March 24, 2005

Nashville, TN. Professors David A. Padgett (Tennessee State University), and Nikitah O. Imani (James Madison University) jointly presented papers in a session entitled "Geographic Information Systems (GIS) and Spatial Analysis Tools to Enhance Social Science Course Content and Research" at the 70th Annual Meeting of the Association of Social and Behavioral Scientists (ASBS). The ASBS began with a 1935 meeting of social scientists from Black colleges with the mission of improving social science education at their respective institutions. The ASBS served as a voice for African America scholars during a period when racial segregation was the law of the land in the South and other regions of the U.S. Today, the organization's mission remains focused upon highlighting teaching and research at Historically Black Colleges and Universities (HBCUs), primarily through its scholarly publication, the Journal of Social and Behavioral Scientists.

David A. Padgett

Padgett's presentation, "Geographic Information Systems (GIS) in Support of Service Learning Course Content in an Undergraduate Geography Course," included demonstration modules he began to develop during the SPACE 2005 Summer Workshop at U.C. Santa Barbara. The modules' purpose is to improve the delivery of GIS and

spatial concepts to his students, none of whom have prior experience in cartography or spatial analysis. Padgett reported that with the initiation of the modules during the spring 2005 semester in his Urban Geography (GEOG 4850) course, it appears as if the students have taken to them well. Each student is required to complete an "Urban GIS Term Paper" which counts for 20 percent of his/her grade. The students are required to collect spatial data which Padgett then brings into ArcGIS, GeoDa, LandView GIS, and other software in a live demonstration module during class meetings. Each student is exposed to geo-spatial analysis of not only his/her own data, but to those of all the other students as well.

Padgett discussed two module pilots, one in which he demonstrated geocoding and attribute data table development to map and analyze the results of a "grocery store quality" audit. The second module involved applications of GIS, global positioning systems (GPS), and remote sensing in the layout of an urban landscape model designed to expand the "walkable space" in an inner-city community. The presentation elicited many questions from the audience. One attendee mentioned that Padgett's approach is "exactly what is needed" to garner HBCU students and administrators interest in GIS and related technologies.

Nikitah O. Imani

Imani's presentation, "Notes on Building a Critical Sociological Pedagogy for Spatial Analysis," included demonstration modules he began to develop during the CSISS 2003 Summer Workshop and continued during the SPACE 2004 Summer Workshops, both at Ohio State University. The modules' purpose is to improve the delivery of GIS and spatial concepts to social scientists while simultaneously communicating to them that they can bring the theoretical and methodological tools of their respective disciplines. Dr. Imani illustrates this through consideration of one of his own sociological studies in critical theory dealing with social stratification and "race" as a social variable. He focuses on how GIS and spatial thinking has provided him new insights informed by geography, but still subject to theoretical and interpretive lenses important to him as a sociologist. Imani began with an understanding of how traditional sociological variables could be theoretically understood as structured with respect to geographic space and time. He then turned his attention what alterations had to be made in both methodological approach and in analysis, to retain the import of sociology in considering these spatial ideas. Specifically, he noted the distinction between geographic and sociological conceptions of space and how that led to a mathematical model that was more vector-based than linear and where certain assumptions about gravitational models were insufficient. He then pointed out how these insights could be graphically represented in GIS using two standard methodologies, the first involving the fixation of geologically based "rose" diagrams up on a GIS generated map which can incorporate in a two-dimensional way the effect of socio-spatial interaction over time. The second approach involved the use of ArcScene and the capabilities of 3D time space modeling as an alternative, albeit more involved computational approach.

The rationale for taking this approach rather than merely laying out how you present such ideas to undergraduates is that research shows that instructors are more likely to present to their students methodologies and theories, they themselves are familiar with and employ. Therefore, it is necessary and vital to generate a critical mass of sociologists using spatial tools. Conversely, it is also important in generating this mass that they aware that they in effect, so not have to "change disciplines" to apply the tools to questions that might be uniquely sociological or might involve theoretical considerations of spatiality not normally considering in a purely geographic rendering. Dr. Imani commented on how these modules were extremely effective in presenting complex theoretical ideas to students, faculty, and policymakers because they provide visual evidence based on empirical data for questions that heretofore were quite often presented in purely or predominantly qualitative fashion. Too often scholarly work about "race" and other stratification variables was responded to by students and others as a purely anecdotal and relative consideration. The "beauty" of spatial analysis is that one can show using time and space visualization, the tangible effect of such variables in the real lives of people without relying strictly on their accounts. Moreover, it removes such variables from the realm of psychology and the individual to the level of a social ideology and social system and makes the concepts more accessible and if you will, "inviting" to a potentially skeptical student and/or politician.

Dr. Imani is currently working at JMU to develop a lab that will engage undergraduates in socio-spatial research related to local and communal policies and the latter fact explains the more policy-influencing aspects of his pitch to social scientists. A lot of

social science in the United States is aimed at such public policy as is a fair amount of the resources and the capacity to procure such resources is in part a strong motivation for social scientists towards a methodology. Imani's point is that sociologists and other social scientists outside of geography can enter the debate with spatial tools and to more convincing and positive social affect.

Both presentations were followed by an invitation for participation in the SPACE 2005 Summer Workshops and the 2005 GIS and Population Science Workshops. Several ASBS scholars expressed serious interest in attending the workshops.