Faculty

Nearly two dozen WVU faculty specialize in spatial statistics, spatial econometrics, and related research fields:


**Christiadi**, BBER (Ph.D. WVU, 2005): Demography, Regional Economic Impact Analysis & Migration, Discrete Choice Models

**Jamison Conley**, Geology and Geography (Ph.D. PSU, 2008): Cluster Analysis, Geocomputation, Spatial Analysis of Disease


**Tesfa Gebremedhin**, Ag Res Econ (Ph.D., Ok. State U, 1981): Regional, Rural, and Community Growth and Development

**Hodjat Ghasemi**, Design and Landscape Arch (Ph.D. OSU, 1993): Sustainable Dev, CGE modeling, Econ of Creativity and Innovation


**George W. Hammond**, BBER and Econ (Ph.D. Indiana University, 1994): Regional Econ Growth and Dev; Forecasting, Human Capital

**Trevor M. Harris**, Geology and Geography (Ph.D. Univ of Hull, UK, 1982): GIS, Virtual GIS, Virtual Reality, ESDA, GIS and Archeology

**Amy Higginbotham**, BBER (M.A. WVU, 2005): State and Local Public Finance, Regional Impact Analysis, School Funding

**Randall W. Jackson**, Geology and Geography, RRI (Ph.D. Illinois, 1983): Economic Geography, Regional Economic Development


**Brenden E. McNeil**, Geology and Geography (Ph.D. Syracuse, 2006): Environmental GIS Modeling, Landscape and Ecosystem Ecology

**Timothy T. Phibbs**, Resource Management (Ph.D. Cal-Davis, 1981): Environmental Economics, Policy Analysis

**Santiago M. Pinto**, (Ph.D. Illinois, 2001): Urban and Regional Economics, Local Public Economics, Micro Theory, Econometrics


**Timothy Warner**, Geology and Geography (Ph.D. Purdue, 1992): Remote Sensing, High Spatial Resolution Image Analysis

**Tom Witt**, BBER and Economics (Ph.D. Wash U-St Louis, 1974): Regional Economics, Public Finance and Policy, Econ Development

West Virginia University offers a wide range of courses related to spatial statistics, spatial econometrics, and regional economic analysis.

**Davis College of Agriculture, Natural Resources and Design**

**Agricultural and Resource Economics**

- 693L Special Topics Spatial Econometrics (PhD Level)
- 703 Advanced Natural Resource Economic Theory
- 710 Advanced Environmental Economics

**Resource Management**

- 440 Foundations of Applied GIS
- 442 Applied GIS - Natural Science
- 441 Applied GIS - Social Science
- 443 GPS Use and Applications
- 575 Advanced Spatial Analysis
- 640 GIS for Aquatic Resource Management

**Forestry**

- 326 Remote Sensing of the Environment
- 443 GPS Use and Applications

**Recreation, Parks, and Tourism Resources**

- 570 Meanings of Place

**Eberly College of Arts and Sciences**

**Geography**

- 452 Geographical Information Science: Applications
- 456 Remote Sensing Applications
- 550 Geographic Information Science

**Business and Economics**

**Economics**

- 761 Advanced Regional Economics
- 762 Advanced Urban Economics

For additional information about the programs offered and opportunities for students and faculty, please contact:

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Fax: 304-293-6699
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Website: www.rri.wvu.edu

West Virginia University is an Equal Opportunity/Affirmative Action Institution. West Virginia University is governed by the West Virginia University Board of Governors and the West Virginia Higher Education Policy Commission.
Spatial science methods are increasingly prominent in economics, geography, planning, regional science, political science, health sciences, and beyond. Spatial statistical and econometric techniques are shedding new light on critical research for which solutions are crucial for effective public and private sector policy. Through the coordinated efforts of a diverse faculty, West Virginia University has emerged as a leader in applied and theoretical spatial statistics and econometrics. Our faculty and students are conducting path-breaking research in this rapidly advancing field. We offer classes, workshops, and individual collaboration with scholars on campus and around the world.

Faculty expertise in applied geographical information systems, spatial statistics, and spatial econometrics is disseminated through formal classroom instruction, in workshops, through working papers, and through collaborations with an international network of scholars. Graduate students across campus are applying knowledge of spatial statistics and spatial econometrics in their thesis research, building a new generation of scholars who use spatial analytic techniques to bring fresh insight into many of today's most critical research questions.

Regional Economic Analysis at WVU

Much of the regional economic analysis at WVU is centered in the Regional Research Institute and the Bureau of Business and Economic Research. WVU researchers have received external support from agencies such as the National Science Foundation, the Economic Development Administration, the US Departments of Agriculture, Energy, Defense, and Justice, the IRS, the Small Business Administration, the Appalachian Regional Commission, and the State of West Virginia.

Recent project topics include: sustainable industrial systems in urban areas, emphasizing the role of recycling and remanufacturing, regional innovation systems, business incubator performance in rural regions, new water quality, quantity and accessibility measures and an accompanying database for the Appalachian region, regional and national impacts of the introduction of new energy technologies and the substitution of domestic oil and gas for imports, regional impacts of cap-and-trade legislation, the American Recovery and Reinvestment Act, and the Marcellus Shale Play.

The Regional Research Institute (RRI)

The RRI is the only university-wide center for social science research at WVU, and since 1965 has been an internationally recognized center for the advancement of regional science. The RRI coordinates interdisciplinary research proposals and projects, sponsors scholarly seminars and workshops, provides seed grants to WVU faculty, and publishes a Working Paper Series and the Web Book of Regional Science, which is used worldwide by academics and professionals alike. The RRI brings together faculty and students with regional and spatial interests to engage in inter- and multi-disciplinary research. RRI visitors have included many of the world's most distinguished regional and spatial scientists.

Spatial Econometrics at WVU

Spatial econometrics is a subfield of econometrics that incorporates geographic space in regression models for cross-sectional and panel data. Spatial econometric techniques are increasingly being used in many areas of research, and WVU is rapidly becoming one of the leading institutions in applied and theoretical spatial econometric research.

The RRI is fortunate to have two researchers on staff who are among the acknowledged leaders in both Bayesian and classical spatial econometrics, Donald Lacombe and Gianfranco Piras.

The RRI is planning a series of summer spatial econometrics workshops suitable for both graduate students and practicing professionals interested in emerging applications in the field. These annual workshops are expected to include:

- Introduction to Spatial Econometrics I
- Introduction to Spatial Econometrics II
- Spatial Panel Data Models
- Introduction to Bayesian Inference in Spatial Econometrics

Workshops participants will be exposed to both theoretical and practical aspects of spatial econometric modeling using software packages such as R and MATLAB.

Details regarding the summer workshops will be available on the RRI website (http://www.rri.wvu.edu).

Geographic Information Science

WVU has strengths in both theoretical and applied Geographic Information Science (GISc). The Department of Geology and Geography has five specialized GISc research and teaching labs and maintains a CAVE for 3D and visual 'immersion' studies. Five geography faculty members focus on GISc, including geocomputation, geovisualization, crime, GISc and the humanities, environmental modeling and remote sensing; and the department houses the West Virginia GIS Technical Center (WVGISTC) providing statewide GIS research and development. In cooperation with federal and state energy partners, faculty and WVGISTC staff are mapping databases and modeling to locate sites for carbon sequestration in oil, gas, and coal fields.

The Natural Resources Analysis Center (NRAC) has a strong focus on applied GIS, and is now operating a dedicated aerial LiDAR system. NRAC was formed as a multi-disciplinary research and teaching facility in the Davis College of Agriculture, Natural Resources and Design, and has pioneered research with GIS and Remote Sensing. Led by faculty in Resource Management, Forestry and Natural Resources, a wide range of research and teaching activities supports the Davis College and the Land Grant mission of WVU. Research areas at NRAC include economic development and environmental sustainability, remote sensing, land cover mapping, landscape analyses, watershed-based analysis and applications, and GIS-based planning and decision making. Recent projects include high resolution water resource GIS datasets, watershed modeling, and parcel prioritization methodologies for land conservation.