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**LEONARDO ROLLA**, University of Buenos Aires

*Absorbing-State Phase Transitions 3.0*

Modern statistical mechanics offers a large class of driven-dissipative stochastic systems that naturally evolve to a critical state, of which Activated Random Walks are perhaps the best example. The main pursuit in this field is to show universality of critical parameters, describe the critical behavior, the scaling relations and critical exponents of such systems, and the connection between driven-dissipative dynamics and conservative dynamics in infinite space.

This problem was stuck for more than a decade, then it saw significant partial progress about 9 years ago, and got stuck again. In this talk we will report on exciting progress made in the last 4 years, thanks to the contributions of Basu, Cabezas, Ganguly, Hoffman, Sidoravicius, Stauffer, Taggi, Teixeira, Tournier, Zindy, and myself. We will also discuss some of the several open problems.