

INSTITUTUL DE MATEMATICĂ “SIMION STOILOW” AL ACADEMIEI ROMÂNE

Conferința lunară

***A kaleidoscope of graph rewrite systems in topology,
metric geometry and computer science***

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Abstract: In this talk I want to explain, for a general audience, the occurrence and relations among several important graph rewrite systems. I shall start with lambda calculus and the Church-Turing thesis, then I shall describe Lafont' Interaction Combinators. After that I shall talk about graphic lambda calculus, about joint work with Louis Kauffman on relations with knot theory. Finally I explain how I, as a mathematician, arrived to study graph rewrites systems applications in computer science, starting from emergent algebras proposed in relation with sub-riemannian geometry and ending with chemlambda, hapax and em-convex with the associated graph rewrite system (short of "kaleidoscope"). During the talk I shall use programs which are based on graph rewrites, which are free to download and play with from public repositories.