

GRADUATE SEMINAR

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ASYMPTOTIC ANALYSIS OF METHOD OF MOMENTS ESTIMATORS OF PARAMETERS p AND m FOR THE BINOMIAL DISTRIBUTION

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3:00-4:00 PM

CL313

Abstract: The aim of my talk is to discuss asymptotic properties of estimators for the Binomial distribution by the Method of Moments and an application of this estimators to evaluation characteristics of the neuromuscular junction (synapse). To achieve these goals it is necessary to solve the following problems:

1. Derivation of estimators for parameters of Binomial distribution by the Method of Moments;
2. Derivation asymptotic normality of estimators by Delta-method;
3. Comparison of the derived asymptotic with the true probabilistic characteristics of the estimators by the method of statistical simulations;
4. Estimation of the parameters m and p of the Binomial distribution the observations of the number of replies in a response for a nerve stimulation in an experiment on the neuromuscular junction (synapse) (m is the number of synaptic vesicles with acetylcholine and p is the probability of a acetylcholine release by a synaptic vesicle).