



## Operations Research Seminar

# Reliability Estimation for Systems Subject to Load Sharing

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I will review the role of load sharing in modern reliability analysis and discuss the problem of estimating load share parameters. An estimator for the load share parameters in an equal load-share model is derived based on observing simple parallel systems of identical components. In an equal load share model, after the first of the components fails, failure rates for the remaining components can change. Specifically, we discuss semi-parametric estimation of the component baseline cumulative hazard function, along with its asymptotic properties. The effect of estimation of the load-share parameters is considered in the derivation of the limiting process. Potential applications can be found in diverse areas, including materials testing, software reliability, power plant safety assessment and even military strategy.

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**Date: Monday, May 5, 2008**

**Time: 15:00-16:00**

**Location: Glasgow 286**