



## DIVERSITY FELLOWSHIP MINNESOTA POPULATION CENTER

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### Summer 2017 – Projects

#### **Police Force Size and Fiscal Austerity with Dr. Michelle Phelps ([Phelps Profile](#)):**

*Police Force Sizes and Fiscal Austerity: Who Preys on the Poor?:*

Fellows will work with Professor Phelps to examine how places (defined as cities, states, regions, and municipalities) responded to the great recession by either reducing police forces versus building up police forces to serve as revenue extractors. Following the police killing of Michael Brown, the US Department of Justice found that the police were used as street-level enforcers of a program that used fines and fees to extract resources from poor communities of color and deliver them to municipal coffers. This project helps to analyze why such practices have emerged, how they function today, and what they reveal about the changing nature of citizenship. Fellows will be linking the FBI data on police force sizes with the ACS data on places and sub-county units as well as cleaning and processing datasets and analyzing trends across cities. Fellows will likely work with statistical and GIS software.

#### **Transforming Geocomputing with Dr. Eric Shook ([Shook Profile](#)):**

*Toward Transforming Geocomputing in IPUMS-Terra:*

Fellows will work with Professor Shook to lay the foundation for transforming the geocomputing capabilities in IPUMS-Terra ([terrapop.org](http://terrapop.org)). IPUMS-Terra is an integrated database of global population and environmental data with additional geocomputing capabilities that allow it to perform on-the-fly data transformations for big spatial data. Students in this project will learn and apply advanced geo-computing techniques including advanced cyberinfrastructure, cutting-edge supercomputers, and computational notebooks to process big spatial data in parallel. Fellows will learn how to examine the execution characteristics of existing methods written in Python using software-profiling techniques to identify and address performance bottlenecks.

## **Ethnic Disparities in Drowning Rates with Dr. Samuel L. Myers, Jr. ([Myers Profile](#)):**

*The Labor Market for Lifeguards and Racial vs. Ethnic Disparities in Drowning Rates:*

Fellows will work with Professor Myers to analyze the effect of labor markets discrimination in the lifeguard sector and how this discrimination results in higher drowning rates for African Americans. Drowning is a leading cause of accidental death among African American males 5-14 years of age. This project will provide an econometric analysis between lifeguard employment rates and drowning rates by race and gender. Prior evidence indicates an inverse relationship between drowning and life guard employment rates. Fellows will be collecting, cleaning, and validating data, merging and synchronizing data sets. Fellows will be estimating the basic model, the difference-in-difference model, and the IV version of the underlying lifeguarding and drowning models. Fellows will likely work with statistical software.

***IPUMS-International ([international.ipums.org](http://international.ipums.org)) & IPUMS-DHS ([idhsdata.org](http://idhsdata.org)):***

IPUMS-International is collecting and disseminating census microdata from around the world; users can access data from 277 censuses representing 82 countries. IPUMS-DHS harmonizes DHS data and documentation for Africa and India to facilitate comparative research across time and countries.

*Statistics Education Outreach:* Fellows will use the free online data in IPUMS-International and IPUMS-DHS to develop hands-on exercises designed for statistics educators to use with students. Through discussions with educators, we have learned there is high demand for exercises teaching statistical concepts using real-world data. Statistics educators are eager to have students work with real data, like the free online data in IPUMS-International and IPUMS-DHS, if we share with them exercises that focus on illuminating statistical concepts and methods. Fellows may work with statistical software and video editing software to develop these exercises and tutorials. Final exercises will be disseminated in multiple formats including online, presentation, and reports.

