

# Amalgamating the real Gamma and Zeta functions

Patrick Speissegger,

McMaster University

At the end of the last millenium, it became known that the real Gamma and Zeta functions (on the positive real half-line) generate (separate) o-minimal expansions of the real field. An obvious question that remained open is whether they actually generate one common o-minimal expansion of the real field. In collaboration with Jean-Philippe Rolin and Tamara Servi, we recently determined that they do indeed. The key ingredient in the proof is to redevelop the theory of multisummability (in the positive real direction) for generalized power series.