IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 3, Issue 2, August 2023
Impact Factor: 7.301

Applications of Fractional Calculus in Biological Modules

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Abstract: *Fractional calculus, a captivating extension of traditional calculus, empowers us to explore differentiation and integration beyond the realm of whole numbers. This mathematical framework allows us to delve into the fascinating world of non-integer orders, unlocking new possibilities for understanding complex biological systems. In this article the various applications of Fractional calculus in biological tissues, Cartilage mechanics, Bone mechanics and Cell growth are given. Fractional calculus provides the mathematical language to describe such systems, allowing us to unravel the secrets of their intricate dynamics.*

Furthermore, fractional calculus sheds light on the memory effects associated with enzyme kinetics, demonstrating how past interactions shape the present behaviour of these crucial biological catalysts.

Keywords: Fractional calculus, biological tissues, Cartilage mechanics, cell growth