computer Science*

R is a statistical computing and graphics programming language that you can use to clean, analyse, and graph data. It is widely used by researchers from various disciplines to estimate and display results and by teachers of statistics and research methods. The book is a detailed guide for beginners to understand R with an explanation of core statistical and research ideas. *Mastering R: A Beginner's Guide* not only explains how to program, but also how to use R for visualization and modelling. The fundamental about R principles explained here are helpful to beginner and volunteer users interested in learning this highly

technological and diverse language

CRC Press

Market: Computer Science

September 2023: 234x156: 296pp: 62 illus, 34 halftones, 28 line drawings

Pb: 978-1-032-41518-5: **£24.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032415185

Objective-C

The Ultimate Guide



Sufyan bin Uzayr

Series: *The Ultimate Guide*

Objective C: The Ultimate Guide walks developers and coders through a straightforward and practical method of learning the Objective-C programming language. This book discusses the basics in brief, and then moves on to more advanced and detailed exercises to help readers quickly gain the required knowledge. The focus in this book remains on writing optimized and well-structured code in Objective-C.

CRC Press

Market: Computer Science

September 2023: 234x156: 340pp: 23 illus, 23 line drawings

Pb: 978-1-032-41319-8: **£48.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032413198

R

The Ultimate Guide



Sufyan bin Uzayr

Series: *The Ultimate Guide*

R: The Ultimate Guide helps developers and coders do more with R. This book discusses all data analysis and visualization aspects, from the fundamentals to the more complex topics to help readers quickly gain the required knowledge. The focus in this book remains on writing optimized and well-structured code in R.

CRC Press

Market: Computer Science

December 2023: 234x156: 252pp: 7 illus, 7 line drawings

Pb: 978-1-032-41333-4: **£48.99**★ For **full contents** and more information, visit: www.routledge.com/9781032413334

Ruby

The Ultimate Guide



Sufyan bin Uzayr

Series: *The Ultimate Guide*

Ruby: The Ultimate Guide provides developers and coders with a comprehensive guide to Ruby programming, covering core principles, advanced features, and practical applications. This book discusses the basics and then moves on to more advanced and detailed exercises to help readers write optimized and well-structured code in Ruby.

CRC Press

Market: Computer Science

December 2023: 234x156: 288pp: 23 illus, 13 halftones, 10 line drawings

Pb: 978-1-032-41335-8: **£48.99**★ For **full contents** and more information, visit: www.routledge.com/9781032413358

Scala

The Ultimate Guide



Sufyan bin Uzayr

Series: *The Ultimate Guide*

Scala: The Ultimate Guide provides developers and coders with a comprehensive guide to Scala programming, covering fundamental concepts, advanced techniques, and real-world applications. This book discusses the basics including how to set up Scala and then moves on to more advanced and detailed exercises to help readers write optimized and well-structured code in Scala.

CRC Press

Market: Computer Science

December 2023: 234x156: 312pp: 14 illus, 5 halftones, 9 line drawings

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The Ultimate Guide



Sufyan bin Uzayr

Series: *The Ultimate Guide*

SQL: The Ultimate Guide provides developers and coders the knowledge to do more with SQL. This book discusses the basics and core concepts of SQL including the different types of statements, functions, operator and clauses used in SQL Databases. The book then moves on to more advanced and detailed exercises to help readers write optimized and well-structured code in SQL.

CRC Press

Market: Computer Science

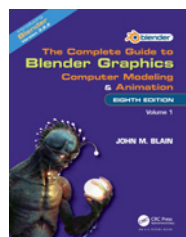
December 2023: 234x156: 276pp: 19 illus, 15 halftones, 4 line drawings

Pb: 978-1-032-41430-0: **£48.99**★ For **full contents** and more information, visit: www.routledge.com/9781032414300

8th Edition • Volume 1

The Complete Guide to Blender Graphics

Computer Modeling and Animation



John M. Blain, Toormina, New South Wales, Australia

The Complete Guide to Blender Graphics: Computer Modeling and Animation, 8th Edition is a unified manual describing the operation of the program, updated with reference to the Graphical User Interface for **Blender Version 3.3.0**, including additional material covering **Blender Assets, Geometry Nodes, and Non-Linear Animation**. The book introduces the program's Graphical User Interface and shows how to implement tools for modeling and animating characters and created scenes with the application of color, texture and special lighting effects.

A K Peters/CRC Press

Market: Computer Graphics/Animation/Gaming

September 2023: 235x191: 454pp: 1649 illus, 1649 halftones

Pb: 978-1-032-51060-6: **£52.99**

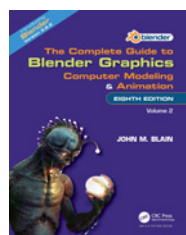
Prev. Ed Pb: 978-1-032-12167-3

★ For **full contents** and more information, visit: www.routledge.com/9781032510606

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Computer Modeling and Animation



John M. Blain, Toormina, New South Wales, Australia

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A K Peters/CRC Press

Market: Computer Graphics/Animation/Gaming

September 2023: 235x191: 382pp: 1658 illus, 1658 halftones

Pb: 978-1-032-51055-2: **£52.99**★ For **full contents** and more information, visit: www.routledge.com/9781032510552

FORENSIC SCIENCE

Forensic DNA Transfer

Jane Moira Taupin, Greensboro, Victoria, Australia

Forensic DNA Transfer provides a guide to the recognition and current understanding of DNA transfer in forensic criminal investigations. *Forensic DNA Transfer* examines the additional complexity resulting from non-visible deposits of DNA that impact on sampling and testing regimes. The changing understanding of the composition of purported "touch DNA" deposits from the skin, including extracellular DNA transported via body secretions is described. Further, the newer focus on interpreting DNA evidence—using activity level propositions and the rationale and associated issues—is also discussed.

CRC Press

Market: Genetics/Forensic DNA Analysis

October 2023: 234x156: 298pp: 6 illus, 6 line drawings

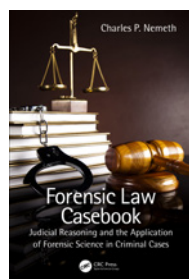
Hb: 978-0-367-74206-5: **£130.00**

★ For **full contents** and more information, visit: www.routledge.com/9780367742065

TEXTBOOK

Forensic Law Casebook

Judicial Reasoning and the Application of Forensic Science in Criminal Cases



Charles P. Nemeth, Franciscan University of Steubenville, USA

Forensic Law Casebook provides the reader with an array of legal cases and decisions that lay out the parameters of forensic law and its evidentiary value. In the end, what emerges from this are the bedrock principles that guide current forensic evidence and the admissibility of various practices common to the field applications of forensic science. Practitioners, law students, undergraduate and graduate students in compatible majors—as well as law and universities libraries—will benefit from this this essential reference and adjunct to anyone studying forensic science, criminalistics, and the law.

CRC Press

Market: Law/Forensic Science

December 2023: 254x178: 480pp: 31 illus, 31 halftones

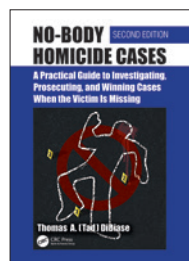
Hb: 978-1-032-21174-9: **£68.99**

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2nd Edition

No-Body Homicide Cases

A Practical Guide to Investigating, Prosecuting, and Winning Cases When the Victim Is Missing



Thomas A. (Tad) DiBiase, The No Body Guy, Washington, D.C., USA

A practical guide for police, death investigators, and prosecutors, *No-Body Homicide Cases: A Practical Guide to Investigating, Prosecuting, and Winning Cases When the Victim is Missing, Second Edition* takes an expansive look at both the history of no-body murder cases and the best methods to investigate, solve, and bring them to court. *No-Body Homicide Cases, Second Edition* continues to serve as an essential resource and the "how-to" manual for investigating, prosecuting, and winning no-body murder cases.

CRC Press

Market: Forensic Science/Criminology

November 2023: 254x178: 416pp: 7 illus, 4 halftones, 3 line drawings

Pb: 978-1-032-61804-3: **£59.99**

Prev. Ed Pb: 978-0-367-77919-1

★ For **full contents** and more information, visit: www.routledge.com/9781032618043

Reading the Skull

Advanced 2D Reconstruction



Natalie Murry

Reading the Skull is a ground-breaking collection of the author's personal study and research, other published works from the literature on facial features, as well as numerous examples from donors to forensic anthropology centers in the US. Work presented draws upon new information from anthropologists and others in related fields and disciplines who continue to study facial features determinations based on the skull. As such, it provides a fresh perspective, summarizing several studies and work together in a single book.

CRC Press

Market: Forensic Art/Forensic Anthropology

September 2023: 235x191: 228pp: 199 illus, 198 halftones, 1 line drawing

Hb: 978-1-032-25910-9: **£58.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032259109

The Path of Flames

Understanding and Responding to Fatal Wildfires



Edited by Ashley Kendell, California State University, Chico, USA, Alison Galloway and Colleen Milligan, California State University, Chico, USA

This edited volume covers the complexities of response and recovery issues relative to catastrophic wildfires. *The Path of Flames* is a one-of-a-kind reference that serves as a valuable resource for professionals working in the areas of emergency services, search and rescue, law enforcement, fire service, disaster planning and response, victim recovery and identification, mass disaster and mass fatality response.

CRC Press

Market: Disaster/Wildfires/Forensic Science

October 2023: 254x178: 392pp: 73 illus, 57 halftones, 16 line drawings

Hb: 978-0-367-75053-4: **£56.99**

★ For **full contents** and more information, visit: www.routledge.com/9780367750534

ENVIRONMENTAL SCIENCE

Transformations of Global Food Systems for Climate Change Resilience

Addressing Food Security, Nutrition, and Health



Edited by **Preeti Gadhoke, Barrett P. Brenton and Solomon H. Katz**

Transformations of Global Food Systems for Climate Change Resilience: Addressing Food Security, Nutrition, and Health provides poignant case studies of climate change resilience frameworks for nutrition-focused transformations of agriculture and food systems, food security, food sovereignty, and population health of underserved and marginalized communities from across the globe. Each chapter is drawn from diverse cultural contexts and geographic areas, addressing local challenges of ongoing food and health system transformations and illustrating forms of resistance, resilience, and adaptations of food systems to climate change.

CRC Press

Market: Life Sciences

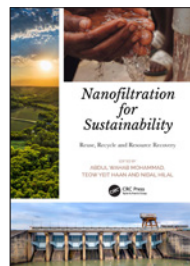
August 2023: 234x156: 310pp: 34 illus, 27 halftones, 7 line drawings

Hb: 978-0-367-85762-2: **£52.99**

★ For **full contents** and more information, visit: www.routledge.com/9780367857622

Nanofiltration for Sustainability

Reuse, Recycle and Resource Recovery



Edited by **Abdul Mohammad**, Universiti Kebangsaan Malaysia, Faculty of Engineering, **Teow Yeit Haan** and **Nidal Hilal**, Research (CWATER), College of Engineering, Swansea University, UK

The book addresses the use of nanofiltration membrane technology for sustainability in various industries through the use of Reuse, Recycle and Resource Recovery approaches highlighting the advances in terms of specific applications in this area, as well as issues and challenges. Leading Global research teams explore the concept for reuse, recycle and resource recovery using nanofiltration technology in combination with other technologies to advance circular economy within industries.

CRC Press

Market: Separation Processing/Chemical Engineering

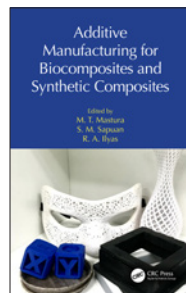
August 2023: 254x178: 382pp: 108 illus, 8 halftones, 100 line drawings

Hb: 978-1-032-19949-8: **£150.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032199498

MATERIALS SCIENCE

Additive Manufacturing for Biocomposites and Synthetic Composites



Edited by **M.T. Mastura, S.M. Sapuan**, Universiti Putra Malaysia, Malaysia and **R.A. Ilyas**

This book focuses on processes, engineering, and product design applications of biocomposites and synthetic composites in additive manufacturing. It discusses preparation and material characterization and selection, as well as future opportunities and challenges. *Additive Manufacturing for Biocomposites and Synthetic Composites* provides a comprehensive overview of the application of advanced composite materials in AM and is aimed at researchers, engineers, and advanced students in materials and manufacturing engineering and related disciplines.

CRC Press

Market: Materials Science and Chemical Engineering

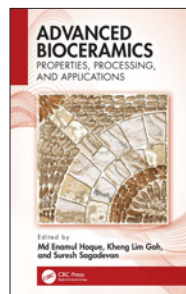
November 2023: 234x156: 272pp: 109 illus, 57 halftones, 52 line drawings

Hb: 978-1-032-42293-0: **£140.00**

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Advanced Bioceramics

Properties, Processing, and Applications



Edited by **M. Enamul Hoque, Kheng Lim Goh** and **Suresh Sagadevan**

Advanced Bioceramics: Properties, Processing, and Applications describes development of bioceramics and biocomposites, which are used in bone tissue repair, remodelling, and regeneration. It covers the fundamental aspects of materials science and bioengineering, clinical performance in a variety of applications, ISO/ASTM specifications, and opportunities and challenges. This book is aimed at researchers, practitioners, and advanced students in materials science and biomedical engineering and can assist in the design of novel, targeted, and personalized bioceramics-based treatments.

CRC Press

Market: Materials Science

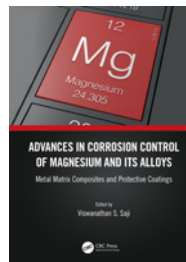
October 2023: 234x156: 480pp: 187 illus, 124 halftones, 63 line drawings

Hb: 978-1-032-19251-2: **£150.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032192512

Advances in Corrosion Control of Magnesium and its Alloys

Metal Matrix Composites and Protective Coatings



Edited by **Viswanathan S. Saji**, King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia

This book covers both the fundamentals and recent advancements in two major corrosion protection strategies of magnesium and its alloys, namely, metal-matrix composites and protective coatings. Key features:

- Covers all aspects of metal-matrix composites and protective coatings for magnesium alloys to improve their corrosion resistance, wear resistance, mechanical properties and biocompatibility
- Provides the most recent research advancements in the corrosion mitigation strategies of magnesium and its alloys.

CRC Press

Market: Material Science, Material Chemistry

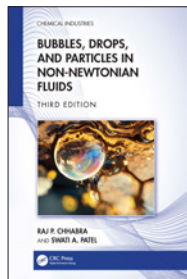
August 2023: 254x178: 470pp: 222 illus, 65 halftones, 157 line drawings

Hb: 978-1-032-33468-4: **£150.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032334684

3rd Edition

Bubbles, Drops, and Particles in Non-Newtonian Fluids



Raj P. Chhabra, Dept of Chemical Engineering, Transilvania University of Braşov, 140001 and **Swati A. Patel**

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The third edition of *Bubbles, Drops, and Particles in Non-Newtonian Fluids* provides comprehensive coverage of the scientific foundations and latest advances in particle motion in non-Newtonian media. Salient Features:

- Demonstrates how dynamic behavior of single particles can yield useful information for modeling transport processes in complex multiphase flows
- Addresses heat transfer in GNF, viscoplastic and viscoelastic fluids throughout the book and outlines potential strategies for heat transfer enhancement.

CRC Press

Market: Engineering - Chemical

August 2023: 254x178: 732pp: 269 illus, 28 halftones, 241 line drawings

Hb: 978-0-367-20302-3: **£170.00**

Prev. Ed Hb: 978-0-8247-2329-3

★ For full contents and more information, visit: www.routledge.com/9780367203023

Compression Textiles for Medical, Sports, and Allied Applications



Edited by **Nimesh Kankariya** and **René M. Rossi**

Series: *Textile Institute Professional Publications*

Textile-based compression therapy is used in range of applications, such as for athlete and sport recovery, enhanced proprioception, compression spacesuits, and management of chronic disease. *Compression Textiles for Medical, Sports, and Allied Applications* provides an overview of compression devices and products, testing methods to measure properties of materials used, and design considerations based on dynamic body measurements. It includes a model for predicting pressure and challenges. This book is aimed at professionals and researchers in textile engineering, materials engineering, biotechnology,

and development of textile-based compression devices and products.

CRC Press

Market: Textile Science and Engineering

July 2023: 234x156: 190pp: 39 illus, 19 halftones, 20 line drawings

Pb: 978-1-032-28790-4: **£74.99**

★ For full contents and more information, visit: www.routledge.com/9781032287904

Critical Materials and Sustainability Transition

Edited by **Arda Işıldar**, **Eric van Hullebusch**, Institut de Physique du Globe de Paris, France and **Donald Huisingh**, The Institute for a Secure and Sustainable Environment, University of TN, Knoxville, USA

The book takes a multi-perspective approach and gives insights from an industrial ecology, environmental engineering and sustainable management of natural resources perspective. It will help the reader understand critical metal requirements of future key technologies and the decide for the supply strategy.

CRC Press

Market: Materials Science

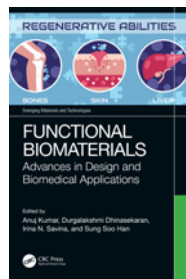
December 2023: 246x174: 216pp: 45 illus, 4 halftones, 41 line drawings

Hb: 978-1-032-11221-3: **£125.00**

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Functional Biomaterials

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With the emergence of additive manufacturing, mass customization of biomaterials for complex tissue regeneration and targeted drug delivery applications is possible. This book emphasizes the fundamental concepts of biomaterials science, their structure-property relationships and processing methods, and biological responses in biomedical engineering. It focuses on recent advancements in biomedical applications, such as tissue engineering, wound healing, drug delivery, cancer treatments, bioimaging, and theranostics. This volume serves as

a reference for multi-disciplinary students and research professionals in materials science, biomedical engineering, and healthcare and medical fields.

CRC Press

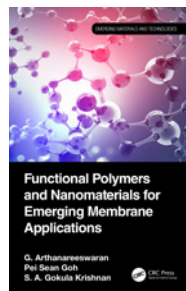
Market: Biomedical Engineering/Materials Science

September 2023: 234x156: 324pp: 58 illus, 54 halftones, 4 line drawings

Hb: 978-1-032-17089-3: **£150.00**

★ For full contents and more information, visit: www.routledge.com/9781032170893

Functional Polymers and Nanomaterials for Emerging Membrane Applications



G. Arthanareeswaran, **Pei Sean Goh** and **S.A. Gokula Krishnan**

Series: *Emerging Materials and Technologies*

This book provides an overview of the development and selection of functional polymer and nanomaterials for membrane development and their applications. It covers the definition, classification, and preparation of various functional polymers and nanocomposites and highlights potential applications of functional polymer and nanomaterials in membrane technology. By combining aspects of both science and technology this book serves as a useful resource for scientists and engineers working in membrane applications of materials.

CRC Press

Market: Materials Science and Engineering

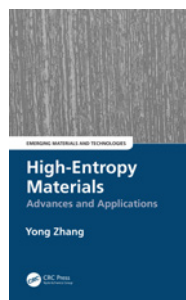
December 2023: 234x156: 216pp: 41 illus, 25 halftones, 16 line drawings

Hb: 978-1-032-48908-7: **£130.00**

★ For full contents and more information, visit: www.routledge.com/9781032489087

High-Entropy Materials

Advances and Applications



Yong Zhang

Series: *Emerging Materials and Technologies*

High-Entropy Materials: Advances and Applications introduces recent developments and focuses on materials discovered using the high-entropy alloys (HEA) strategy. It discusses various types of high-entropy materials, such as FCC and BCC HEAs, films and coatings, fibers, and powders and hard cemented carbides, along with current research status and applications. Aimed at researchers, advanced students, and academics in materials science and engineering and related disciplines this work offers an overview of the latest in these high-performing and promising materials.

CRC Press

Market: Materials Science

August 2023: 234x156: 164pp: 93 illus, 38 halftones, 55 line drawings

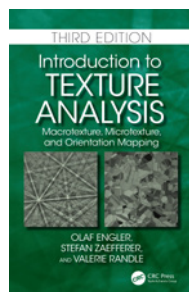
Hb: 978-1-032-32391-6: **£120.00**

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Introduction to Texture Analysis

Macrotexture, Microtexture, and Orientation Mapping



Olaf Engler, Speira, Germany, **Stefan Zaefferer** and **Valerie Randle**

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CRC Press

Market: Materials Science and Engineering

December 2023: 234x156: 600pp: 283 illus, 134 halftones, 149 line drawings

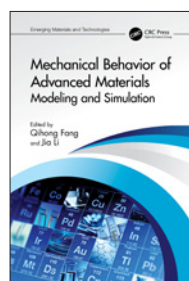
Pb: 978-1-032-18942-0: **£105.00**

Prev. Ed Pb: 978-1-4200-6365-3

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Mechanical Behavior of Advanced Materials: Modeling and Simulation

Modeling and Simulation



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studying mechanics of materials.

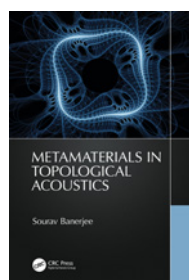
CRC Press

Market: Materials Science and Engineering

November 2023: 234x156: 360pp: 140 illus, 140 line drawings

Hb: 978-1-032-12226-7: **£110.00**★ For **full contents** and more information, visit: www.routledge.com/9781032122267

Metamaterials in Topological Acoustics



Sourav Banerjee, University of South Carolina

Acoustic metamaterials create an opportunity to explore the topological behaviors in phononics and physics of programmable acoustics. This book introduces the topological behavior of acoustics. It provides valuable insight into acoustic metamaterials, from multidisciplinary fundamentals to cutting-edge research. It is designed for graduate students, researchers, scientists, and professionals across materials, mechanical, civil, and aerospace engineering, and those who want to enhance their understanding and commence research in metamaterials.

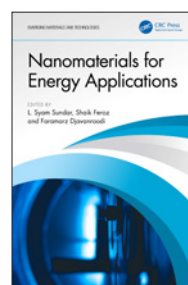
CRC Press

Market: Materials Science/Mechanical Engineering

October 2023: 234x156: 432pp: 159 illus, 108 halftones, 51 line drawings

Hb: 978-1-032-12083-6: **£140.00**★ For **full contents** and more information, visit: www.routledge.com/9781032120836

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CRC Press

Market: Materials and Mechanical Engineering

November 2023: 234x156: 392pp: 106 illus, 77 halftones, 29 line drawings

Hb: 978-1-032-42901-4: **£140.00**★ For **full contents** and more information, visit: www.routledge.com/9781032429014

Nanostructured Magnetic Materials

Functionalization and Diverse Applications



Edited by **Sathish-Kumar Kamaraj**, Instituto Tecnológico El Llano Aguascalientes, Mexico, **Arun Thirumurugan**, Universidad de ATACAMA, Chile, **Sebastián Díaz de la Torre**, **Suresh Kannan Balasingam** and **Shanmuga Sundar Dhanabalan**, RMIT University, Melbourne

Series: Emerging Materials and Technologies

Functionalized magnetic nanomaterials are used in data storage, biomedical, environmental, and heterogeneous catalysis applications but there remain developmental challenges to overcome. *Nanostructured Magnetic Materials: Functionalization and Diverse Applications* covers different synthesis methods for magnetic nanomaterials and their functionalization strategies

and highlights recent progress, opportunities, and challenges to utilizing these materials in real-time applications. This reference will appeal to researchers, professionals, and advanced students in materials science and engineering and related fields.

CRC Press

Market: Materials Science and Engineering

August 2023: 234x156: 296pp: 113 illus, 40 halftones, 73 line drawings

Hb: 978-1-032-36982-2: **£120.00**★ For **full contents** and more information, visit: www.routledge.com/9781032369822

Optoelectronics and Spintronics in Smart Thin Films



James Ayodele Oke and **Tien-Chien Jen**, University of Johannesburg, South Africa

Series: Emerging Materials and Technologies

Optoelectronics and Spintronics in Smart Thin Films presents a comprehensive overview of this emerging area and details the current and near future integration of smart thin films in solar cells, sensors, and memory storage. Focused on advancing research on this evolving subject, this book is aimed at advanced students, researchers, and engineers in materials, chemical, mechanical, and electrical engineering as well as applied physics.

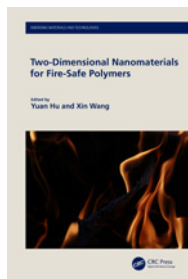
CRC Press

Market: Materials Science and Engineering

December 2023: 234x156: 288pp: 73 illus, 32 halftones, 41 line drawings

Hb: 978-1-032-36220-5: **£120.00**★ For **full contents** and more information, visit: www.routledge.com/9781032362205

Two-Dimensional Nanomaterials for Fire-Safe Polymers



Edited by **Yuan Hu**, School of Chemistry and Materials Science, USTC, China and **Xin Wang**, School of Chemistry and Materials Science, USTC, China

Series: Emerging Materials and Technologies

This book provides an overview of the latest scientific developments and technological advances in 2D nanomaterials for fire-safe polymers. It summarizes the preparation methods for diverse types of 2D nanomaterials and their polymer composites, and specially reviews their flame-retardant properties, toxic-gas and smoke emission during combustion, and inhibition strategies. This book is ideally suited for both scholars and engineers in the fields of polymer science and engineering, and

for graduate students in chemistry, materials, and safety science and engineering.

CRC Press

Market: Materials Science and Engineering

August 2023: 234x156: 351 pp: 95 illus, 63 halftones, 32 line drawings

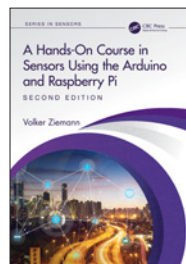
Hb: 978-1-032-35268-8: **£120.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032352688

PHYSICS

2nd Edition

A Hands-On Course in Sensors Using the Arduino and Raspberry Pi



Volker Ziemann, Department of Physics and Astronomy, Uppsala University, Sweden

Series: Series in Sensors

This second edition has been updated throughout to reflect new hardware and software releases since the book was first published. Newly added features include the ESP32 microcontroller, several environmental and medical sensors, actuators for signal generation, as well as a chapter on web sockets; all illustrated in new case studies.

CRC Press

Market: Physics

August 2023: 254x178: 310pp: 133 illus, 32 halftones, 101 line drawings

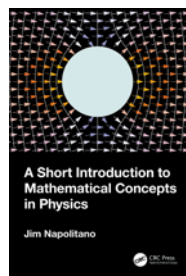
Pb: 978-1-032-37619-6: **£74.99**

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★ For **full contents** and more information, visit: www.routledge.com/9781032376196

TEXTBOOK

A Short Introduction to Mathematical Concepts in Physics



Jim Napolitano, Temple University, Pennsylvania, USA

Mathematics is the language of physics and yet, mathematics is an enormous subject. This textbook provides an accessible and concise introduction to mathematical physics for undergraduate students taking a one semester course. It assumes the reader has studied a year of introductory physics and three semesters of basic calculus, including some vector calculus, but no formal training in differential equations or matrix algebra. It equips readers with the skills and foundational knowledge they need for courses that follow in classical mechanics, electromagnetism, quantum mechanics, and thermal physics.

CRC Press

Market: Physics

November 2023: 234x156: 248pp: 77 illus, 1 halftone, 76 line drawings

Pb: 978-1-032-40430-1: **£49.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032404301

Advanced Photonics Methods for Biomedical Applications



Edited by **Edik Rafailov** and **Tatjana Gric**

Advanced photonics methods for biomedical applications give researchers in universities and industries and clinicians an overview of the novel tools for cancer diagnostics and treatment. This book provides researchers and professionals in the area of biomedical photonics with a toolbox of novel methodologies for biomedical applications, including health diagnostics, cancer detection and treatment. It covers the theory, modelling and design of each method, alongside their applications, fabrication, characterization, and measurements in clinical practice.

CRC Press

Market: Physics

July 2023: 234x156: 226pp: 89 illus, 36 halftones, 53 line drawings

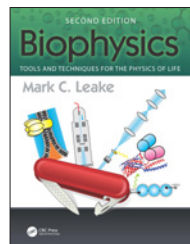
Hb: 978-1-032-12842-9: **£120.00**

★ For **full contents** and more information, visit: www.routledge.com/9781032128429

TEXTBOOK • 2nd Edition

Biophysics

Tools and Techniques for the Physics of Life



Mark C. Leake, Biological Physical Sciences Institute (BPSI), University of York, UK

Biophysics: Tools and Techniques for the Physics of Life covers the experimental, theoretical and computational tools and techniques of biophysics. It addresses the purpose, science, and application of all physical science instrumentation, theoretical analysis and biophysical computational methods used in current research labs. The book first presents the historical background, concepts, and motivation for using a physical science toolbox to understand biology. It then familiarizes undergraduate students from the physical sciences with essential biological knowledge.

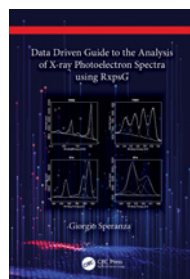
CRC Press

Market: Biophysics

December 2023: 280x210: 438pp: 58 illus, 34 halftones, 24 line drawings

Pb: 978-1-032-37038-5: **£52.99**

Prev. Ed Pb: 978-1-4987-0243-0

★ For **full contents** and more information, visit: www.routledge.com/9781032370385**Data Driven Guide to the Analysis of X-ray Photoelectron Spectra using RxpsG**

Giorgio Speranza

The book contains a list of theoretical sections explaining the appearance of the various spectral features (core-lines, Auger components, valence bands, loss features etc). They are accompanied by practical steps so readers can learn how to analyze specific spectral features using the various functions of the *RxpsG* software.

CRC Press

Market: Physics

November 2023: 234x156: 256pp: 159 illus, 72 halftones, 87 line drawings

Hb: 978-1-032-27360-0: **£74.99**★ For **full contents** and more information, visit: www.routledge.com/9781032273600**Injecting Creative Thinking into Healthcare**

Bringing innovative practice to healthcare



Barry P. McMahon and Paul Coughlan

The book sets out to inform a broad range of professionals working in medicine and healthcare about how creative thinking and design concepts can be used to innovate in providing an enhanced patient experience. It outlines these concepts as a primary means to identify, clarify and resolve some of the process improvement and enhancement challenges in healthcare delivery. It demonstrates by example how such challenges can be addressed, drawing on case examples from healthcare and other industries, and from the authors' own experiences as innovators and educators. It emphasizes the value of learning in action.

CRC Press

Market: Physics

July 2023: 234x156: 122pp: 27 illus, 9 halftones, 18 line drawings

Pb: 978-0-367-64315-7: **£44.99**★ For **full contents** and more information, visit: www.routledge.com/9780367643157

TEXTBOOK

Introduction to Fluid Dynamics in Physics and Astrophysics

Hendrik Jan van Eerten

This textbook provides an accessible and self-contained introduction to the physics behind fluid dynamics; exploring the laws of nature describing three out of four fundamental states of matter (liquids, gases, and plasmas that consist of charged particles). It provides readers with the tools to understand and model fluid dynamical systems across a wide range of applications, from dense liquids to dilute space plasmas.

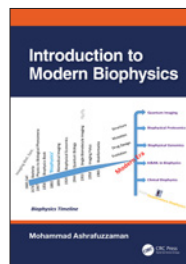
CRC Press

Market: Physics

December 2023: 234x156: 344pp: 65 illus, 7 halftones, 58 line drawings

Hb: 978-0-367-55777-5: **£150.00**★ For **full contents** and more information, visit: www.routledge.com/9780367557775

TEXTBOOK

Introduction to Modern Biophysics

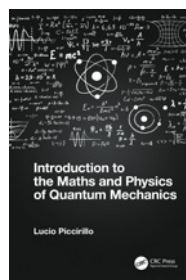
Mohammad Ashrafuzzaman

This textbook will provide an introduction to the fundamental and applied aspects of biophysics for advanced undergraduate and graduate students of physics, chemistry, and biology. The application of physics principles and techniques in exploring biological systems has long been a tradition in scientific research.

CRC Press

Market: Physics

December 2023: 254x178: 432pp: 272 illus, 147 halftones, 125 line drawings

Hb: 978-1-032-25670-2: **£89.99**★ For **full contents** and more information, visit: www.routledge.com/9781032256702**Introduction to the Maths and Physics of Quantum Mechanics**

Lucio Piccirillo, University of Manchester, UK

This book will appeal to first- and second-year university students in physics, mathematics, engineering and other sciences studying quantum mechanics who will find material and clarifications not easily found in other textbooks. It will also appeal to self-taught readers with a genuine interest in modern physics who are willing to examine the mathematics and physics in a simple but rigorous way.

CRC Press

Market: Physics

October 2023: 234x156: 246pp: 67 illus, 67 line drawings

Hb: 978-0-367-70302-8: **£74.99**★ For **full contents** and more information, visit: www.routledge.com/9780367703028**Mathematica(I) Guide to Modern Physics**

A Primer for Calculations and Visualizations

James W. Rohlf

This is a "how to guide" for making beginning calculations in modern physics. The academic level is second year college physical science and engineering students. The calculations are performed in Mathematica, and stress graphical visualization, units, and numerical answers.

CRC Press

Market: Physics

November 2023: 234x156: 216pp: 69 illus, 69 line drawings

Hb: 978-1-032-49801-0: **£110.00**★ For **full contents** and more information, visit: www.routledge.com/9781032498010

Multifunctional Sensors

Design, Construction, Methodology and Uses



Bansari Deb Majumder and Joyanta Kumar Roy

Series: Series in Sensors

This book provides a detailed overview of multifunctional sensors, covering discussions on different types of multifunctional sensors developed in past years. As a case study, the development of admittance-type multifunctional sensors is provided, constituting its construction, working principles, measurements, and instrumentation used.

CRC Press

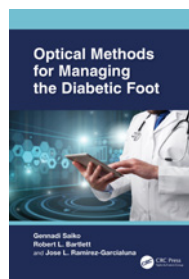
Market: Physics

August 2023: 234x156: 110pp: 43 illus, 5 halftones, 38 line drawings

Hb: 978-1-032-39079-6: **£99.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032390796

Optical Methods for Managing the Diabetic Foot



Gennadi Saiko, Robert L. Bartlett and Jose L. Ramirez-Garcialuna

This book discusses optical technologies for Diabetic Foot management. It combines the current medical literature review with an overview of the technology and physics behind it. Thus, it is a single source intro to the topic. It also can be used as a reference source and practical guide for the use of technology.

CRC Press

Market: Physics

December 2023: 234x156: 250pp: 32 illus, 21 halftones, 11 line drawings

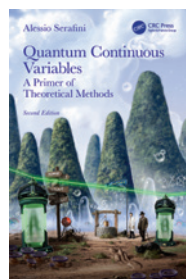
Hb: 978-1-032-46351-3: **£89.99**

★ For **full contents** and more information, visit: www.routledge.com/9781032463513

2nd Edition

Quantum Continuous Variables

A Primer of Theoretical Methods



Alessio Serafini, University College London, UK

Quantum Continuous Variables introduces the theory of continuous variable quantum systems, from its foundations based on the framework of Gaussian states to modern developments, including its applications to quantum information and forthcoming quantum technologies. This book addresses the theory of Gaussian states, operations, and dynamics in great depth and breadth, through a novel approach that embraces both the Hilbert space and phase descriptions.

CRC Press

Market: Physics

August 2023: 234x156: 362pp

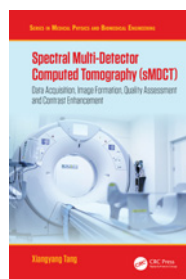
Hb: 978-1-032-15723-8: **£84.99**

Prev. Ed Hb: 978-1-4822-4634-6

★ For **full contents** and more information, visit: www.routledge.com/9781032157238

Spectral Multi-Detector Computed Tomography (sMDCT)

Data Acquisition, Image Formation, Quality Assessment and Contrast Enhancement



Xiangyang Tang

Series: Series in Medical Physics and Biomedical Engineering

X-ray computed tomography (CT) has been one of the most popular diagnostic imaging modalities for decades in the clinic for saving patients' life or improving their quality of life. This book is an introductory "one-stop shop" for technological and clinical topics in Computed Tomography (CT). This book will be an invaluable reference for researchers, engineers, radiological physicians and technologists, and graduate and senior undergraduate students.

CRC Press

Market: Physics

November 2023: 234x156: 288pp: 108 illus, 50 halftones, 58 line drawings

Hb: 978-0-367-13753-3: **£99.99**

★ For **full contents** and more information, visit: www.routledge.com/9780367137533

A Complete Guide to Character Rigging for Games Using Blender



Armin Halač

This book is a comprehensive guide to using Blender to create character rigs for games, breaking down the technicalities of rigging tools and techniques into easily digestible chunks. It provides all the tools needed to go from a static character model to an animation ready, high quality and fast performing game rig. It will be vital reading to those studying games animation as well as early-career rigging artists, character animators, modeling artists, technical animators, and technical artists.

CRC Press

Market: Game Animation

September 2023: 254x178: 296pp: 293 illus, 292 halftones, 1 line drawing

Pb: 978-1-032-20300-3: **£48.99**

★ For full contents and more information, visit: www.routledge.com/9781032203003

Building a Game Pitch

How to Bottle Lightning

Arran Topalian

Based on the PocketGamer MasterClass 'Building A Pitch: From Concept To Document' (2021), a decade's worth of industry experience and numerous industry-level pitches for a variety of organisations including Mediatonic, Epic Games and GDC, this book equips you with methodologies, best practices and insights around video game pitch design through a step-by-step process from initial conceptualisation and idea validation to communicating your pitches on paper clearly and effectively. This book is of great interest to both seasoned and early-career game designers, students studying game design courses and start-up founders seeking investment.

CRC Press

Market: Game Design

December 2023: 216x138: 144pp: 37 illus, 37 line drawings

Hb: 978-1-032-21707-9: **£120.00**

★ For full contents and more information, visit: www.routledge.com/9781032217079

TEXTBOOK

Business Planning for Games

Christopher Buckingham

This is a practical guide to help budding entrepreneurs think about various planning aspects of their proposed games business, with a view to growing their businesses and becoming more successful. The book includes customary business plan headings and worksheets where the reader can record their working-outs as they start to articulate the vision behind their game. This book will be of great interest to all students learning about the business of games, as well as budding entrepreneurs looking for guidance on how to begin planning their own games business.

CRC Press

Market: Game Development

December 2023: 234x156: 192pp: 21 illus, 21 line drawings

Hb: 978-1-032-40338-0: **£120.00**

★ For full contents and more information, visit: www.routledge.com/9781032403380

TEXTBOOK

Meaningful Game Design

The Methodology and Psychology of Tabletop Games



Dr Devon Allcoat and Chris Evans

This book provides readers with the tools and methods with which to create effective tabletop games. It covers the design and development process thoroughly, guiding readers through the necessary mechanics, messages, and motivations of games that must be understood in order to build successful tabletop games, including serious educational games for teaching or training.

CRC Press

Market: Game Design

November 2023: 234x156: 216pp: 69 illus, 66 halftones, 3 line drawings

Pb: 978-1-032-33307-6: **£44.99**

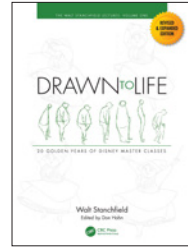
★ For full contents and more information, visit: www.routledge.com/9781032333076

2nd Edition • Volume 1

Drawn to Life:

20 Golden Years of Disney Master Classes

Volume 1: The Walt Stanchfield Lectures



Walt Stanchfield

Edited by Don Hahn

Drawn to Life is a two volume collection of the legendary lectures from long-time Disney animator Walt Stanchfield. For over twenty years, Walt helped breathe life into the new golden age of animation with these teachings at the Walt Disney Animation Studios and influenced such talented artists as Tim Burton, Brad Bird, Glen Keane, and John Lasseter. These writings represent the quintessential refresher for fine artists and film professionals, and it is a vital tutorial for students who are now poised to be part of another new generation in the art form.

CRC Press

Market: Animation/Drawing

July 2023: 276x219: 434pp: 665 illus, 101 halftones, 564 line drawings

Pb: 978-1-032-10441-6: **£38.99**

Prev. Ed Pb: 978-0-240-81096-6

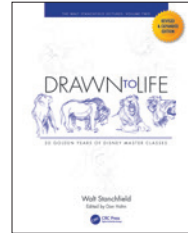
★ For full contents and more information, visit: www.routledge.com/9781032104416

2nd Edition • Volume 2

Drawn to Life:

20 Golden Years of Disney Master Classes

Volume 2: The Walt Stanchfield Lectures



Walt Stanchfield

Edited by Don Hahn

Drawn to Life is a two volume collection of the legendary lectures from long-time Disney animator Walt Stanchfield. For over twenty years, Walt helped breathe life into the new golden age of animation with these teachings at the Walt Disney Animation Studios and influenced such talented artists as Tim Burton, Brad Bird, Glen Keane, and John Lasseter. These writings represent the quintessential refresher for fine artists and film professionals, and it is a vital tutorial for students who are now poised to be part of another new generation in the art form.

CRC Press

Market: Animation/Drawing

July 2023: 276x219: 382pp: 555 illus, 50 halftones, 505 line drawings

Pb: 978-1-032-10438-6: **£38.99**

Prev. Ed Pb: 978-0-240-81107-9

★ For full contents and more information, visit: www.routledge.com/9781032104386

FORCE Fabric

How to Draw Clothes



Mike Mattesi

Illustrated by Mritunjay Varun

Series: Force Drawing Series

This sixth book in the "FORCE" series instructs artists on how to understand fabric with FORCE thus leading to improved drawings of clothed figures. Expertly organized and beautifully illustrated, the book instructs artists to see clothing in a new way, through FORCE. Michael's clear, concise, and informal writing coupled with Mritunjay and Michael's FORCE drawings of clothed models, comprehensively informs you, the curious artist, to identify and draw FORCE clothing.

CRC Press

Market: Games and Animation

October 2023: 280x210: 242pp: 200 illus, 200 halftones

Pb: 978-1-138-48541-9: **£36.99**

★ For full contents and more information, visit: www.routledge.com/9781138485419

Game Audio Programming 4

Principles and Practice

Edited by **Guy Somborg**

Welcome to the fourth volume of *Game Audio Programming: Principles and Practices*—the first series of its kind dedicated to the art, science, and craft of game audio programming. This volume contains 17 chapters from some of the top game audio programmers in the industry, and dives into subjects that apply to diverse game genres and from low-level topics such as thread-safe command buffers and pitch detection to high-level topics such as object management, music systems, and audio tools.

CRC Press

Market: Game Development

December 2023: 234x156: 312pp: 77 illus, 51 halftones, 26 line drawings

Hb: 978-1-032-36239-7: **£120.00**

★ For full contents and more information, visit: www.routledge.com/9781032362397

Narrative Design for Mobile and Live Games

Valentina Tamer, Ubisoft Paris Mobile, France

This is a comprehensive guidebook for long-term storytelling in mobile games and games-as-a-service (aka live games). The book formalizes creative techniques of game writing and narrative design for a platform (and revenue model) that has shown drastic growth and changes over the past few years. The unique challenges of mobile games and live games are also increasingly relevant across the whole games industry. This book will be of great interest to all game narrative and writing professionals working on mobile and live games.

CRC Press

Market: Game Design

November 2023: 234x156: 256pp: 17 illus, 17 line drawings

Hb: 978-1-032-28604-4: **£120.00**

★ For full contents and more information, visit: www.routledge.com/9781032286044

Technical Animation in Video Games



Matthew Lake

This book provides a comprehensive overview of video game technical animation, covering the next generation pipelines that industry developers utilize to create their games. It covers the technical animation workflow from start to finish, looking at both software and hardware, as well as the industry standard processes that all technical animators need to know. This book will be essential reading for early-career game technical animators as well as those studying on games animation courses. It will also appeal to technical animators working within the film industry.

CRC Press

Market: Game Animation

December 2023: 246x174: 256pp: 257 illus, 254 halftones, 3 line drawings

Pb: 978-1-032-20327-0: **£44.99**

★ For full contents and more information, visit: www.routledge.com/9781032203270

The Game Design Toolbox



Martin Annander

This book presents 71 practical game design tools that readers can use to solve real-world game design problems. Written to be a "toolbox" for game designers, it offers a hands-on approach with clear and easy-to-use tools so that readers can quickly find the right solution to the problem they are facing. Written to be a practical resource, this book will be a useful toolbox for junior and veteran game designers alike.

CRC Press

Market: Game Design

December 2023: 234x156: 168pp: 75 illus, 75 halftones

Pb: 978-1-032-36551-0: **£44.99**

★ For full contents and more information, visit: www.routledge.com/9781032365510

2nd Edition

The Game Narrative Toolbox



Tobias Heussner, Principle Translations and Interpreting, LLC, **Toiya Kristen Finley**, **Jennifer Brandes Hepler** and **Ann Lemay**

Series: Focal Press Game Design Workshops

Four experienced narrative designers from different genres of game development have banded together to create this all-inclusive guide on what it's like to work as a writer and narrative designer in the videogame industry. From concept to final testing, *The Game Narrative Toolbox* walks readers through what role a narrative designer plays on a development team and what the requirements are at every stage of

development. Thoroughly revised, the Second Edition includes updated content reflecting the industry's latest developments.

CRC Press

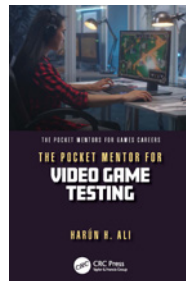
Market: Gaming & Animation

August 2023: 254x178: 328pp: 46 illus, 32 halftones, 14 line drawings

Pb: 978-1-032-43896-2: **£52.99**

★ For full contents and more information, visit: www.routledge.com/9781032438962

The Pocket Mentor for Video Game Testing



Harun H. Ali

Series: The Pocket Mentors for Games Careers

Want to work as a games tester in the video games industry? Then this is the book is for you. This book provides all the essential information and guidance you need to understand the industry and get your foot on the ladder. The book covers everything from the education you'll need, how to look for and apply for job opportunities, as well as the studio interview process itself. It also includes advice for what to do once you're in the role, with chapters covering how to write a bug report, creating test plans, as well as interviews with top tips from experts in the industry. This book will be of great interest to all

beginner and aspiring games QA testers.

CRC Press

Market: Game Development

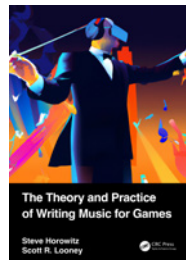
December 2023: 216x138: 128pp: 4 illus, 4 line drawings

Pb: 978-1-032-32397-8: **£29.99**

★ For full contents and more information, visit: www.routledge.com/9781032323978

TEXTBOOK

The Theory and Practice of Writing Music for Games



Steve Horowitz and **Scott R. Looney**, Game audio and game scoring instructor at Pyramid Training and part-time faculty at Academy of Art University

Based on years of working in the field, as well as teaching the subject at colleges and universities, *The Theory and Practice of Writing Music for Games* is an invaluable resource for those looking for a classroom tested, directed course of study. Each chapter builds on the next and guides the reader step by step through the essentials. Along with all the theory, a multitude of clearly defined hands-on projects and exercises are included, designed to prepare the reader to go out into the field with a complete understanding of the art and craft of music

composition for games and visual media.

CRC Press

Market: Games and Animation

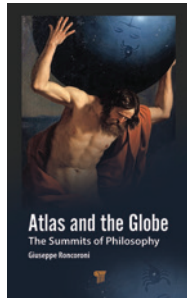
December 2023: 254x178: 216pp: 62 illus, 56 halftones, 6 line drawings

Pb: 978-1-032-53863-1: **£59.99**

★ For full contents and more information, visit: www.routledge.com/9781032538631

Atlas and the Globe

The Summits of Philosophy



Giuseppe Roncoroni

This book is an anthology of philosophical essays. Its principle is simple: Every moment of our life is original. The value of the book is linked to a confirmation of its principle through a coherent and innovative solution to the problems of knowledge. In the foreground, we encounter the relationship between the mind and the brain, where the terms are composed according to the analogy with music and the musical score, and then the meaning of time and the meaning of the Big Bang. These are the purpose and the meaning of the book.

Jenny Stanford Publishing

Market: Philosophy

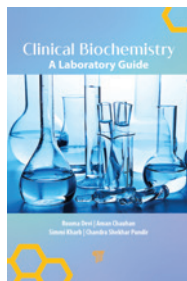
August 2023: 229x152: 190pp: 16 illus, 16 halftones

Hb: 978-981-4968-68-3: **£37.99**

★ For full contents and more information, visit: www.routledge.com/9789814968683

Clinical Biochemistry

A Laboratory Guide



Rooma Devi, Aman Chauhan, Simmi Kharb and Chandra Shekhar Pundir

This book focuses on the basic and practical concepts of clinical biochemistry. It deals with the understanding of urine analysis; carbohydrate, protein, and lipid analyses; and diabetes and lipid profile. The book is well-suited for academic courses, including undergraduate, graduate, postgraduate, and professional courses. It covers the practical syllabus for MBBS, BDS, BSc MLT, and BSc nursing, and MSc students. For undergraduate students in the disciplines of biochemistry, molecular biology, chemistry, and other related biological sciences, this book forms an integral part of the syllabus with its case studies, MCQs, biochemistry, OSPEs, etc.

Jenny Stanford Publishing

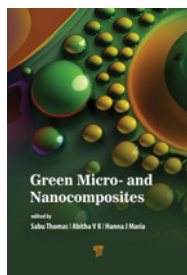
Market: Biochemistry

October 2023: 229x152: 306pp: 147 illus, 98 halftones, 49 line drawings

Hb: 978-981-4968-75-1: **£76.99**

★ For full contents and more information, visit: www.routledge.com/9789814968751

Green Micro- and Nanocomposites



Edited by **Sabu Thomas, Abitha V.K. and Hanna J. Maria**

Green materials derived from renewable resources are increasingly being advocated for sustainable development due to rising environmental consciousness, waste management difficulties, depleting fossil resources, and rising oil prices to name a few. This book gives a true reflection of the vast area of research in green composites as it has contributions from internationally recognized experts in the field of green polymer materials, representing a wide range of disciplines, backgrounds, and expertise.

Jenny Stanford Publishing

Market: Polymer Chemistry

October 2023: 229x152: 290pp: 59 illus

Hb: 978-981-4968-79-9: **£139.00**

★ For full contents and more information, visit: www.routledge.com/9789814968799

Handbook of Nanofibers and Nanocomposites

Characteristics, Synthesis, and Applications in Textiles



Mohd Yusuf and Aminoddin Haji

Textiles with functional properties such as antimicrobial finishes, drug delivery, ultraviolet resistance, electrical conductivity, superhydrophilicity, superhydrophobicity, self-cleaning, EMI shielding, flame-retardance, etc. can be developed with the help of nanotechnology. Recently, nanofibers and textile nanocomposites have attracted great interest in the industry and research, and electrospinning is the most famous among the several methods that have been developed for the fabrication of nanofibers. This book is a collection of the reviews on the recent advances in the fields of nanofibers, nanocomposites, and their applications in textiles as well as related fields.

Jenny Stanford Publishing

Market: Industrial Textiles

July 2023: 229x152: 278pp: 42 illus, 7 halftones, 35 line drawings

Hb: 978-981-4968-77-5: **£139.00**

★ For full contents and more information, visit: www.routledge.com/9789814968775

Natural Food Preservatives



Sourish Bhattacharya, Central Salt and Marine Chemicals Research Institute, India and

Heba Hassan Abd-El Azim Salama, National Research Centre, Egypt

The book provides detailed information on the range of natural food preservatives with their applications in different product sectors. It provides knowledge about preservatives, such as bacteriocins and ϵ -polylysine, as well as their usage in achieving the right balance of safety, quality, and shelf-life for specific products. The book is a collection of the research and experiences of an international team of experts and is a valuable tool for all those who are related to the advancements and

production of safe and healthy foods.

Jenny Stanford Publishing

Market: Food Additives & Ingredients

January 2024: 229x152: 268pp: 32 illus

Hb: 978-981-4968-64-5: **£116.00**

★ For full contents and more information, visit: www.routledge.com/9789814968645

Novel Developments in Cryo-EM of Biological Molecules

Resolution in Time and State Space



Joachim Frank

The book describes a successful approach in which, based on cryo-EM data, all states visited by the molecule in thermal equilibrium are mapped by manifold embedding—a method of geometric machine learning—and the energy landscape of the molecule is derived. It also discusses methods and biological results of time-resolved cryo-EM, following a reaction in a non-equilibrium system over a short period of time and resulting in the capture of short-lived states that have been inaccessible by standard methods of cryo-EM.

Jenny Stanford Publishing

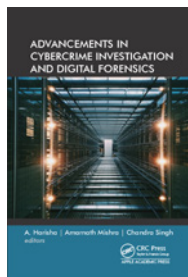
Market: Cell Biology

October 2023: 229x152: 552pp: 127 illus, 6 halftones, 121 line drawings

Hb: 978-981-4968-76-8: **£270.00**

★ For full contents and more information, visit: www.routledge.com/9789814968768

Advancements in Cybercrime Investigation and Digital Forensics



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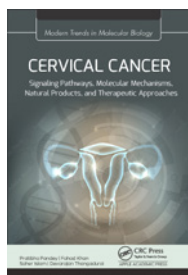
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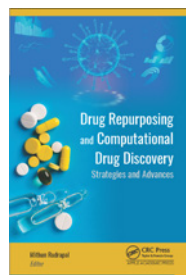
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3D Printing and Bioprinting for Pharmaceutical and Medical Applications	25
100 Diagnostic Dilemmas in Clinical Medicine (2e)	64

A

Additive Manufacturing for Biocomposites and Synthetic Composites	77
Adeleke, Oluwatobi	28
Adetunji, Charles Oluwaseun, ed.	70
Advanced Bioceramics	77
Advanced Non-Thermal Power Generation Systems	53
Advanced Photonics Methods for Biomedical Applications	80
Advancements in Cybercrime Investigation and Digital Forensics	86
Advances in Corrosion Control of Magnesium and Its Alloys	77
Aesthetic Gynecology Rejuvenation	66
Ahamed, Mohd Imran, ed.	70
Ahmad, Atif, ed.	49
Ahmad, Shahreen	40
Ahmed, Abdul	69
AI for Big Data-Based Engineering Applications from Security Perspectives	48
AI and Digital Technology for Oil and Gas Fields ..	50
AI for Diversity	2
AI for Finance	2
AI for Healthcare Robotics	2
AI for Learning	2
AI for Physics	2
AI for Scientific Discovery	2
Airport Baggage Handling Systems	55
Akgün, Abdullah Talip	48
Al-Khayri, Jameel M., ed.	86
Al-Turjman, Fadi, ed.	58
Al-Worafi, Yaser, ed.	71
Alam, Bahir, ed.	48
Alam, Bashir, ed.	48
Alam, Mansaf, ed.	48
Alexander, Rohan	12-13
Ali, Atif	58
Ali, Harun H.	84
Allcoat, Devon	83
Alon, Uri	14-15
Alston, Frances	56
Altalhi, Tariq, ed.	70
Amaral, Margarida D., ed.	68
Amin, Adnan, ed.	86
Andersen, Per Kragh	37
Annander, Martin	84
Anti-Corrosive Nanomaterials	70
Anxiety and Depression in Primary Care	64
Applications of Regression for Categorical Outcomes Using R	62
Applied Artificial Intelligence	53
Applied Thermodynamics in Unit Operations ..	50
Aquatic Medicinal Plants	69
Art of Medical Communication, The	66
Arthanareeswaran, G.	78
Artificial Intelligence, Fintech, and Financial Inclusion	55
Artificial Intelligence of Health-Enabled Spaces ..	58
Artificial Intelligence and Machine Learning in the Thermal Spray Industry	55
Artificial Neural Network-based Designs of Prestressed Concrete and Composite Structures	51
Artistic Approach to Virtual Reality, An	72
Asbury, Stephen	21
Ashrufuzzaman, Mohammad	81
Assadi, Djamchid, ed.	55
Atlas of Diabetes Mellitus (4e)	66
Atlas and the Globe	85
Awad, Ali Ismail, ed.	49
Aydede, Yigit	34

B

Bachheti, Archana, ed.	69
Bachheti, Rakesh Kumar, ed.	69
Bader, Alexander, ed.	66
Badiru, Adedeji B.	58
Bailey & Love's Essential Operations in Oral & Maxillofacial Surgery	39
Balafar, M.A., ed.	53
Balasingam, Suresh Kannan, ed.	79
Baliyan, Niyati	60
Ball, Sophie Jadwiga	66
Balusamy, Balamurugan, ed.	58
Banerjee, Sourav, ed.	79
Barnacle, Alex, ed.	67
Bartlett, Robert L.	82
Baseman, Harold, ed.	71
Basic Gambling Mathematics (2e)	61
Basic Surgical Skills	69
Behera, Bikash Chandra, ed.	57
Bellmane, Mounir	62
Bennett Gayle, DeeDee M.	59
Bhardwaj, Akashdeep, ed.	60
Bhat, Tariq Ahmad, ed.	86
Bhattacharya, Sourish	85
Bies, David A.	51
Big Data Analytics	62
Billingsley, John	10-11
Biology and Biotechnology of Environmental Stress Tolerance in Plants (3-Vol Set) ..	86
Biophysics (2e)	81
Bischof, Philippe	52
Blain, John M.	75
Blockchain and Artificial Intelligence-Based Solution to Enhance the Privacy in Digital Identity and IoT	53
Bobet, Antonio	31
Bognolo, Guido, ed.	70
Bollman, Mark	61
Bond, Leonard J.	54
Bonnell, Jerry	63
Borrelli, Claire	65
Bouchard, Claude, ed.	67, 68
Brace, Carol	20
Bray, George A., ed.	67, 68
Brennan, Peter	39
Brenton, Barrett P., ed.	77
Brill, Percy H.	64
Broglio, Kristine, ed.	62
Bubbles, Drops, and Particles in Non-Newtonian Fluids (3e)	78
Buckingham, Christopher	83
Building a Game Pitch	83
Building Your Career as a Statistician	32
Bulstrode, Neil W., ed.	67
Bush, Andrew, ed.	68
Business Planning for Games	83
Byard, Roger	16-17
Byrne, Dara	67

C

Carden, Lila	20
Cardoz, Linda	42
Cervical Cancer	86
Chakraborty, Ripon Kumar, ed.	56
Challenging Cases in Clinical Research Ethics ..	64
Chambers, John	67
Change Agent, The	60
Changing Cultures	51
Chauhan, Aman	85
Chemical Peels in Clinical Practice	66
Chen, Ding-Geng	64
Cheng Feng, ed.	71
Chew, Shee Jia	50
Chhabra, Raj P., ed.	78
Ching, Jianye	52
Chiu, Jiunn-Shyang	52

Chong, Chien Hwa	50
Choo, Chee Ming	50
Choo, Kim-Kwang Raymond, ed.	49
Chundi, Parvathi	8-9
Clarke, Barry R.	35
Clark's Essential Guide to Mammography	65
Clegg, Gareth, ed.	65
Clinical Biochemistry	85
Clinical Consultation Skills in Medicine	67
Colacino, Evelina, ed.	70
Coldwater Fisheries and Aquaculture Management	86
Communicating Science Clearly	4-5
Complete Guide to Blender Graphics, The (8e) (Vol. 1)	75
Complete Guide to Blender Graphics, The (8e) (Vol. 2)	75
Complete Guide to Character Rigging for Games Using Blender, A	83
Compression Textiles for Medical, Sports, and Allied Applications	78
Computer Arithmetic in Practice	58
Conquering JavaScript: D3.js	72
Conquering JavaScript: Node.js	72
Conquering JavaScript: The Practical Handbook ..	72
Conquering JavaScript: Three.js	72
Control Basics for Mechatronics	10-11
Controlling Privacy and the Use of Data Assets (Vol. 2)	48
Conveyors (2e)	56
Cook, Jasper	52
Coqueret, Guillaume	63
Coughlan, Paul	81
Critical Materials and Sustainability Transition ..	78
CSS Frameworks	57
Cudney, Elizabeth A.	45
Cunha, Carlo R. da	45
Cyber Resilience in Critical Infrastructure	48
Cyber Security Using Modern Technologies	48
Cybercrime and Cybersecurity	48
Cybersecurity for Decision Makers	48
Cybersecurity Operations and Fusion Centers ..	49

D

Danielson, Mats	23
Dantu, Nitin Vamsi	59
DAQ, Bridgit	60
Dark World	58
Das, Ravindra	61
Dash, Sabyasachi	68
Dassanayake, Mackingsley Kushan	50
Data Driven Guide to the Analysis of X-ray Photoelectron Spectra using RspG	81
Data Science for Sensory and Consumer Scientists	63
Davies, Jane C., ed.	68
de la Torre, Sebastián Díaz, ed.	79
De Souza, Vanessa Rios	63
Deep and Shallow	73
Delarue, Julien	63
Demand Forecasting for Executives and Professionals	63
Demetrescu, Camelia	67
Demir, Halil Ibrahim	56
Design Techniques for Origami Tessellations	33
Designing Controls for the Process Industries (2e) ..	50
Devi, Rooma	85
Dhanabalan, Shanmuga Sundar, ed.	79
Dhinasekaran, Durgalakshmi, ed.	78
DiBiase, Thomas A. (Tad)	76
Differential Geometry and Its Visualization	61
Digital Freedom	59
Digital Signals Theory	73
Digital Transformation Handbook	59
Djavanmardi, Faramarz, ed.	79
Doan, Long	62
Dolicanin, Cermal	61
Downes, Graeme M.	69

Drawn to Life: 20 Golden Years of Disney Master Classes (2e)	83
Volume 1: The Walt Stanchfield Lectures	83
Volume 2: The Walt Stanchfield Lectures	83
Drug Repurposing and Computational Drug Discovery	86
Drukarch, Hadassah	2
Drying of Aromatic Plant Material for Natural Perfumes	50
Drying of Herbs, Spices, and Medicinal Plants ..	50
Drying and Valorisation of Food Processing Waste	50
Du Boulay, Benedict	2
Dubnov, Shlomo	73
Duenas, Devan M., ed.	64
Dwivedi, Deepak, ed.	51

E

Easttom, Chuck	53
Echocardiography (4e)	67
Efficiency and Sustainability in the Energy and Chemical Industries (3e)	27
Eidani, Mostafa	53
Einstein, Herbert H.	31
Ekenberg, Love	23
Electronics for Scientists	53
Elkins, Kelly	44
Emergency Echocardiography (3e)	67
Empowered or Left Behind	59
Engineering Noise Control (6e)	51
Engler, Olaf	79
Ennis, John	63
Ensminger, Dale	54
Erden, Caner	56
Evans, Chris	83
Exploring Data Science with R and the Tidyverse ..	63

F

Fagan, Brennen	38
Fahnert, Beatrix	66
Family Medicine in the Undergraduate Curriculum	65
Fan, Lingling	54
Fang, Qihong, ed.	79
Feldman, Steven R.	68
Feroz, Shaik, ed.	79
Ferrag, Mohamed Amine, ed.	49
Finley, Toiya Kristen	84
Fitzgerald, Todd	24
Flachskampf, Frank A., ed.	67
FORCE Fabric	83
Forecasting and Analytics with the Augmented Dynamic Adaptive Model (ADAM)	63
Forensic DNA Transfer	76
Forensic Law Casebook	76
Forensic and Legal Medicine: Clinical and Pathological Aspects	16-17
Fosch-Villaronga, Eduard	2
Frank, Joachim	85
Functional Biomaterials	78
Functional Materials for the Oil and Gas Industry ..	51
Functional Polymers and Nanomaterials for Emerging Membrane Applications	78
Fundamentals of Foundation Engineering	52
Fundamentals of Power Systems Analysis 1	53
Furterer, Sandra L.	57

G

Gadhamshetty, Venkataramana	8-9
Gadhoke, Preeti, ed.	77
Galloway, Alison, ed.	76
Game Audio Programming 4	84
Game Design Toolbox, The	84
Game Narrative Toolbox, The (2e)	84
Garcia, Felipe, ed.	70
Gardner, David K.	41
Garg, Shivi	60

Pal, Arindam, ed.	56
Pal, Om, ed.	48
Paladini, Dario	43
Pandey, Pratibha, ed.	86
Pascal, Steven M.	71
Patel, Swati A., ed.	78
<i>Path of Flames</i>	76

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