

# MATHEMATICS RESEARCH SEMINAR

3:00-3:50 April 15 and April 29

102 University Hall

## ON LINEAR BIRTH PROCESSES

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*ABSTRACT:* The motivation for this talk is the recent resurgence of interest in estimating initial size and birth rates for the linear birth process. We will consider older published literature on this topic including the article by Goudie and Goldie (1981) and Hoffman (1992). I will include enough mathematical background to allow the audience to understand the shortcomings of certain approaches used to generate estimators for the size and rate parameters. Topics include the construction of a joint density function of sojourn times, maximum likelihood estimation and optimization techniques.