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Research Talk: The resurgent structure of topological strings

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Topological strings are described in perturbation theory by factorially divergent series, and one can ask what is their resurgent structure, namely the location of their Borel singularities and the corresponding values of alien derivatives. It turns out that an important part of this structure can be obtained by considering trans-series solutions of the holomorphic anomaly equations of BCOV. I describe exact formulae for the relevant trans-series and I propose a general conjecture for the resurgent structure of the topological string, which can be tested in compact and non-compact Calabi-Yau manifolds and also in matrix models. I also compare the resulting structure with similar results on quantum periods. In particular, I point out that Stokes automorphisms in topological string theory involve a more complicated structure than the one
captured by the Delabaere-Pham formula.

Orateur: MARIÑO, Marcos (University of Geneva)