

## **Appendix C**

Sample workshop agenda – Penn State 2006 GISPopSci Workshop (June 5-16, 2006)

# GIS and Population Science

**PSU 2006** *June 5-June 16, 2006: University Park, PA*

## Preliminary Workshop Agenda

*All events are in IST 203 unless otherwise stated.*

*All morning sessions will begin promptly at 9.00am*

*All afternoon sessions will begin promptly at 1.30pm (unless otherwise stated).*

## Week One

### Sunday, June 4

#### Arrival Day/Weekend

*Morning: 10:00am - 4:30pm*

**Various Meet attendees at Airport and Bus Station throughout the day**

*Evening 5:00*

**Informal Meeting at the Residence Inn (1555 University Drive)**

*Evening 5:30*

**Informal dinner at the Ruby Tuesday's restaurant  
across Atherton Street from the Residence Inn (5 mins walk)**

### Monday, June 5

9:00 - **Official Welcome and Introductions** - Stephen Matthews

10:30 - Break


10:45 - **Spatial Demography** - Stephen Matthews

[Spatial Demography: Methods, Applications, and Resources](#)


[Spatial Demography References](#)

**Background Reading** (password protected):

[GIS and Spatial Demography](#) - Stephen Matthews  (33kb)

[Comparison of a spatial approach with the multilevel approach for investigating place effects on health](#):  (531kb) the example of healthcare utilisation in France - Basile Chaix, Juan Merlo, and Pierre Chauvin

[Spatial Demography](#)  (101kb) - Kenneth W. Wachter

[The Examination of Neighborhood Effects on Health](#):  (252kb) Conceptual and Methodological Issues Related to the Presence of Multiple Levels of Organization

[Demography as a Spatial Social Science](#)  (253kb) - Paul R. Voss

[The Proceedings of the National Academy of Sciences \(U.S.\)](#) recently had a special issue on "Spatial Demography" -- (Microsoft Word Document) (19kb)

12:00 - Lunch

2:00 - **Visit by Tina Enderline** - (GIS Officer for Penn State)


2:15 - GIS, Spatially Explicit Data, and Privacy - Stephen A. Matthews

[Geographic Data and Privacy](#)

**Background Reading** (password protected):

[Geo-ethnography: Coupling Geographic Information Analysis Techniques with Ethnographic Methods in Urban Research](#)  (439kb)

[Geographically Masking Health Data to Preserve Confidentiality](#)  (376kb)

[Conflicting Demand](#)  (1.36MB)

3:00 - Break

3:15 - **Geospatial Data Sources** - Stephen Matthews

[Geospatial Data Resources](#)

[Some useful URL Links for on-line data](#)

4:00 - **Software Overview - Including CSISS Tools** - Stephen Matthews

[CSISS Tools and Spatial Analysis Software](#)

5:00 - End of Day

Evening: 7:30pm

**Evening Consultation at the Residence Inn (Stephen Matthews) time approximate**

## **Tuesday, June 6, Introduction to ArcGIS (Day One)**

9:00 - **Exploring GIS concepts** - Michelle Zeiders

10:30 - Break

10:45 - **Displaying Data** - Michelle Zeiders

12:00 - Lunch

1:30 - **Querying your database** - Michelle Zeiders

3:00 - Break

3:15 - **Working with spatial data**

5:00 - End of Day

## **Wednesday, June 7, Introduction to ArcGIS (Day Two)**

9:00 - **Introduction to ArcGIS Workshop** - Michelle Zeiders

10:30 - Break

10:45 - **Editing data** - Michelle Zeiders

12:00 - Lunch

1:30 - **Working with geo-referenced data** - Michelle Zeiders

3:00 - Break

3:15 - **Presenting data** - Michelle Zeiders

5:00 - End of Day

## **Thursday, June 8, Additional ArcGIS Exercises**

9:00 - **Geocoding addresses** - Yosef Bodovsky, Stephen Matthews, Michelle Zeiders

10:30 - Break

10:45 - **Spatial Analyst Exercise** - Yosef Bodovsky, Stephen Matthews

12:00 - Lunch

2:00 - **Census Data Exercise** - Yosef Bodovsky, Stephen Matthews

3:15 - Break

3:30 - **International Data Exercise** - Stephen Matthews

5:00 - End of Day

*Evening: 7:00pm*

**Evening Consultation at the Residence Inn (Stephen Matthews) time approximate**

## Friday, June 9, Introduction to GeoDa

9:00 - **Introduction to GeoDa for ESDA** - Stephen Matthews

[Exploratory Spatial Analysis \(And Navigating GeoDa\)](#) [Contraceptive Prevalence Rates in Nepal Using GeoDa](#)

10:30 - Break

10:45 - **GeoDA Lab** - Stephen Matthews

[GeoDa@ 0.95i Exercise A](#) [GeoDa 0.9 Exercise Data \(zip file\)](#) [Additional Material](#)

12:00 - Lunch

2:00 - **Introduction to GPS units and Geocaching** - Michelle Zeiders

2:45 - Break

3:00 - **Introduction to Spatial Regression Modeling** - Stephen Matthews

[GeoDa and Spatial Regression Modeling A GeoDa Demonstration Based on the Columbus Data](#)

4:00 - **GeoDa Lab** - Stephen Matthews

5:00 - End of Day

## Saturday, June 10, Geocaching

**Background Reading**(password protected):

[Geocaching](#) (Microsoft Word Document) (28kb)

8:30 - **Orientation Meeting at Residence Inn**

9:00 - **Start of Geocaching Exercise** - Stephen Matthews

12:00 - Lunch at the Eutaw House

1:30 - **Continuation of Geocaching Exercise**

5:00 - **Rendezvous for BBQ at Blue Creek Park, Boalsburg**

7:00 - End of Day

## Week Two

### Sunday, June 11

*Morning - Evening*

**Free Time**

### Monday, June 12, Measuring Spatial Segregation & Geovisualization

9:00 - **Working with Geocache data** - Michelle Zeiders (806 Oswald Tower)


10:15 - Break


10:30 - **Measuring Spatial Segregation** - Sean Reardon - Guest Speaker, (406 Oswald Tower)

**Background Reading** (password protected):

[The Segregation Profile: Investigating How Metropolitan Racial Segregation Varies by Spatial Scale](#)  (2MB) By: Sean F. Reardon, Stephen A. Matthews, David O'Sullivan, Barrett A. Lee, Glenn Firebaugh

and Chad R. Farrell


["Measures of Multigroup Segregation" \(Reardon & Firebaugh, 2002\)](#)  (153kb)

["Measures of Spatial Segregation" \(Reardon & O'Sullivan, 2004\)](#)  (260kb)

[Errata to:](#) (41kb)

"Measures of Multigroup Segregation" (Reardon & Firebaugh, 2002)

"Measures of Spatial Segregation" (Reardon & O'Sullivan, 2004)


[Beyond the Census Tract: Patterns and Determinants of Racial Residential Segregation at Multiple Scales](#)  (391kb)

12:00 - Lunch


2:00 - **Geovisualization of demographic and health data**


- Etien Koua - Guest Speaker, (Walker Building)

**Background Reading** (password protected):

Koua E. L., MacEachren A. & Kraak, M.J. (2006). [Evaluating the usability of visualization methods in an exploratory geovisualization environment](#)  (494kb) International Journal of Geographical Information Science, Volume 20, Number 4 / April 2006.

Koua E. L. and Kraak, M. J. (2004). [Geovisualization to support the exploration of large health and demographic survey data](#)  (1.5MB) International Journal of Health Geographics 2004, 3:12 (4 Jun 2004).


Koua, E. L. and Kraak, M. J.(2004). [Integrating computational and visual analysis for the exploration of health statistics](#)  (348kb) In: SDH 2004: Proceedings of the 11th international symposium on spatial data handling: advances in spatial data handling II. : 23-25 August 2004, University of Leichester. / ed. by P.F. Fisher. - Berlin etc.: Springer, 2004. pp. 653-664.

Robinson, A., Chen, J., Lengerich, E., Meyer, H. and MacEachren, A. (2005). [Combining Usability Techniques to Design Geovisualization](#)  (993kb) Tools for Epidemiology Cartography and Geographic Information Science. Vol. 32, 243-255

2:45 - Break

3:00 - **GeoVISTA Lab, based on ESTAT** - Etien Koua, Jin Chien, Adrienne Gruver (2nd Floor Walker Building)

**Background Reading** (password protected):

[ESTAT Tutorial](#)  (1.6MBb)


5:00 - End of GeoVISTA

7:00p - **Spatial Analysis - a roadmap** - David O'Sullivan - Invited Guest Speaker (Residence Inn)

**Background Reading** (password protected):

[Spatial Analysis: a roadmap \(Powerpoint Presentation\)](#)(2.2MB)

[Bibliography for 'Spatial Analysis: a primer'](#)  (89kb)

[Interactive techniques and exploratory spatial data analysis](#)  (587kb)

[Spatial analysis: retrospect and prospect](#)  (135kb)

[Spatial statistics](#)  (134kb)

9:00 - End of Day

## Tuesday, June 13, Multilevel Modeling (LAFANS)




9:00 - **Defining Neighborhoods, Collecting Data, and Studying Neighborhood**

**Effects in Los Angeles** - Narayan Sastry, - Guest Speaker

**Background Reading** (password protected):

[Neighborhood Definitions and the Spatial Dimension of Daily Life in Los Angeles](#)  (154kb)

[The design of a multilevel survey of children, families, and communities:](#)

[The Los Angeles Family and Neighborhood survey](#)  (299kb)  
[Neighborhood and School Effects on Children's Development and Well-Being](#)  (103kb)  
[Family and Neighborhood Sources of Socioeconomic Inequality  
 in Children's Achievement](#)  (175kb)  
[Defining Neighborhoods, Collecting Data, and Studying Neighborhood Effects  
 in Los Angeles \(Powerpoint Presentation\)](#) (903kb)

10:15 - Break

10:30 - **Open Lab - Time for own projects**

(opportunities to meet with Narayan Sastry)

12:00 - Lunch (opportunities to meet with Narayan Sastry)

2:00 - **Open Lab - Time for your own projects**

3:15 - Break (approximate)

3:30 - **Open Lab - Time for your own projects**


5:00 - End of Day


7:00 - **Evening consultation at the Residence Inn (time approximate)**

## Wednesday, June 14, Health and Environment Issues and Geostatistics


9:00 - **Health and Environment** - Marcia Castro, - Guest Speaker

**Background Reading** (password protected):

Castro MC, Monte-Mor, RL, Sawyer, DO, Singer, BH. 2006 "[Malaria risk on the Amazon Frontier](#)"  (1.1MB) Proceedings of the National Academy of Sciences, 103(7): 2452-2457.

Castro MC, Singer BH. 2006. "[A new approach to account for multiple and dependent tests in local statistics of spatial association: controlling the false discovery rate](#)".  (401kb) Geographical Analysis, 38(2): 180-208.

Castro MC, Sawyer, DO, Singer, BH. 2006. "[Spatial patterns of malaria in the Amazon: implications for surveillance and targeted interventions](#)"  (805kb) In press, Health and Place.

Singer BH, Castro MC. 2001. "[Agricultural Colonization and Malaria on the Amazon Frontier](#)"  (16.7MB) In: Weinstein M, Hermalin AI, Stoto MA (eds.) Population Health and Aging: strengthening the dialogue between epidemiology and demography. Annuals of the New York Academy of Sciences, vol. 954:184-222.

[A Spatial Approach for Malaria Monitoring & Risk Assessment](#)  (1.9MB) - Marcia Castro

[Local Spatial autocorrelation Statistics: Distributional Issues and an Application](#)  (734kb)

[The Analysis of Spatial Association by Use of Distance Statistics](#)  (726kb)

10:15 - Break

10:30 - **Geostatistics Lab (Marcia Castro)**

12:00 - Lunch (opportunities to meet with Marcia Castro)

2:00 - **Open Lab - Time for own projects**

3:00 - Break (approximate)

3:30 - **Open Lab - Time for own projects**

5:00 - End of Day

## Thursday, June 15, Spatial Econometric Modeling

9:00 - **Spatial Heterogeneity and Spatial Dependence in Spatial Regression Modeling (Application to Child Poverty in the U.S.)** - Paul Voss ? Guest Speaker

**Background Reading** (password protected):

["County Child Poverty Rates in the U.S.: A Spatial Regression Approach"](#)  (960kb)

Paul R. Voss, David D. Long, Roger B. Hammer, Samantha Friedman

["Spatial Heterogeneity and Spatial Dependence in Spatial Regression Modeling"](#)  (452kb)

Paul R. Voss, Katherine Curtis White, David D. Long

10:15 - Break

10:30 - **Open Lab - Time for own projects** (opportunities to meet with Paul Voss)

12:00 - Lunch (opportunities to meet with Paul Voss)

2:00 - **Open Lab - Time for your own projects**

3:15 - Break (approximate)

3:30 - **Open Lab - Time for your own projects**

5:00 - End of Day

7:00 - **Evening consultation at the Residence Inn (time approximate)**

## **Friday, June 16, Presentation and Awards Day**

8:30 - **Group A presentations** - Jessica, Kanisha, Juan, Pedro, Chelsea, Sandile

10:15 - Break

10:30 - **Group B presentations** - Merlin, Becki, Vincent, Jeff, Michelle, Lissette, Kuniko

12:00 - Lunch

1:00 - **Group C presentations** - David, Mira, Kevin, Katherine, Pearl, Gloria, Iliana

2:45 - Break

3:00 - **Group D presentations** - Benjamin, Meredith, Matthew, Sarah, Ashley, Heidi

4:30 - **Awards**

5:00 - Reception or Dinner (location to be determined and depends on how many attendees are staying overnight)

## **Saturday, June 17, Departure Day**

7:15 - **Breakfast at the Waffle Shop if anyone is interested/available**

(Stephen Matthews will collect from Residence Inn)

9:00 - **Back to Residence Inn**