

# Probability Functions with Special Symmetry Properties in Polyadic Inductive Logic

## **Abstract:**

Principles based on symmetry provide a natural and powerful source for rational principles in Inductive Logic. Indeed, this is unsurprising, since notions of symmetry play a significant role in decisions we make in our everyday life. As such, considerable effort has gone into formalising what exactly we mean by a ‘symmetry’. In this talk, we shall identify a symmetry with an *automorphism*, and discuss a special type of automorphisms, namely automorphisms permuting state formulae. We shall then introduce Nathaniel’s Invariance Principle (NIP), a more practicable formulation of this idea, and present a method for generating functions that satisfy this principle from arbitrary probability functions.