

# *Colloquium*

UNIVERSITY OF GEORGIA  
DEPARTMENT OF STATISTICS

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**“Fully Sequential Procedures for Constrained Ranking and Selection”**

Christopher Healey, Sigrun Andradottir, and Seong-Hee Kim

We consider the problem of finding the best simulated system under a primary performance measure, while also satisfying stochastic constraints on secondary performance measures, known as constrained ranking and selection. Solving this problem requires the identification and removal from consideration of infeasible systems (Phase I) and of systems whose primary performance measure is dominated by that of other feasible systems (Phase II). We employ indifference zones in both phases and consider two approaches, namely, carrying out Phases I and II sequentially and carrying out Phases I and II simultaneously, and we provide specific example procedures of each type. We also present a new framework that allows certain systems to become dormant, halting sampling for those systems as the procedure continues. In addition, we address topics critical to efficiency of these procedures, namely the allocation of error between Phases I and II and the use of common random numbers (CRN).

**Thursday September 9th, 2010**

ROOM 306

Statistics Building

University of Georgia

Athens, GA 30602

3:30 P.M. – Room 306, Statistics Building

**Refreshments following talk at 4:30 P.M. in room 230 (The Cohen Room)**