Information Geometry and Game Theory

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In economics, the values of parameters can influence utilities, and in order to quantify such effects, one needs to compute products between gradients. Therefore, one needs a Riemannian metric. When the parameters are of an information theoretical nature, like capacities of information channel, one is naturally lead to the Fisher metric. In this talk, I shall develop the corresponding mathematical framework. and describe applications and examples in game theory. The players need not be fully rational, but may rather play so-called quantal response equilibria, which are based on kinds of Gibbs distributions.