The 7\textsuperscript{th} Condensed Matter Physics Seminar of the 2015/2016 Series

will be presented in the James Fletcher Building (JFB), room 334 on Tuesday, October 20, 2015 at 4pm by

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\textbf{Quantum by lack of smoothness}

After a few general comments about measurements, scaling laws, and relativity, I will show how the abandonment of the implicit assumption of differentiability in classical mechanics leads to standard quantum mechanics. This process involves identifying resolution as an attribute of reference frames at the same level as position and motion. This, in turn, suggests that chaotic systems beyond the predictability horizon could be described in terms of a quantum-like mechanics. I will then go over possible experimental tests.