

Speaker: Christopher Porter

Title: Aspects of Bernoulli randomness

Abstract: This project brings together two strands of research in algorithmic randomness: (1) randomness with respect to computable measures and (2) randomness with respect to random measures. In particular, we examine which sequences are random with respect to a Bernoulli measure with a parameter p that is itself random with respect to some computable measure.

As anticipated by work of Vovk and V'yugin, Freer and Roy, and Hoyrup, all such sequences are, in fact, random with respect to a computable measure; such measures are obtained by taking a mixture of a collection of random measures. We further investigate the extent to which randomness with respect to a non-computable Bernoulli measure is compatible with randomness with respect to some computable measure, as well as which random Bernoulli measures can be mixed to obtain a computable measure. This is joint work with Quinn Culver.