

# R. Clifton Bailey Statistics Seminar Series

## Visual display and analysis of geo- referenced cancer data made easy with new R packages

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Johnson Center G19 – Gold Room  
[4000 University Drive, Fairfax, VA 22030](https://www.fairfaxva.gov/4000-University-Drive)

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**Abstract:** Cancer surveillance, including the identification of emerging high-rate cancer clusters and changing time trends, is an important activity for cancer registries, state health departments and cancer researchers. Until recently, cancer “hot spots” were typically identified by concerned citizens worried about an excess of cancer in their neighborhood. Now, geographic patterns of cancer are examined using GIS software, but this software has a steep learning curve and many states cannot afford to have a dedicated GIS staff person. We have developed several packages using R that allow the mapping and visual exploration of spatial clusters and spatial correlations with minimal coding required. Specifically, we will describe 3 packages: (1) SeerMapper, that produces maps at the state, registry, county and census tract levels for the U.S.; (2) satscanMapper, that creates maps

**of the output of the SaTScan™ cluster analysis package and creates maps of results at the state, county or tract level; (3) micromapST, that produces linked micromaps, a design which links graphical elements with a series of small maps to facilitate exploration of spatial data. In this talk we will illustrate the application of these packages to georeferenced cancer data and show how to implement them.**