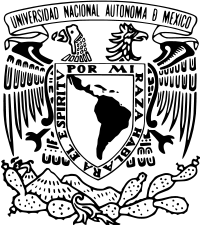
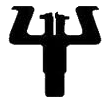
**National Autonomous University of Mexico**

**Faculty of Psychology**

**Title:**

**Bayesian cognitive and statistical modeling of mean performance phenomena: An application to Signal Detection Theory and the Mirror Effect.**

**Author:**

Adriana Felisa Chávez De la Peña

[adrifelcha@gmail.com](mailto:adrifelcha@gmail.com)

and

Arturo Bouzas Riaño

**Submitting for:**

52nd Annual Meeting of the Society for Mathematical Psychology

(Poster)

**Keywords:**

Signal detection theory; Bayesian modeling; Perception; Recognition memory; Mirror effect.

**Abstract (250 words):**

The mirror effect is a well-established empirical result in recognition memory. It shows that, when comparing subjects’ responses between classes of stimuli that area differentially recognized, there are systematic differences between the identification of both targetns and lure stimuli, as measured by hit and false alarm rates. Since the mirror effect is predominantly tested for recognition memory tasks, most attempts to explain the pattern involves theorizing about high.level processes engaged in the study phase. By designing a perceptual task with the same general structure (two levels of discriminability, in this case defined by manipulating an optical illusion) and replicating the mean-performance based analysis reported in the literature, we present evidence of the mirror effect outside recognition memory. We then present a more detailed model.based analyses, using signal detection theory and hierarchical Bayesian methods to assess the existence of the mirror effect at both the group and individual level.