

# Ehtibar Dzhafarov

Purdue University, USA

## Miscellaneous comments on contextuality

I will address some foundational aspects of contextuality. I will argue that two founding principles of the Contextuality-by-Default (CbD) approach, use of the content–contextual double-indexation of random variables and use of probabilistic couplings subject to constraints, are logically necessary if one describes the results of an experiment in terms of classically understood random variables. I will discuss the relationship of CbD to the notions of contextuality-through-hidden-variables and contextuality-through-counterfactual-values, showing that CbD can be viewed as a rigorous way of describing either of the two notions. I will discuss two measures of the degree of contextuality stemming from the CbD approach, one based on the maximal sum of the probabilities with which two content-sharing variables can be equal within an overall coupling of the system, and one based on the minimal total variation in a quasicoupling with signed probabilities.