

Title: Polyadic Inductive Logic and Spectrum Exchangeability

Abstract: Inductive Logic á la Carnap & Johnson was founded on the idea that the probabilities we assign in our everyday lives may be *logical* in the sense that they are determined by our knowledge via general rationality considerations. [So this is the ‘Inductive Logic’ of Philosophy and is not the same as the ‘Inductive Logic’ of Computer Science.] As a potentially applicable topic Inductive Logic is nowadays generally considered within Philosophy to have failed, largely on account of Nelson Goodman’s GRUE Paradox.

However as a ‘pure’ mathematical investigation into rationality, with its relevance to the aspirations of AI, it survives and has recently seen some interesting developments. In particular the serious investigation into Polyadic Inductive Logic (Carnap et al only ever considered unary properties) has uncovered some new rational principles which appear to be remarkably powerful, even when reflected down to the unary level.

In my talk I shall try to give a fairly informal introduction to one such principle.