

Tuesday, October 28th @ 2pm
Schwinger Lounge

“Large N Universality of 4d N=1 SCFT and Holography”

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Abstract: We classify all large N supersymmetric gauge theories with a simple gauge group that flow to interacting 4d SCFTs, finding three universal classes: Type I, with $a \neq c$, scaling linearly in N and a dense operator spectrum, and Type II/III, with $a = c$, quadratic scaling, and a sparse spectrum. For Type II/III, the large N superconformal index exhibits a universal form determined by 't Hooft anomalies, reproducing the Bekenstein–Hawking entropy of AdS black holes. We also introduce an index-analog of the spectral form factor, providing a toy model for the black hole information paradox in higher dimensions.