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*Entropy, holography, and p-adic geometry*

In the 1980s, Manin suggested that physics has "p-adic shadows" and that these p-adic counterparts can be used to better understand the ordinary formulation in terms of real and complex variables. This talk will illustrate how this idea can be applied to AdS/CFT holography, which relates gravity on a bulk space and conformal field theory on its boundary. In particular, holography predicts that information theoretic quantities like entanglement entropy on the boundary can be expressed in terms of geometric properties of the bulk. Instances of this relation can be established in terms of p-adic geometry.