1147-58-505 **Michel L. Lapidus*** (lapidus@math.ucr.edu), Department of Masthematics, University of California, Riverside, CA 92521-0135. *Complex Dimensions, Fractality and Minkowski Measurability.*

We plan to discuss several aspects of the theory of complex dimensions, with emphasis on the higher-dimensional case (that of Euclidean spaces, for example), the definition of fractality, fractal tube formulas and their relationship with various Minkowski measurability criteria. Much of this work is joint with Goran Radunovic and Darko Zubrinic and has been published in a number of papers as well as in the book "Fractal Zeta Functions and Fractal Drums: Higher-Dimensional Theory of Complex Dimensions" (Springer Monographs in Mathematics, Springer, 2017). If time permits, we may also discuss current and future research directions, along with several open problems connected in this context with the theory of Riemann surfaces (or of their higher-dimensional counterparts) and of the singularities of analytic functions (of one or several complex variables). (Received January 25, 2019)