

Yeliz Karaca is a Professor of Applied Mathematics at the Department of Mathematics and Senior Researcher Professor at the Department of Neurology at University of Massachusetts (UMass), MA, USA. She received her Ph.D. degree in Mathematics in 2012. Along with the other awards she has been conferred, she was granted the Cooperation in Neurological Sciences and Support Award by Turkish Neurology Association as the first mathematician in Türkiye. Besides these, she holds a medical card, based on the long-term various medical and clinical-related trainings she has received and been certified, as the only mathematician entitled to it. Furthermore, she has received many awards in her specialized discipline, one of which is Outstanding Reviewer Award (Mathematics Journal, MDPI) (2020), among the other national and international awards in different categories and grants.

Prof. Karaca is the Editor-in-Chief of the book series entitled *Systems Science and Nonlinear Intelligence Dynamics* by World Scientific. She has been acting as the lead editor, editor and associate editor in many different SCI indexed journals, some of which are Fractals Journal (WS), IEEE Access Journal and Brain X Journal (Wiley). She has many special issues in which she is the lead editor, one of which is *Fractals-Fractional AI-Based Analyses and Applications to Complex Systems* (Part IV-III-II-I Series) at Fractals Journal. She is the editor of over 30 proceeding series entitled *Computational Science and Its Applications – Lecture Notes in Computer Science* by Springer. She has edited books by publishers like Springer, World Scientific and Elsevier. She has authored books entitled *Computational Methods for Data Analysis* by De Gruyter (2018) and *Computational and Mathematical Neuroscience, Biology & Medicine: Clinical and Medical Applications* by Wiley-IEEE Press (2026).

She has been acting as a general chair and chair of international conferences, having offered lectures, seminar courses as well as workshops on mathematics, medical and clinical applications, engineering and applied sciences.

The research interests of Professor Karaca mainly focus on complex systems sciences with applications in various terrains, systems sciences, applied mathematics, advanced computational methods, AI applications, computational complexity, fractional calculus, fractals and multifractals, fractional dynamics, stochastic processes, differential and difference equations, discrete mathematics, discrete dynamical systems, nonlinear dynamics, complexity sciences, wavelet and entropy, chaos, solutions of advanced mathematical challenges, mathematical neuroscience and biology as well as advanced data analysis in medicine and other related theoretical, computational and applied domains.