1144-58-164 **Michel L. Lapidus*** (lapidus@math.ucr.edu), University of California, Department of Mathematics, 900 University Ave., Riverside, CA 92521-0135. *Analysis on Fractals and Noncommutative Fractal Geometry.*

We plan to give a survey of several aspects of noncommutative fractal geometry, with emphasis on analysis on fractals and via spectral triples, Dirac operators, Dixmier traces, Hausdorff measures, as well as noncommutative and geodesic metrics. This talk is based, in particular, on early work of the author followed by more recent work of the author joint with E. Christensen and C. Ivan (Advances in Math.) and with J. Sarhad (J. Noncommutative Fractal Geometry), respectively. The class of fractals dealt with includes the classic Sierpinski gasket, the harmonic gasket (a typical example of a "fractal manifold"), and more generally, a large family of fractals built on rectifiable curves. If time permits, we will also briefly discuss very recent work (J. Fractal Geometry, in press) of one of the presenter's Ph.D. students, Andrea Arauza, which nicely supplements several aspects of the latter papers. We will also present several open problems in this area. (Received August 23, 2018)