



Dept. of Physics & Engineering Physics
Fall 2021 Physics Colloquium Series

remotely via ZOOM

Monday, September 20, 03:00-04:30 pm

An Introduction to Superoscillations

Prof. Daniele C. Struppa, Ph.D.

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In this talk I will give the basic mathematical ideas behind the notion of superoscillations, namely bandlimited functions that oscillate faster than the highest frequency that they contain. I will show how this phenomenon is possible, and I will study one of the basic problems that are of interest to physicists, namely the longevity of the phenomenon when evolved through a suitable Schrodinger equation. The talk is easily understandable by advanced undergraduate students, but I will also offer ideas and context for more complex developments.

Daniele C. Struppa, Ph.D., is the 13th President of Chapman University in Orange, California. Before assuming this title in 2016, he had served as Chapman University's Chancellor (Chief Academic Officer) for ten years, and as Dean of the College of Arts and Sciences at George Mason University for nine years. Dr. Struppa is a mathematician, whose expertise is in the field of Fourier Analysis; Dr. Struppa is the author of ten volumes, more than 200 peer reviewed publications, and holds several patents in the field of signal processing. Dr. Struppa has received numerous awards, including the 2016 Cozzarelli Prize from the National Academy of Sciences, the Ellis Island Medal of Honor, and is a member of the National Academy of Inventors.

Dr. Struppa was born in Milano, Italy, in 1955, and came to the United States in 1978, to pursue his Ph.D. at the University of Maryland; after a few years in Italy, he came back to the United States as a professor of mathematics at George Mason University in 1988.

Dr. Struppa is married to Mary Elizabeth (Lisa) Sparks, who is the Dean of the School of Communication at Chapman University, and is the father of four children, Alessandro, Elena, Arianna, and Athena.