**Description of Spatial Regression Analysis Workshop**

University of Kentucky, May 17-19, 2011

**Workshop:**The goal of this three-day workshop is to provide an overview of applied spatial regression analysis (spatial econometrics) that will enable participants to effectively incorporate these tools into their own empirical research. This course will introduce the broader field of spatial data analysis and the range of issues that generally must be dealt with when analyzing georeferenced data. Census-type data are among the most commonly encountered data that conform to this description, although the course acknowledges the wider range appropriate for modeling spatial data. The role of spatial autocorrelation in spatial data sets is a central focus. This course will address such questions as: how does spatial autocorrelation arise? How is it measured and understood? How does it relate to issues of spatial heterogeneity and spatial dependence? How should it inform the specification and estimation of regression models? The workshop is structured around a combined lecture format (mornings) and computing lab exercises (afternoons). Although we will use mapping software, the focus of the course is on spatial data analysis, not Geographic Information Systems (GIS). Software emphasis will be given to the spatial modeling software GeoDaTM for exploratory spatial data analysis (ESDA) and modeling. The functionality of GeoDa will be extended through the use of the open source statistical packages in R program suite. Some acquaintance with these software packages is helpful but is not a prerequisite. Prerequisites for maximizing learning in this course are a solid grounding in standard multivariate regression techniques and a minimal level of comfort with matrix notation and algebra.

**Instructor:** Dr. Paul Voss is Research Professor of Sociology, Fellow of the Carolina Population Center, and Senior Spatial Analyst at the Odum Institute for Research in Social Science at UNC Chapel Hill. He also is Emeritus Professor of Rural Sociology at the University of Wisconsin-Madison. Over the past 35 years his research has focused on applied demography with specializations in small-area population estimation and forecasting as well as domestic migration trends. During the past 15 years his research and teaching interests have more narrowly focused on the fields of spatial demography and spatial econometrics. He served for many years as the director of Wisconsin’s Applied Population Laboratory, where he founded and led the Geographic Information and Analysis Core of the Wisconsin Center for Demography and Ecology until his retirement from the University of Wisconsin in 2006. He serves as faculty advisor to the Carolina Population Center’s Spatial Analysis Unit and he teaches courses in spatial data analysis at UNC and consults on a wide array of projects ranging from spatial modeling, disease mapping, spatial epidemiology and demography.