INSTITUTUL DE MATEMATICA "SIMION STOILOW" AL ACADEMIEI ROMANE
cu sprijin **BITDEFENDER**

COMPUTER FRIENDLY TOPOLOGICAL INVARIANTS FOR REAL AND ANGLE VALUED MAPS; A COMPUTATIONAL ALTERNATIVE TO MORSE-NOVIKOV THEORY.

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la sediul **IMAR,** amfiteatrul **"Miron Nicolescu", parter**

Abstract: After a summary of the classical Morse-Novikov theory (MN-theory) with emphasize to dynamics, I will propose an alternative, the AMN-theory, based on a new class of invariants (bar codes and Jordan cells) which are computable by computer implementable algorithms. The AMN-theory provides almost the same remarkable relation between the topology and dynamics as the classical MN-theory but works for spaces and maps considerably more general than manifolds and Morse maps. The AMN-theory provides a substantial potential for applications outside mathematics as well as inside mathematics. Lecture three will provide an overview of the full theory and an explanation for the meaning and the properties of the underlying concepts.