



## CALIFORNIA STATE UNIVERSITY, STANISLAUS

HROPOLOGY, GEOGRAPHY AND ETHNIC STUDIES

### Stanislaus students win state geography honors!

For the fifth year in a row, Stanislaus students win awards at the statewide California Geographical Society (CGS) Meeting. Criminal Justice major Samantha Felice won first-place in the undergraduate competition for her paper “**Spatial Fluctuations in Crime by Season: An Ode to Quetelet and the Green Crime Paradigm.**” Her faculty mentor is Dr. Gregory Morris. Geography major Melissa Ball won third-place in the digital cartography competition for her interactive map entitled “**CSU Stanislaus Online and Interactive.**” Her faculty mentor is Dr. Austin Avwunudiogba. Geography majors Aldo Garcia, Michelle Machado, and Natasha Hanley (MAIS) each won travel awards to attend this year’s conference at University of California, Davis.

Founded in 1946, the California Geographical Society (CGS) is the oldest and largest state-wide organization devoted to enhancing the understanding of geography and promoting interaction amongst academic and applied geographers, as well as members of the general public who share an interest in geography. The organization hosts an annual conference each spring drawing over 400 professional geographers from around the state. <http://www.csun.edu/~calgeosoc/>.

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### **Abstracts for CSU Stanislaus Undergraduate Presenters (4 posters, 1 digital map, 2 paper presentations)**

#### ***Poster Abstract for Michelle Machado, Geography***

##### *Using GIS to Visually Understand the CSU Stanislaus Education Pipeline*

California State University Stanislaus is located in the mid-sized city of Turlock, California. The Fall 2011 enrollment census showed 9,246 enrolled students. Each semester the University’s Office of Institutional Research collects data on the incoming and currently enrolled students. The term “education pipeline” is a metaphor for understanding the key transition points through which students progress from primary school to secondary school to higher education. An important use of enrollment and trend data is to understand where students come from and their level of college preparation. Applying GIS to enrollment data permits a visual display of the institutions of origin of students from high schools, community colleges, or other universities. This is an ongoing study that intends to show the morphology—trends and changes—in the enrollment patterns of students from “sending” institutions to CSU Stanislaus. **(Faculty mentor, Dr. Jennifer Helzer, Geography)**

***Poster Abstract for Aldo Garcia, Geography***

*An Analysis of Declining Use of Public Transportation in Turlock, California.*

The city of Turlock is located in the San Joaquin Valley of California and has a population of 68,711 (2009 Census). The city operates a public transit system named Bus Line Service of Turlock (BLST), which provides four fixed routes. BLST has seen a fluctuation of riders over the past 10 years, and is currently experiencing a decline in ridership. This project examined possible causes of declining ridership by conducting surveys directed at public transit users. Surveys were conducted on the bus, at bus stops, and at high density use areas. The surveys asked questions about rider experience and bus operations. The results were analyzed, compiled into a database, and a map was produced in a Geographic Information System. BLST is an important resource to the community, and problem areas must be identified and addressed to ensure that services continue to be provided for the community.

**(Faculty mentor, Dr. Jennifer Helzer, Geography)**

***Poster Abstract for John Williams, Geography***

*Land Change after Haiti Earthquake*

The goal of this study is to compare and contrast the land use/land cover (LULC) of Haiti before and after the earthquake that occurred on January 12, 2010 using Google Earth imagery. LULC data was compiled from the interpretation of 2009 and 2011 images and analyzed in ArcMap 10 to determine the change of LULC before and after the earthquake. This was done using four specific LULC categories: buildings, roads, green space, and agriculture. The results showed changes in the green space and buildings. Before the earthquake thirty-nine percent of the land was covered with green space while the building only occupied twenty-four percent. After the earthquake the green space coverage was thirty-three percent. The building coverage went up to thirty-four percent. Throughout the entire event the roads and agriculture coverage stayed the same. **(Faculty mentor, Dr. Austin Awwunudiogba, Geography)**

***Poster Abstract for Michael Machado, Geography***

*Hydro-Geomorphic Characteristic of the upper Tuolumne Watershed*

The conservation of the Tuolumne Watershed (TW) is of great importance to the San Joaquin Valley of California. However, decades of agricultural cultivation and urban development may have exerted profound impacts on hydro-geomorphic characteristics of the watershed. Understanding these impacts is important for the livelihood of those who depend on the TW. This study investigates some hydro-geomorphic characteristics of the upper TW in order to assess the effects of human modification. Various data sets including topographical maps, digital elevation model (DEM), soil, national hydrographic data, and land cover for the TW were obtained from the U.S. Geological Survey, Cal Atlas, and National Resources Conservation Service. The data were analyzed using geospatial and hydrological tool sets in ArcGIS 10. The result shows some degree of degradation of the upper TW above Hetch Hetchy dam. **(Faculty mentor, Dr. Austin Awwunudiogba, Geography)**

***Digital Map Abstract for Melissa Ball, Geography***

*CSU Stanislaus Online and Interactive*

An online, interactive map of the CSU Stanislaus campus was created to allow users clickable access to university buildings, departments, photographs, and other campus features. The campus facility Computer Aided Drafting map was used as a starting base layer. This base map was digitized and rubbersheeted using ArcGIS. Student-mapped GPS points of objects, such as trees, were added. The new map will allow users to digitally explore the campus from any location with internet access, and appeals to individuals who would prefer to search for locations electronically rather than physically. This map will also aid in connecting CSU Stanislaus with the local community, and display the university as an interesting place to visit. This project is supporting CSU Stanislaus's mission and activities with

innovative cartography and geospatial technology. **(Faculty mentor, Dr. Austin Avwunudiogba, Geography)**

**Paper Presentation Abstract for Cameron Gose, Computer Science; Melissah Ball, Geography; Lon Porter Computer Science; and Maximino Andrade, Computer Science.**

*Exploring Assisted Reproductive Technologies in a Geographic Context*

Assisted Reproductive Technology (ART), as the name suggests is technology that aids in human reproduction. ART is a relatively new technology that came about due to an increasing rate in infertility among the population. Initial analysis was done with clinic data provided by the Center for Disease Control (CDC), which was cleaned with various Python scripts to be exported into SPSS to find possible correlations. To bring the CDC clinic data into a geographic context, a program written in Java was used to obtain each clinic location by scraping the web. Exploring the geographic location of clinics in comparison to demographic data from the 2010 Census may give insight as to clinic spatial distribution, who might use them, and who is participating in developing the technology. **(Faculty mentors, Dr. Melanie Martin, Computer Science and Dr. Peggy Hauselt, Geography).**

**Paper Presentation Abstract for Samantha Felice, Criminal Justice.**

*Spatial Fluctuations in Crime by Season: An Ode to Quetelet and the Green Crime Paradigm* Quetelet (1796-1874) published the first empirical analysis on seasonal variations in crime. Neither Quetelet nor subsequent peer research has centered on combining spatial and seasonal crime research. Using Sacramento Police data, 2005-2009, this study explores the spatial distribution of personal (battery) and property (petty theft) crime by season (month). Results show that both personal and property crime are relatively stable by season. Spatial density maps show little seasonal patterning in the distribution of crime. Spatial correlations suggest little pattern in the spatial distribution of crime by season. This study illustrates the untapped possibilities within the green crime paradigm, and the potential for greening of the broader criminological paradigm. The current green paradigm centers on acts of the powerful as environmental crime. "Normal" criminology centers on crimes of the powerless. This model reflects a green perspective on crimes of the powerless – and an attempt to bridge green and normal criminology. **(Faculty mentor, Dr. Gregory Morris, Criminal Justice).**

For more information about attending next year's conference in San Luis Obispo, California contact: Jennifer Helzer, Chair Anthropology, Geography and Ethnic Studies 209-667-3010 [jhelzer@csustan.edu](mailto:jhelzer@csustan.edu).

Respectfully submitted,

Jennifer Helzer

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