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Speaker: *Nozer D. Singpurwalla, The George Washington University and The City University of Hong Kong, School of Data Science.*

Title: ***Updating Subjective Probability: The Essence of Data Science***

Discussant: *Refik Soyer, George Washington University*

Time: *Friday, November 22, 3:30 pm –4:30 pm*

Place: *Duques Hall, Room 652 (2201 G Street, NW), George Washington University*

Abstract

Questions have been raised as to what is the **scientific paradigm** *underlying data science, a topic embraced by many academic departments, government organizations, and industrial laboratories?*

We endeavor to address this question, because many (though, not all) see the methodology of data science as a fusion of many disciplines, enshrined under the umbrellas of artificial intelligence and machine learning. To do so, we take a top down philosophical view, and claim that data science is fundamentally an enabler of **probabilistic induction,** *by updating subjective probabilities. The said updating need not be done via Bayes' Law; there are other ways to update. We point out caveats in invoking Bayesian inference, and suggest alternatives like "Jeffrey's Rule". The caveats pertain to Complete Enumeration, Confirmation Tenacity, and Affirmative Conditioning. Our focus is subjective probability, since it is the most defensible interpretation of probability, popular with computer scientists, and now acceptable even to quantum physicists.*

The architecture of this talk is conversational, possibly controversial, and presumably accessible to a wider audience of business analysts, economists, engineers, natural scientists, and hopefully, all number crunching professionals who instinctively turn the Bayesian crank.

Wine and cheese reception follows.