



The University of Chicago
Department of Statistics

FIRST YEAR PHD PRESENTATION

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**Capturing Heterogeneity in Gene Expression Studies
by Surrogate Variable Analysis**

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ABSTRACT

It is often the case in most gene expression studies that there are sources of signal due to factors that are unknown or unmeasured which may have substantial effects on gene expression levels, in addition to measured variable(s) of interest. Failing to incorporate these sources of heterogeneity in an analysis can lead to inaccurate and often misleading results. Surrogate variable analysis (SVA) is the proposed remedy to overcome the problems caused by heterogeneity in gene expression studies. SVA can be used in conjunction with standard analysis techniques to accurately capture the relationship between gene expression and modeled variables of interest, leading to increased biological accuracy and reproducibility in these expression studies.

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