

23rd ERSA Summer School 2010 Application

1. Name: Elizabeth Mack

2. Date master's degree awarded: March 2006

Proposed completion of doctoral studies: April 2010

3. Current status and affiliation:

Visiting Scholar- GeoDa Center for Geospatial Analysis and Computation School of Geographical Sciences and Urban Planning, Arizona State University

4. Motivation letter: see page 3

5. Scientific CV: see page 4

6. Description of previous and current research work:

My research examines the geography of regional competitiveness in the global information economy. More specifically, it examines how innovations in space-time shrinking technologies, like ICTs, impact the locational advantages of regional economies and their subsequent prospects for growth and development. My dissertation research is a multi-scalar evaluation of the importance of ICTs, specifically broadband, relative to other location factors, in attracting businesses. Of particular concern is whether locales with lower levels of ICT infrastructure are at a disadvantage for firm retention and attraction, and whether costly ICT deployment initiatives are capable of ameliorating this locational disadvantage.

I also concurrently pursuing academic interests in both urban crime and public policy. My research in this area utilizes GIS and spatial analysis to quantitatively explore criminological theory and the geographies of violence, with a focus on sex offender policy. Presently, I am working on an NSF funded project with faculty at Arizona State University and my advisor Tony H. Grubestic, to examine spatio-temporal aspects of sex offender movements and residential locations. Previous efforts in this area have produced publications in *Social Science Computer Review* and *GeoJournal*.

7. Description of career plans:

On April 7th, 2010 I will defend my dissertation and then begin a postdoctoral position at the GeoDa Center for the 2010-2011 academic year. My eventual goal is to become a faculty member at a research focused university where I can pursue my research interests related to regional competitiveness and also mentor students as they develop their own research agendas.

8. Name and email address of PhD supervisor:

Tony H. Grubestic, tgrubesi@indiana.edu

9. Name and address of two researchers willing to write letters of recommendation:

Tony H. Grubestic

Associate Professor, Department of Geography
Indiana University - Bloomington
Student Building 120
Bloomington, Indiana 47405-7100
Phone: (812) 855-7971
Fax: (812) 855-1661
Email: tgrubesi@indiana.edu
Web: <http://www.tonygrubestic.net/index.html>

Alan T. Murray

Professor, School of Geographical Sciences and Urban Planning
Arizona State University
Lattie F. Coor Hall 5610
Tempe, Arizona 85287-5302
Phone: (480) 965-7533
Fax: (480) 965-5077
Email: atmurray@asu.edu

10. Title and abstract of intended presentation:

Broadband Provision Infrastructure and Knowledge Intensive Firm Location

Despite the volume of literature afforded knowledge work and innovations in information and communications technologies (ICTs), few studies have examined the importance of ICTs to firms in knowledge industries. This study will develop spatial econometric models to examine the relative importance of the level of broadband provision to knowledge intensive firms in select U.S. metropolitan statistical areas (MSAs). Results demonstrate the need for both a spatial econometric and a metropolitan area specific evaluation of this relationship. They also suggest potential spillover effects to knowledge intensive firm location, which may explain why some regional economies are relatively more successful at stimulating firm growth in this increasingly important sector of the U.S economy.

European Regional Science Association
CORE-UCL
34 Voie du Roman Pays
1348 Louvain-la-Neuve
Belgium

March 10, 2010

To Whom It May Concern,

My name is Elizabeth Mack and I am writing this letter to apply for the European Regional Science Association (ERSA) Summer School entitled “Productivity and Financing of Regional Infrastructure.” I am excited about this opportunity and feel my attendance is critical to further develop my research agenda which examines the impact of information and communications technologies (ICTs) on regional economies.

Currently, I am evaluating the statistical and spatial relationship between broadband Internet infrastructure and firm location with a focus on firms in knowledge intensive industries. The goal of this research is to evaluate the relative importance of this increasingly critical infrastructure to firms within the knowledge intensive sector. Specifically, it seeks to examine whether places with lower levels of this infrastructure are at a disadvantage for attracting firms within particular industries. If a relationship does exist, and the importance of this infrastructure varies across firms of different industries, then this relationship has compositional implications for regions, as well as their future growth prospects.

Future research plans regarding broadband infrastructure and regional economies involve an evaluation of existing broadband initiatives and the development of improved initiatives to roll out this kind of infrastructure. Federal programs such as the Broadband Technologies Opportunity Program (BTOP), which was created with \$4.7 billion of funds from the American Recovery and Reinvestment Act (ARRA) of 2009, have reemphasized the need to deploy broadband infrastructure to unserved and underserved communities. Frequently, however, deployment efforts are left to local communities who have little information about the most efficient and cost effective manner to deploy broadband in their area. Private-public partnerships are often used as a mechanism to finance and construct the necessary infrastructure, but, more efficient arrangements may exist to achieve the same objective.

Given this research agenda, I feel the training provided at the ERSA Summer School will provide key information that will vastly improve the quality of my research. Thank you for your time and consideration of this application.

Respectfully,

Elizabeth A. Mack

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Office

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Teaching and Research Interests

Topical: Urban/economic geography, regional development, technological change, public policy evaluation and crime analysis

Methodological: Spatial econometrics, spatial statistics, geographic information systems (GIS), input-output modeling

Education

- Ph.D. Department of Geography, Indiana University, Bloomington, Indiana. (Anticipated Graduation, 2010)
(Minor: Economic Development) Advisor: Tony H. Grubestic
- 2006 M.A. Department of Economics, University of Cincinnati, Cincinnati, Ohio.
- 2002 B.S. Department of Finance, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.
- 2002 B.A. Department of Spanish, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

Positions

- 2009- Present Visiting Scholar- GeoDa Center for Geospatial Analysis and Computation
School of Geographical Sciences and Urban Planning, Arizona State University
Host: Alan T. Murray
- 2008-2009 Instructor – Department of Geography, Indiana University
Introduction to Human Geography (90 students)
- 2007-2008 Associate Instructor – Department of Geography, Indiana University
Introduction to Human Geography (90-180 students)
- 2006-2007 Graduate Fellow – Department of Geography, Indiana University
- 2007 Intern – Seer Analytics; Tampa, FL/Pittsburgh, PA
- Developed marketing clusters for a major account.
 - Generated SPSS syntax for marketing cluster implementation.
 - Applied statistical analysis to large datasets.
- 2006 Graduate Teaching Assistant – Department of Economics, University of Cincinnati
- Intermediate Microeconomic Theory (15 students)
- 2005 Graduate Research Assistant – The Applied Economics Research Institute, University of Cincinnati
- Developed an economic profile of Dearborn County, IN.
 - Wrote “Perspectives on Economic Development: Dearborn County Case Study.”
- 2005 Intern – The Assaley Group, Morgan Stanley; Cincinnati, OH
- Conducted financial research and assisted in data analysis for institutional clients.
 - Developed reports for high net worth clients.

- 2005** Intern – Dearborn County Economic Development Initiative; Lawrenceburg, IN
- Collected economic/demographic data used to complete the International Economic Development Council’s (IEDC) Site Selection Data Standards.
 - Produced content for web-based brochure promoting business development in Dearborn County, available at <http://www.dearborncountyyedi.com>.

Honors

- 2009-2010** 10th Annual Benjamin H. Stevens Graduate Fellowship (\$28,000)
North American Regional Science Council
- 2009-2010** Dissertation Year Research Fellowship (\$18,000)
College of Arts and Sciences, Indiana University
- 2008** Chairman’s Graduate Student Recognition Award
Department of Geography, Indiana University
- 2008** Departmental Graduate Fellowship (\$1,000)
Department of Geography, Indiana University
- 2008** General Scholarship (\$3,000)
Indiana University Foundation
- 2007** Chairman’s Graduate Student Recognition Award
Department of Geography, Indiana University
- 2006-2007** Graduate Fellowship (\$21,000 and tuition)
Department of Geography, Indiana University
- 2004-2005** Taft Fellowship (\$3,297 and tuition)
Department of Economics, University of Cincinnati
- 2002-Present** Phi Beta Kappa Society
- 2001** Sigma Delta Pi National Scholarship for summer study at the Center for Bilingual Multicultural Studies in Cuernavaca, Mexico
- 2001** Omicron Delta Kappa National Leadership Honors Society
- 2000** Mr. and Mrs. Leonard Starr Jr. Scholarship
Pamplin College of Business, Virginia Polytechnic Institute and State University
- 1999-2002** Founding Member of the Virginia Polytechnic Institute and State University Honors Community
- 1999** Beta Gamma Sigma Business Honors Society
- 1999** Phi Eta Sigma National Honors Society
- 1997-2002** Faculty Honors Scholarship
Office of Scholarships and Financial Aid, Virginia Polytechnic and State University
- 1997** Dean’s Scholarship
Department of Foreign Languages and Literatures, Virginia Polytechnic and State University

Publications

- 2010 **Mack, E. A.** and Grubestic, T.H.. “Social Disorganization, Sex Offenders And Residential Location: A Predictive Analytical Framework.” (forthcoming *Environment and Planning A*).
- 2009 **Mack, E.A.** and T.H. Grubestic. Forecasting Broadband Provision. *Information Economics and Policy*. 21(4): 297-311.
- 2009 **Mack, E.A.** and T. H. Grubestic. Broadband Provision and Firm Location: An Exploratory Spatial Analysis. *Tijdschrift voor economische en sociale geografie*. 100(3): 298-315.
- 2008 Grubestic, T.H., Murray, A.T. and **E.A. Mack**. Sex Offenders, Housing and Spatial Restriction Zones. *GeoJournal*. 73(4): 255-269.
- 2008 Grubestic, T. H. and **E. A. Mack**. Spatio-Temporal Interaction of Urban Crime. *Journal of Quantitative Criminology*. 24(3): 285-306.
- 2007 **Mack, E.A.**, Grubestic, T.H. and E. Kessler. Indices of Industrial Diversity and Regional Economic Composition. *Growth and Change*. 38(3): 474-509.
- 2007 Grubestic, T. H., Murray, A. T. and **E.A. Mack**. Geographic exclusion: Spatial analysis for evaluating the implications of Megan’s Law. *Social Science Computer Review*. 25(2): 143-162.

Publications Under Review

- 2010 **Mack, E.A.**, Anselin, L. and T.H. Grubestic. “The Importance of Broadband Provision to Knowledge Intensive Firm Location”. (submitted to *Journal of Regional Science*).
- 2010 Buckman, S. and **Mack, E.A.** “Urban Morphology & the Coalition Politics of Downtown Redevelopment Projects”. (submitted to *Journal of Urbanism*).
- 2009 **Mack, E.A.** and T.H. Grubestic. “All Jobs Are Not Created Equal: Divergent Indicators in the Information Economy”. (submitted to *Applied Geography*).

Professional Presentations

- 2010 Sex Offenders and Residential Location: A Predictive-Analytical Framework. *Meeting of the Western Regional Science Association*. Sedona, AZ. (February 21-24).
- 2009 The Importance of Broadband Provision to Knowledge Intensive Firm Location. *North American Meeting of the Regional Science Association International*. San Francisco, CA. (November 18-21).
- 2009 Sex Offender Residency and Spatial Risk: Approaches for Managing Community Exposure. *10th Crime Mapping Research Conference*. New Orleans, LA. (August 19-August 22).
- 2009 The Spatio-Temporal Dynamics of Nodal Regions: Airports as Central Places. *Annual Meeting of the Association of American Geographers*. Las Vegas, NV. (March 22-March 27).
- 2008 The Distribution of Information-Intensive Industries: Coincidence or A Reflection of Regional Comparative Advantage? *North American Meeting of the Regional Science Association International*. Brooklyn, NY. (November 19-November 22).
- 2008 Predicting Residential Locations of Registered Sex Offenders. *The National Institute for Justice Conference*. Arlington, VA. (July 21-July 23).

- 2008** Forecasting Broadband Provision. *Annual Meeting of the Association of American Geographers*. Boston, MA. (April 15- April 19).
- 2007** Broadband Provision and Firm Location in Ohio: An Exploratory Analysis (1999-2004). *North American Meeting of the Regional Science Association International*. Savannah, GA. (November 7-November 10).
- 2007** Indexing and Regional Competitiveness: A Comparative Analysis. *Annual Meeting of the Association of American Geographers*. San Francisco, CA. (April 17- April 21).
- 2007** Spatio-Temporal Methods for Identifying Crime Hot-Spots: Approaches, Problems and Prospects. *9th Crime Mapping Research Conference*. Pittsburgh, PA. (March 28-March 31).
- 2005** Perspectives on Economic Development: Dearborn County Case Study. Argosy Casino and Hotel. Lawrenceburg, IN. (June 8, 2005).

Grants

- 2009** Travel grant from the Mapping & Analysis for Public Safety (MAPS) Program, National Institute of Justice
- 2008** Travel grant from the National Institute of Justice
- 2008** Travel Grant (\$300)
College of Arts and Sciences, Indiana University
- 2008** Travel Grant (\$350)
Office of Women's Affairs, Indiana University
- 2007** Travel grant from the Mapping & Analysis for Public Safety (MAPS) Program, National Institute of Justice
- 2007** Travel Grant (\$300)
Office of Women's Affairs, Indiana University

Service

- 2009-Present** Journal Reviewer
International Regional Science Review
Journal of Transport Geography
Annals of Regional Science
- 2009** Session Chair, Location and Spatial Modeling D
North American Meeting of the Regional Science Association International. San Francisco, CA.
- 2008-2009** Colloquia Committee
Department of Geography, Indiana University
- 2008** Session Chair, Spatial Modeling IV
North American Meeting of the Regional Science Association International. Brooklyn, NY.
- 2007-2009** Graduate Student Representative
Department of Geography, Indiana University
- 2007-2008** Equipment and Computer Technology Committee
Department of Geography, Indiana University
- 2006** Library Committee
Department of Geography, Indiana University

Workshops

2008

Spatial Econometrics Advanced Institute (SEAI). Rome, Italy.
Organized by the Spatial Econometrics Association.

Affiliations

- Association of American Geographers (AAG)
- North American Regional Science Council (NARSC)