



fractal and fractional



Special Issue Reprint

Fractal and Fractional Analysis in Biomedical Sciences and Engineering

www.mdpi.com/books/reprint/11389

Edited by
Andjelija Ž. Ilić

ISBN 978-3-7258-4847-8 (Hardback)
ISBN 978-3-7258-4848-5 (PDF)



Over the past two decades, various signal and image analyses, as well as bioinformatics approaches, have had a significant impact on research in life sciences. Problems arising in medical and biological research depend on a multitude of system parameters, often in a nonlinear way; these problems can often be successfully addressed via the tools of complex system analysis. Fractal and fractional analysis, originally rooted in theoretical developments, has later been recognized as well-suited for analyzing problems that occur in nature. Due to the random multiplicative processes in an organism, influencing growth, differentiation, and function, structures can be described in terms of scaled copies of self-similar entities. Machine learning and artificial intelligence are increasingly being employed in combination with fractional calculus.

This Special Issue Reprint offers an overview of state-of-the-art developments in the field of fractal and fractional-based methodologies as applied to the analysis and modeling of biological entities. Eight out of ten articles directly target cutting-edge medical problems. It is highly multidisciplinary and is expected to be of interest to researchers from the health sector, life sciences, and applied mathematics, as well as to readers with different academic or practical backgrounds.



Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/11389

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.