NEW TRENDS OF MODERN FRACTIONAL CALCULUS

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Abstract

This year, fractional calculus celebrated 325 years of its brilliant existence. During this huge period of time, many top level results have been reported from both pure and applied viewpoints. More to the point, a diverse viewpoint about fractional calculus operators has been presented and debated.
In my talk, I am going to present some new trends within modern fractional calculus.

Short Bio: Dumitru Baleanu is a professor at the Institute of Space Sciences, Magurele-Bucharest, Romania and a visiting staff member at the Department of Mathematics, Cankaya University, Ankara, Turkey. Dumitru Baleanu got his Phd from the Institute of Atomic Physics in 1996. His fields of interest include the fractional dynamics and its applications, fractional differential equations and their applications, discrete mathematics, image processing, bio-informatics, mathematical biology, mathematical physics, soliton theory, Lie symmetry, dynamic systems on time scales, computational complexity, the wavelet method and its applications, quantization of systems with constraints, the Hamilton-Jacobi formalism, geometries admitting generic and non-generic symmetries.

Dumitru Baleanu is co-author of 15 books published by Springer, Elsevier and World Scientific. He published more than1000 ISI papers. His H index is 65 and he is highly cited researchers in Mathematics and Engineering. Dumitru Baleanu won the 2019- Obada Prize. This prize recognizes and encourages innovative and interdisciplinary research that cuts across traditional boundaries and paradigms. It aims to foster universal values of excellence, creativity, justice, democracy, and progress and to promote the scientific, technological, and humanistic achievements that advance and improve our world.

Besides, together with G.C. Wu, L.G. Zeng,X.C. Shi and F. Wu, Dumitru Baleanu is the coauthor of a Chinese Patent No : ZL 2014 1 0033835.7 regarding the chaotic maps and its important role in the information encryption.