

Discussion on the application of fractional-order perspectives of biological systems

Carla M.A. Pinto * Dumitru Baleanu **

* *School of Engineering, Polytechnic of Porto, and Center of Mathematics, University of Porto (e-mail: cap@isep.ipp.pt).*

** *Lebanese American University, Beirut (e-mail: dumitru.baleanu@gmail.com)*

Abstract: Fractional calculus has emerged, during the last few decades, as a powerful and efficient mathematical tool to study several phenomena in science and engineering. Research in the fractional differentiation is inherently multidisciplinary and its applications are seen in diverse areas, namely: mechanics, signal analysis, biomedicine, bioengineering, social systems, management, financial systems, population growth, etc. Biological systems are complex networks of biologically relevant entities. In this sense, in this session, we will discuss the conditions/constraints/cautions to apply when approximating a fractional-order model to a complex biological network. Looking forward to your novel research on this topic.

Keywords: mathematical epidemiology, biological systems, fractional order

