SEMINAR SERIES
Department of Quantitative Analysis and Operations Management
College of Business Administration
University of Cincinnati

"Bounds on Aggregation Error for Large Scale Location Problems"

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Location problems involve the siting of one or more new facilities to serve several existing facilities (customers). A measure of quality of the locations chosen often depends upon distances between the new facilities and the existing facilities served. In urban, regional, or geographic contexts, there may be hundreds of thousands (or more) of existing facilities, in which case it is common to aggregate existing facilities, e.g., represent all of the existing facility locations in a zip code area by a centroid. Aggregation makes the size of the problem more manageable, but also introduces error. A means of evaluating error through a worst-case error bound will be discussed. A general approach to computing error bounds will be developed and applied to several location models that have appeared in the literature. If time permits, an aggregation scheme for a particular planar location problem will be discussed**.**

Timothy J. Lowe is the C. Maxwell Stanley Professor of International Operations Management at the Tippie College of Business, University of Iowa. He formerly served as Director of the College's Manufacturing Productivity Center. He received his BS and MS degrees in engineering from Iowa State University and his Ph.D. in operations research from Northwestern University. He has served on the editorial boards of several scholarly journals, and he has held several grants from the National Science Foundation to support his research. He has published more than 70 papers in leading journals in his field. Professor Lowe has worked as a project/process engineer for the Exxon Corporation, and has served on the faculties of the University of Florida and Purdue University. At Purdue, he served as the Director of Doctoral Programs and Research for the Krannert Graduate School of Management. He has considerable experience in executive education, and has served as a consultant in the areas of production and distribution for several companies.