From Kähler-Einstein metrics to zeros of zeta functions

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While the existence of a unique Kähler-Einstein metrics on a canonically polarized manifold X was established already in the seventies there are very few explicit formulas available (even in the case of complex curves!). In this talk I will give a non-technical introduction to a probabilistic construction of Kähler-Einstein metrics, which, in particular, yields canonical approximations of the Kähler-Einstein metric on X. The approximating metrics in question are expressed as explicit period integrals and the conjectural extension to the case of a Fano variety leads to some intriguing connections to zeros of some Archimedean zeta functions.