FAKULTA ELEKTROTECHNIKY A KOMUNIKAČNÍCH TECHNOLOGIÍ
ústav matematiky

Srdečně zve na přednášku prof. Vicentia Radulesca

Some mathematical models in applied sciences: singularities, fractals, non-Newtonian fluids, and beyond

Přednáška se koná ve středu 19. 2. 2025 v 15:00
v učebně T6.16 (6. patro budovy Technická 8).

Abstract.
I shall discuss some of my preferred research subjects over the years. I will first point out some patterns involving various types of singularities: vortices, blow-up, renormalized energy, etc. Next, I will discuss some fractals in the real world (Mandelbrot set, Sierpinski triangle) in relation to a rigorous construction of the Laplace operator on such fractals. I will continue with some striking phenomena arising in the study of non-Newtonian fluids, which are described by anisotropic mathematical models involving variable exponents. The final part of my talk is devoted to a very spectacular contribution (the most spectacular mathematical formula, in my opinion), which is due to a "man who knew infinity".

Přednáška je určena nejen matematikům, ale všem zájemcům o přírodní vědy, jejich filozofické základy a interdisciplinární souvislosti.