



## Departmental Colloquium

Prof. Hokwon Cho

Department of Mathematical Sciences

University of Nevada at Las Vegas

November 30th, 2023, 3:00 PM, Knot Hall 108

Zoom link <https://loyola.zoom.us/j/81524803402>

Meeting ID: 815 2480 3402

Passcode: mathstat

## Goodness-of-fit Tests for Multinomial Models with Inverse Sampling



### Abstract

This article proposes goodness-of-fit testing multinomial models using an inverse sampling scheme. From the multiple decision-theoretic perspectives, we devise a test statistic and stopping rule that satisfies a prespecified probability level  $P^*$  and obtain corresponding optimal sample sizes. Incomplete Dirichlet Type-II distribution functions are used to develop the procedure and to express the probability of correct decisions for various cell configurations in multinomial models. For empirical studies, Monte Carlo experiments are conducted, and for illustration, moderate cell configurations of a wheel of fortune will also be demonstrated.

Refreshments will be served.