SPECIAL STATISTICS SEMINAR
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Some Tests for Randomly Censored Data

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This contribution deals with testing of a change in the distribution of variables which are independent but can be consored. Let $X_1^0, \ldots, X_n^0$ and $C_1, \ldots, C_n$ be mutually independent random variables such that for some $\gamma \in (0, 1]$ the *survival times* $X_1^0, \ldots, X_{[\gamma n]}^0$ and $X_{[\gamma n]+1}^0, \ldots, X_n^0$ respectively have the (distinct) common distribution functions F_1 and F_2. We also have a *censoring time* $\eta \in (0, 1]$ such that $C_1, \ldots, C_{[\eta n]}$ and $C_{[\eta n]+1}, \ldots, C_n$ respectively have the (distinct) common distribution functions G_1 and G_2. The distribution functions F_1, F_2, G_1, and G_2 are assumed to be absolutely continuous, but otherwise unknown, and γ (or $[\gamma n]$) is the *change-point*. In the present model, we observe $X_i := \min(X_i^0, C_i)$ and $\Delta_i := I\{X_i \leq C_i\}$, and test

$$H_0 : \ \gamma = 1 \text{ (no change)} \quad \text{against} \quad H_A : \ \gamma < 1, \tag{1}$$

and $\eta \in (0, 1]$ is a nuisance parameter.

Monday February 24; 3:00 p.m.–4:00 p.m.; Place to be announced