Contents

Contents ................................................................................................................................................. v
RRI Mission ........................................................................................................................................... 1
Executive Summary ............................................................................................................................... 2
RRI Boards of Advisors ....................................................................................................................... 4
  Internal Advisory Board ..................................................................................................................... 4
  External Advisory Board .................................................................................................................... 4
Faculty, Staff, and Affiliates .................................................................................................................. 5
  Faculty and Staff ................................................................................................................................. 5
  Visiting Scholars ................................................................................................................................. 5
  Faculty Research Associates .............................................................................................................. 5
  Faculty Research Affiliates ................................................................................................................ 6
Sponsored Research ............................................................................................................................... 7
  External Funding ................................................................................................................................. 7
  2016-2017 Externally Funded Research Projects ............................................................................ 9
Web Book of Regional Science ........................................................................................................... 15
Awards and Recognitions ..................................................................................................................... 16
  Elham Erfanian and Amir Borges Ferreira Neto win Best Paper in Economics Award ...................... 16
  Amir Borges Ferreira Neto Awarded Fellowship ............................................................................ 17
Service to the State and the Profession ............................................................................................... 18
  Leadership Roles in Regional Science Organizations .................................................................... 18
Changing Faces ..................................................................................................................................... 18
In Memoriam .......................................................................................................................................... 19
Visitors .................................................................................................................................................. 20
  Visiting Scholars ................................................................................................................................. 20
  RRI Seminar Speakers ...................................................................................................................... 20
Resources ................................................................................................................................................ 20
Publications, Presentations and Workshops ......................................................................................... 21
  Publications ......................................................................................................................................... 21
  RRI Working Papers .......................................................................................................................... 21
  Technical Documents .......................................................................................................................... 22
  Resource Documents ......................................................................................................................... 22
  Presentations ..................................................................................................................................... 22
  Workshops ........................................................................................................................................ 23
RRI Mission

The Regional Research Institute at West Virginia University conducts and promotes interdisciplinary research on the economic and social development of lagging regions. A focal point for regional research excellence, the RRI serves as an internationally recognized center for the advancement of regional science—an interdisciplinary field at the intersection of geography, economics, and planning.

Our research focuses on theories and history of regional development, methods for studying regions, and policies for stimulating their development. We seek to advance understanding of socioeconomic processes and our ability to explain regional differences in rates of growth and levels of development. RRI activities are both national and international in scope. We have research interests around the globe and maintain a special focus on our own Appalachian region.

The Institute is committed to scholarship at its highest levels. We now have 32 Faculty Research Associates representing 21 different departments or units from five colleges and one other research institute, a solid in-house core of regional science faculty, an extended network of scholars elsewhere in the United States and abroad, and an outstanding group of graduate students. Our goal is to create learning opportunities, to provide research support for those engaged in regional research, and to bring together scholars from across campus and around the world to create an intellectually rich environment for the conduct of regional research. We sponsor visiting scholars, seminars, workshops, and conferences, providing a forum for exchanging ideas and discussing regional development research and issues. A primary RRI goal is to enhance the image of West Virginia University by solidifying the status of the Institute as an internationally recognized center of excellence in Regional Science research.
Executive Summary

I am pleased to submit this Report of the Regional Research Institute’s activities for Academic Year 2017. The Institute that William Miernyk founded 50 years ago continues to play a leadership role in regional research as we reach for new heights! Despite losing funding for one of our core researchers, we continue to serve as an internationally recognized center of excellence for research, instruction, and service in the field of regional research. The Institute is our university focal point for this kind of research, with 32 Faculty Research Associates (FRA) in 21 WVU departments and 5 colleges.

This Report describes the professional activities of RRI’s core faculty and Graduate Research Assistants between July 1, 2016, and June 30, 2017. More extensive descriptions of many of these activities can be found on our website at www.rri.wvu.edu. We were awarded four new externally funded grants this year—three from the National Energy Technology Laboratory and one from the Appalachian Regional Commission—and continued work on five other funded projects with support from the National Science Foundation, the Department of Energy/National Energy Technology Laboratory, the Department of Agriculture, and The Nature Conservancy.

Our most substantial contribution to the literature this year is a two-volume edited collection entitled Regional Research Frontiers, published by Springer. Leading regional researchers were asked to contribute essays that would be forward-looking and that would help to define regional research in coming decades. The response was overwhelming! Nearly eighty authors contributed 37 chapters to the two volumes, which appeared in print in March. We also authored six refereed publications—three that are in print and three that are forthcoming. We posted 4 working papers, 3 technical and resource documents, gave 7 conference presentations, 6 workshops on regional science methods, and sponsored 2 seminars. Our RRI working papers, journal articles, books, and book chapters are cataloged online with Research Papers in Economics (RePEc/IDEAS), one of the largest Internet repositories of academic material in the world. This past year, our papers were downloaded more than 1,400 times and there were more than 4,300 views. Our website continues
to serve the community, especially the Web Book of Regional Science. This year, we hosted nearly 15,000 user sessions, with more than 11,000 different users.

I hope you find this report to be informative and useful and invite you to visit our website to learn more and take advantage of the many useful resources we offer online.

[Signature]
RRI Boards of Advisors

Internal Advisory Board

Brian J. Cushing  
Associate Professor of Economics

Peter V. Schaeffer  
Professor of Agricultural and Resource Economics

Timothy T. Warner  
Professor of Geology and Geography

External Advisory Board

Erik Dietzenbacher  
Professor of Interindustry Economics  
University of Groningen, The Netherlands

Raymond J.G.M. Florax  
Professor, Agricultural Economics  
Purdue University, USA

Kingsley E. Haynes  
Ruth D. Hazel and John T. Hazel, M.D. Faculty Chair in Public Policy, Eminent Scholar  
University Professor Emeritus  
George Mason University  
USA

Geoffrey J.D. Hewings  
Professor, Institute of Government and Public Affairs; Emeritus Director, Regional Economics Applications Laboratory; Emeritus Professor Departments of Geography and Regional Science, Economics, and Urban and Regional Planning; Principal Affiliate Scientist Illinois State Water Survey  
University of Illinois at Urbana-Champaign USA

Peter McGregor  
Professor, Economics  
University of Strathclyde  
Glasgow, Scotland

Santiago Pinto  
Research Economist  
Federal Reserve Bank of Richmond  
Richmond, VA USA

David A. Plane  
Professor, Geography and Regional Development  
University of Arizona  
USA

Sergio J. Rey  
Professor, Geography and Urban Planning  
Arizona State University  
USA

Dan Rickman  
Professor of Economics  
Oklahoma State University  
USA

Attila Varga  
Professor of Economics and Regional Studies  
University of Pécs  
Hungary

Stephan Weiler  
Professor of Economics  
Colorado State University  
USA
Faculty, Staff, and Affiliates

Faculty and Staff

Marwan Alkhweldi  Graduate Research Assistant, Computer Programming
Doris Berns  Accounting Assistant
Amir Borges Ferreira Neto  Graduate Research Assistant, Economics
Jing Chen  Graduate Research Assistant, Geography
Elham Erfanian  Graduate Research Assistant, Agricultural & Resource Economics
Sriparna Ghosh  Graduate Research, Economics
Randall W. Jackson  Director
Péter Járosi  Research Assistant Professor
Caigan McKenzie  Administrative Assistant
Juan Tomás Sayago-Gómez  Graduate Research Assistant, Economics
Alexandre Scarcioffolo  Graduate Research Assistant, Natural Resource Economics
Shishir Shakya  Graduate Research Assistant, Economics
Caleb Stair  Graduate Research Assistant, Resource Economics

Visiting Scholars

Inácio Fernandes de Araújo  Federal University of Juiz de Fora
Li Li  Xinjiang Agricultural University
Zheng Tian  Capital University of Economics and Business, China

Faculty Research Associates

James T. Anderson  Professor of Wildlife Ecology and Management
Robert E. Blobaum  Eberly Family Distinguished Professor of History
Cheryl Brown  Associate Professor of Agricultural and Resource Economics
Peter Butler  Assistant Professor of Landscape and Architecture
K. Victor Chow  Professor of Finance
Christiadi  Associate Researcher and Demographer, BBER
Jamison Conley  Assistant Professor of Geography
Brian J. Cushing  Associate Professor of Economics
Gerard E. D’Souza  Professor of Agricultural and Resource Economics
Jinyang Deng  Assistant Professor of Recreation, Parks and Tourism Resources
John Deskins  Director, BBER
Stratford M. Douglas  Associate Professor of Economics
Levan Elbakidze  Assistant Professor of Agricultural and Resource Economics
Gregory A. Elmes  Professor of Geography
Xiaoli Etienne  Assistant Professor of Agricultural and Resource Economics
Jerald J. Fletcher  Professor of Agricultural and Resource Economics
Tesfa G. Gebremedhin  Professor of Agricultural and Resource Economics
Hodjat Ghadimi  Assistant Professor of Design and Landscape Architecture
Joshua Hall  Associate Professor of Economics
Trevor M. Harris  Eberly Distinguished Professor of Geography
Brad R. Humphreys  Associate Professor, Business & Economics
Kenneth C. Martis  Professor Emeritus of Geography
Robert M. Maxon  Professor of History
Timothy T. Phipps  Professor of Agricultural and Resource Economics
Peter V. Schaeffer  Professor of Economic Policy
Steven W. Selin  Professor of Forestry
Heather Stephens  Assistant Professor of Agricultural and Resource Economics
Timothy A. Warner  Professor of Geography
Rachael W. Woldoff  Associate Professor of Sociology and Anthropology
Feng Yao  Associate Professor, Business & Economics
Charles Yuill  Associate Professor of Resource Management
Paul Ziemkiewicz  Director, Water Research Institute

Faculty Research Affiliates

Shaoming Cheng  Florida International University
Christa D. Court  University of Florida
Henk Folmer  University of Groningen, The Netherlands
Frank Giarratani  University of Pittsburgh
Mulugeta S. Kahsai  Virginia State University
Sponsored Research

The Regional Research Institute occupies a unique position on the WVU campus. Our activities and influence extend across a large number of disciplines, colleges and research units. The RRI research staff for AY16 year comprised the Director, and one Research Assistant Professor. RRI research staff members are expected to participate in external funding activities, including the preparation and submission of external funding proposals and the conduct of funded research. We strive to include faculty from across campus in collaborative research proposals initiated in-house and to also participate, whenever appropriate and possible, in initiatives centered elsewhere. Non-RRI collaborators are most often drawn from the ranks of the RRI’s Faculty Research Associates. Of course, we welcome, encourage and have benefited from the participation of all researchers with complementary interests. We continually seek to expand ties with other campus units. A growing number of FRAs (32) from an ever-widening number of departments and other units (now 21) are reflections of these efforts.

Likewise, we seek to build relationships with researchers from other institutions, including continuing collaborations with scholars at other institutions, which have included the University of Pittsburgh, Carnegie-Mellon University, Georgia Institute of Technology, the University of Washington in Seattle, George Mason University, Florida International University, Pennsylvania State University, Virginia Polytechnic Institute, Arizona State University, The Ohio State University, and the National Energy Technology Laboratory. This year, we co-authored proposals with researchers from other Big 12 institutions, leveraging opportunities presented by our recent entry into this conference.

External Funding

From virtually no outside support in 2002, the RRI external funding base has developed steadily. Since 2002, the RRI has administered more than 100 research proposal submissions and resubmissions, involving more than 40 different WVU staff members and numerous inter-institutional collaborators. In the five most recent years and with two FTEs allocated to research, the Institute administered more than $1M in external funding, and the total WVU
funding of projects in which the RRI has been involved in that time is nearly $10M, further demonstrating its contributions to the larger research community. The following two graphs show funding amounts awarded by academic year of award and award amounts allocated by academic year of expenditure (Annualized by Fiscal Year).

Among our external funding challenges is the combination of a small core research staff and staff continuity. We have only 2.0 research FTEs engaged: the director, and a research assistant professor. Maintaining consistent external funding levels is difficult for any unit with a small staff, and the loss of .5 FTEs this year due to declining state funding increases the challenge.
2016-2017 Externally Funded Research Projects

Impact of Sequestration Tax Credits and CCS R&D

Researchers: Randall Jackson (PI) and Péter Járosi, Regional Research Institute, West Virginia University

Start & End Dates: April 21, 2017 – June 30, 2017

Funding Agency: National Energy Technology Laboratory, $15,482

Project Summary: The Econometric Input-Output (ECIO) model, is a time-series enabled hybrid econometric input-output (IO) model that combines the capabilities of econometric modeling with the strengths of IO modeling. It is designed to facilitate the estimation of economic (specifically, employment and income) impacts of energy technology development, deployment, and operation over a forecast period consistent with the National Energy Modeling System (NEMS), providing a consistent and comprehensive method for quantifying NETL’s programmatic impacts.

Researchers will perform ECIO runs including post-processing on two NEMS scenarios investigating the Impact of Sequestration Tax Credits and CCS R&D.
ECIO Python Port and Updates

Researchers: Randall Jackson (PI) and Péter Járosi, Regional Research Institute, West Virginia University

Start & End Dates: May 1, 2017 – September 30, 2017

Funding Agency: National Energy Technology Laboratory, $70,000

Project Summary: Integrate the reprogrammed Python econometric model with preprocessing code and interindustry module code and add automated error and consistency checking operations to Python model. Update data, evaluate model consistency, and update econometric equation specifications as indicated.

ECIO Energy Intensities Compared to NEMS Model Forecasts

Researchers: Randall Jackson (PI) and Péter Járosi, Regional Research Institute, West Virginia University

Start & End Dates: December 1, 2016 – September 30, 2017

Funding Agency: National Energy Technology Laboratory, $9,400

Project Summary: Assess the feasibility of, and carry through to logical completion, an analysis comparing ECIO energy intensities to those from NEMS model forecasts.

An Economic Analysis of Appalachian Coal Industry Ecosystems

Researchers: Randall W. Jackson (PI), Péter Járosi, West Virginia University; Peter Schaeffer, Resource Management, West Virginia University; John Deskins, Eric Bowen, Christiadi, Brian Lego, Bureau of Business and Economic Research, West Virginia University.

Start & End Dates: October 1, 2016 – June 30, 2017

Funding Agency: ARC, $349,999

Project Summary: The decline of the coal industry across Appalachia has crushed much of its economic activity. Alternative energy sources, increased environmental pressures, and mining technologies that operate with a reduced work force are behind this economic decline. Researchers will examine three major areas: identifying all components of the coal ecosystem and estimating the supply chain impacts in Appalachia; examining the implications of the coal industry’s downturn on the area’s transportation; and developing a typology of regional economies that surround the coal-
fired plants in the region using both econometric and input-output techniques. For each Appalachian county, the team will determine how employment and wages are affected by county CIE dependence scores, key suppliers and purchasers, county distress scores, county risk scores, and spatial vulnerability indices and will look at how coal will affect long-run changes to freight transportation costs.

**Economic Analysis of Energy Alternatives and Policies for WV**

**Researchers:** Levan Elbakidze (PI) Agricultural and Resource Economics, West Virginia University and Randall Jackson, Regional Research Institute, West Virginia University.

**Start & End Dates:** May 19, 2016 – May 31, 2017

**Funding Agency:** The Nature Conservancy, $99,955

**Project Summary:** As the United States transitions to a low carbon future, there is a need to determine what policies, programs, or projects will create economic benefits for the state of West Virginia and its people while also minimizing environmental impact. To do this, The Nature Conservancy is contracting with West Virginia University to perform a study to examine energy efficiency, solar energy, the use of natural gas to encourage solar energy, and forest carbon offset policies, programs, and projects. Some of the areas that will be examined include: strengthening or expanding current work in West Virginia to support energy audits and industrial, commercial, small business, and/or residential energy efficiency investments; advancing actions to remove barriers to businesses benefiting from energy efficiency and renewable energy; investing in employing more widely energy innovations and new technologies; encouraging and expanding the use of clean energy technologies; using natural gas to encourage or accelerate renewables; advancing distributed generation; advancing large scale forest restoration and conservation; and establishing a “green bank” to attract private investments in renewables, energy efficiency, and/or forest carbon.

**Economic Modeling and Impact Assessments**

**Researchers:** Randall Jackson (PI) and Péter Járosi, Regional Research Institute, West Virginia University

**Start & End Dates:** July 1, 2016 – September 30, 2016

**Funding Agency:** NETL $50,874

**Project Summary:** The Econometric Input-Output (ECIO) model is a time series enabled hybrid econometric input-output (IO) model that combines the capabilities of econometric modeling with the strengths of IO modeling. It is designed to facilitate the estimation of economic (specifically, employment and income) impacts of energy technology development, deployment, and operation over a forecast period consistent with the National Energy Modeling System (NEMS) providing a consistent and comprehensive method for quantifying NETL’s programmatic impacts.
Marcellus Shale Energy Environmental Laboratory (MSEEL)

Researchers: WVU and The Ohio State University

Start & End Dates: November 2014 – Ongoing (5-year project)

Funding Agency: DOE/NETL and Northeast Natural Energy $11M (WVU Total)

Project Summary: “As the Appalachian Region feels the impact of the burgeoning shale-energy industry, a consortium of researchers and industrial partners led by WVU, with the assistance of The Ohio State University, will conduct the first-ever long-term, comprehensive field study of a natural resource that has changed the country’s – and the world’s – energy supply. The team will identify and demonstrate technologies required for best practices in environmentally responsible shale development, from drilling to completion through production. The U.S. Department of Energy will allow the research team to create and manage the Marcellus Shale Energy and Environment Laboratory, a field site and dedicated research laboratory at the Morgantown Industrial Park. The Marcellus Shale Energy and Environment Laboratory will allow the team to address critical gaps of knowledge of the characterization, basic subsurface science, and completion and stimulation strategies that enable more efficient resource recovery from fewer wells with reduced environmental impact. The primary objectives of the project include providing a long-term research site with an existing well and documented production and environment baseline from two previously completed wells. A dedicated scientific-observation well will be used to collect detailed subsurface data and to monitor and test technologies in additional wells to be drilled periodically over the project lifetime. The site also offers a unique opportunity to enable an open, collaborative and integrated program of science and technology development and testing to minimize environmental impacts while maximizing economic benefits.” (Reprinted with permission from WVU Today. November 26, 2014.)

Economic Analysis of Energy Alternatives and Policies for West Virginia

Researchers: Levan Elbakidze (PI), Agricultural and Research Economics, West Virginia University; Randall Jackson, Regional Research Institute, West Virginia University

Start and End Dates: May 19, 2016 – May 31, 2017

Funding Agency: The Nature Conservancy, $99,955 (RRI Share: $9,452)

Project Summary: The Nature Conservancy’s (TNC) mission is to conserve the lands and waters on which all life depends. To do this, the TNC plans to undertake work at the intersection of land and water conservation, climate, energy, and economy. Our project is to is to identify the policies, programs, or projects in energy efficiency, renewable energy, and forest carbon offsets that will
enhance prosperity in West Virginia by examining energy efficiency, solar energy, the use of natural gas to encourage solar, and forest carbon offset policies, programs, and projects that will be most beneficial to West Virginia while also minimizing environmental impact.

**West Virginia Early Childhood Obesity Program**

**Researchers:** Susan Partington (PI), Human Nutrition and Foods, West Virginia University; Donald Lacombe, Regional Research Institute, West Virginia University; Emily Murphy, Department of Pediatrics, West Virginia University; Elaine Bowen, Extension Service, West Virginia University; Lesley Cottrell, WV Prevention Research Center, West Virginia University; and Gianfranco Piras, Regional Research Institute, West Virginia University

**Start and End Dates:** February 1, 2011 - January 31, 2017

**Funding Agency:** USDA/National Institute of Food and Agriculture, $4.7M (RRI Share: $723,519)

**Project Summary:** Establishing environments that promote healthy eating and physical activity behaviors in early childhood may have a significant impact on future obesity risk. West Virginia University in collaboration with West Virginia Head Start, Monongalia County and Kanawha County Public Schools, and Choozy Kids, LLC will implement a five-year project to: (1) examine environmental and behavioral determinants of childhood obesity, (2) use the knowledge base generated by this research to construct, implement, and assess multilevel childhood obesity prevention initiatives, and (3) empower parents, teachers, students, and community members by providing learning experiences and resources to make home, school, and community environments child healthy. Specific project components will include assessment of the community, school, and home environments for nutrition and physical activity, development and implementation of nutrition and physical activity programs in pre-kindergarten classrooms, events to teach family focused healthy eating and physical activity, and mini-grants to promote changes in the community to support overall health and wellness. The study will follow preschool children and their families through second grade to track the program’s effectiveness in changing food and physical activity behaviors.

**Economic and Environmental Impacts of Increased Woody biomass Utilization for Bioenergy Production on the Rural Communities of the Central Appalachian Region**

**Researchers:** Jingxin Wang (PI), Hodjat Ghadimi, Design and Landscape Architecture, West Virginia University; Kaushlendra Singh, Design Forestry and Natural Resources, West Virginia University; Randall Jackson, Regional Research Institute, West Virginia University; J. Wesley Burnett, Natural Resources and Design Resource Management, West Virginia University

**Start and End Dates:** August 2, 2012 – July 31, 2016

**Funding Agency:** United States Department of Agriculture/National Institute of Food and Agriculture, $349,952 (RRI Share: $104,027)
Project Summary: The central Appalachian region is one of the most economically depressed regions of the United States, but the region is rich in natural resources. The predominantly rural region has an economy that has been traditionally based on the extraction and use of natural resources. Coal, which has been the primary industry for much of the region is now facing a period in which the availability of the resource is declining and there is growing concern about its continued use as a fuel staple. For many of these communities, there is a need for the development of a new industry that will provide employment and boost the local and regional economy. The use of woody biomass may provide such an opportunity in this region. Our project is going to focus on the economic and environmental impacts of increased woody biomass utilization for liquid fuel production in the central Appalachian region. Specifically, the economic and environment impacts associated with the harvest, processing and utilization of woody biomass will be quantified and modeled; additionally, the interactions between the utilization process and the environmental and economic impacts will be examined. To accomplish this analysis we will develop a price and available quantity estimates based on spatial, topographic and potential harvesting systems; perform a lifecycle assessment to define the system processes and quantify the environmental impacts; utilize economic input/output models and computable general equilibrium models to determine the total impact increased biomass utilization will have on the economy in terms of job creation and economic growth.

West Virginia University – Support for the International Forum on Unconventional Gas Sustainability and the Environment (INFUSE)

Researchers: Tim Carr (PI) Geology and Geography, West Virginia University; Randall Jackson, Regional Research Institute, West Virginia University; Paul Ziemkiewicz, National Research Center for Coal and Energy Environmental Technology, West Virginia University; Shawn Grushecky, Natural Resources and Design Forestry and Natural Resources, West Virginia University; Shikha Sharma, Geology and Geography, West Virginia University; Thomas Wilson, Geology and Geography, West Virginia University; Michael McCawley, Occupational and Environmental Health Sciences, West Virginia University; Kashy Aminian, Petroleum and Natural Gas Engineering, West Virginia University; Ali Takbiri Borujeni, Petroleum and Natural Gas Engineering, West Virginia University; Ebrahim Fathi, Petroleum and Natural Gas Engineering, West Virginia University.

Start and End Dates: September 23, 2015 – September 30, 2017

Funding Agency: US Department of State $750,000

Project Summary: We will coordinate international outreach and education related to the International Forum on Unconventional Gas Sustainability and the Environment (INFUSE). The overall goal is to increase international understanding of how proper drilling, hydraulic fracturing and water management can reduce environmental risks and lead to sustainable resource development. This will enable government officials to better understand the unique safety, environmental, and social challenges associated with the development of unconventional resources.
and best practices to address those challenges. Based on our experience from the Marcellus and Utica shale intervals in West Virginia and the Appalachian basin, we will document scientific, technical, policy and environmental lessons learned in our region that are appropriate for different countries and regions. The research program will have a flexible structure that will work to supplement and accommodate the requirements of effective overseas outreach.

**Web Book of Regional Science**

The Web Book of Regional Science brings together on one website comprehensive descriptions of many of the basic concepts, analytical tools and policy issues important to regional science. The papers can be accessed at http://rri.wvu.edu/resources/web-book-rs/.

The Web Book of Regional Science is equivalent to well over fifteen hundred pages of traditional text. The intent in bringing together such an extensive collection of scholarship is to make it possible for instructors to choose from a menu of offerings (appropriate for their students) when designing courses. Just as one would never order everything on the menu for one meal at most restaurants, it is not expected that anyone would ever put all of the Web Book contributions into a single syllabus! The electronic medium makes appropriate choices easy. The flexibility of electronic publishing also makes it easier to either update or supplement the material once it is posted. A further advantage of the hypertext version of each Web Book contribution is the live links that quickly provide the reader with access to glossary definitions, data sources, or related websites. The contributions fall into three broad categories, one oriented toward methods or empirical issues, another toward more topical or policy oriented topics. The third category includes regional science classics, to which 11 volumes were added in 2008. *The 1975 WV Input-Output Study: Modeling a Regional Economy* was added to the classics in regional science, 2009. William Schaffer revised *Regional Impact Models*, April 2010.

Web Book materials are used in introductory, upper division undergraduate and graduate courses, and by practitioners. Globalizing forces, technical progress in marrying regional models with data, and an increasingly important understanding of the complexity of systems that govern global change and its regional dimensions means that the skills of regional scientists will be in great demand throughout this new millennium. An indicator of this demand is popularity of the Web Book of Regional Science, which logs more than 33 thousand page views per year, roughly half of which originate from within the U.S. Researchers from more than 90 countries visit the site during a typical year, reinforcing the international recognition that the Institute brings to West Virginia University.
Awards and Recognitions

Elham Erfanian and Amir Borges Ferreira Neto win Best Paper in Economics Award

Elham Erfanian and Amir Borges Ferreira Neto, two RRI graduate research assistants, were co-recipients of the monetary award for Best Paper in Economics by a Graduate Student at the Academy of Economy and Finance. The presentation took place at the Academy’s 54th annual conference in late February in Charleston, SC.

The Academy is celebrating its 50th year; its mission is to support the increasing role played by financial economists and finance specialists. Originally more regional in nature, it began in Mississippi, its membership base had expanded over the years to include members from many states in addition to areas outside the borders of the United States.

Erfanian, also a doctoral candidate in Agricultural and Resource Economics, said, “I am so glad to win the award. We started the paper from an assignment for our econometrics II course. Adding a spatial dimension to the research enabled us to ask more questions about the effects that R&D elements has on research output. Incorporating spatial dimension and measuring neighboring effects helps regional economists to incorporate the spillover effects in research and development literature and that leads to more realistic policy implementations.”

Borges Ferreira Neto had this to say, “I am very happy to have won the outstanding graduate student paper award in Economics as it tells me I am on the right path as a researcher. With respect to regional science, this paper’s main contribution is to re-introduce the importance of looking at this other facet of innovation, namely, the production of science (journal articles) instead of usual measure: patents.”

The name of the winning paper they co-authored is “Scientific output: labor or capital intensive? An analysis for selected countries.” In the paper, they explain why “policy-makers should understand how the different inputs – namely labor and capital – are related to a country’s scientific output.”
They address this issue by “estimating output elasticities for labor and capital using a panel of 31 countries in nine years.”

Dr. Randall Jackson, RRI Director had this to say about the winners, “We are very proud of Elham and Amir, who have now joined the ranks of other RRI graduate student award winners. Recognitions like these reinforce the value and benefits of direct graduate student participation in funded research projects, from inception through research communications.”

The two authors have had their paper published in *Scientometrics*, an international journal for all quantitative aspects of the science of science, communication in science and science policy.

**Amir Borges Ferreira Neto Awarded Fellowship**

Amir Borges Ferreira Neto is a graduate research assistant in the RRI and a doctoral candidate in the College of Business and Economics. Just recently, he became a recipient of the W. Marston and Katharine B. Becker Doctoral Fellows Endowment.

Borges Ferreira Neto said, "I am honored and grateful to have been awarded this prestigious fellowship." He continues, "On the one hand, the fellowship will allow me the opportunity to focus on both my doctoral and my personal research, which are consistent with the donors’ expectations of regional and public policy-oriented research. On the other hand, over the next couple of years I will be able to complement my doctoral training with teaching experience while continuing to maintain focus on my research."

This fellowship is awarded to the top students by the Center for Free Enterprise at WVU and is based on a student’s ability to communicate basic economic principles through research on state policy. Fellows are expected to engage in the ongoing dialogue on state economic policy through public speaking opportunities and new commentary and publications. Borges Ferreira Neto explained, "Because of this fellowship, I expect to finish my doctoral program with both research and teaching experience concurrent to publishing and participating in conferences to strengthen network opportunities."
Students are awarded a $20,000 annual stipend to work on research relevant to West Virginia economic policy while pursuing doctoral studies.

**Service to the State and the Profession**

**Leadership Roles in Regional Science Organizations**

- Director Randall Jackson continues to serve on the Editorial Boards of the International Regional Science Review, Letters in Spatial and Resource Sciences, and the Review of Regional Studies, Regional Statistics, and he serves on the Board of Directors for the Western Regional Science Association, and the Purdue Center for Regional Development Advisory Council. He is a Fellow of the Southern Regional Science Association, and serves as the Southern Regional Science Association Graduate Paper Honors Chair.

- Faculty Research Associate Donald J. Lacombe was named co-editor of *Papers in Regional Science*, continues as a member of the Executive Council of the Southern Regional Science Association, is currently on the Editorial Board of *the Journal of Geographical Systems* and *Review of Regional Studies* and continues as a member on the Editorial Board of *Papers in Regional Science*.


**Changing Faces**

**Alexandre Scarioffolo** came to WVU from his home in São Paulo, Brazil. Scarioffolo is a second-year Ph.D. student in Natural Resource Economics at the Davis College of Agriculture, Natural Resources & Design. He is also a Graduate Research Assistant at the Regional Research Institute. His research interests include energy economics, environmental and resource economics and econometrics.

**Shishir Shakya** is from Kathmandu, Nepal and is a second-year Ph.D. student in Economics at the College of Business and Economics. He works as a Graduate Research Assistant at the Regional Research Institute and is interested in time series economics, input-output models, and network analysis.
**Inácio Fernandes de Araújo Junior** is a visiting scholar from Juiz de Fora, Brazil and a Ph.D. candidate in Economics at Federal University of Juiz de Fora. He was awarded a scholarship from the Brazilian Ministry of Education to visit the Regional Research Institute to conduct part of his doctoral research.

**In Memoriam**

We are saddened to announce that our colleague and friend Dr. Jerald “Jerry” Fletcher died on June 19, 2017 from cancer at the age of 68. Dr. Fletcher came to WVU in 1989 from Purdue University where he was also a faculty member. In 1982, he earned his Ph.D. in agricultural economics from the University of California, Davis and his M.A. in economics also from UC Davis. His B.S. in mathematics was from the University of Wyoming, where he was originally from.

**Jerald Fletcher**

At WVU, he led a 28-year distinguished career as a professor of Agricultural and Resource Economics. He founded and directed the Natural Resource Analysis Center in the Davis College and was past director of the Division of Resource Management. Additionally, he was director of the Department of Energy-funded U.S.-China Energy Center, the university’s largest grant to date, more than $25 million. Over his career, he served as principal or co-principal investigator on nearly $60 million in research grants, was a prolific writer, and mentored dozens of students and young faculty from around the world.

Jerry also served his community. He coached and refereed youth soccer, youth basketball and co-led a Boy Scout group. He was a member of the Benevolent and Protective Order of Elks and the Rotary Club of Cheat Lake. He had a life-time commitment to environmental sustainability.

We also grieve for Professor Raymond J.G.M. Florax, a leading researcher and professor of Agricultural Economics at Purdue University and member of the RRI External Advisory Board, who died unexpectedly on March 1, 2017. The focus of his research and teaching had been urban and regional economics, and the econometrics of spatial data analysis. He has played an influential role in the introduction and proliferation of new statistical methods, in particular spatial econometrics and meta-analysis, and according to those who knew him, his research pushed the boundaries in these areas. Dr. Florax had been awarded the European Investment Bank – European Prize in Regional Science, which is the highest research award of the European Regional Science Association for his life-long contributions to regional science and related spatial studies.
Dr. Florax was Fellow of the Tinbergen Institute, the Regional Science Association International, the Spatial Econometrics Association, the Wageningen School of Social Sciences, and the Netherlands Network of Economics. He was a good friend strong supporter of the Institute, and he will be greatly missed.

Visitors

The Regional Research Institute contributes to the intellectual environment of the WVU Campus by providing a variety of enhanced learning opportunities. Among these opportunities are the RRI Seminar Series and Visiting Scholar programs. We strive to bring cutting edge and eminent scholars to campus to interact through public lectures, workshops, group and individual collaborations.

Visiting Scholars

The Institute continues its role as a host for international scholar exchange, contributing to the diversity of the WVU community. We have Memoranda of Understanding with Andong University (S. Korea), the Korean Ministry of Industry and Trade (KIET), and the University of Bologna, Italy.

Visiting Scholars for 16/17 include:

- Zheng Tian, Assistant Professor, Capital University of Economics and Business, China, October 2015 – March 2017
- Li Li, Associate Professor, Zinjiang Agricultural University, China, October 2015 – October 2016

RRI Seminar Speakers

Aroca, Patricio, Professor and Director of the Center for Economics and Policy Universidad Adolfo Ibáñez del Mar, Chile and Associate Researcher of the Center for Conflict and Cohesion Studies of the Chilean National Fund for Science (CONICYT), presented The Smartness Migration Impacts on Smart Cities.

Schweizer, Max, Foreign & Economic Affairs; Advisory—Lectures—Research, presented Brexit—the End of “Regionalism” in Europe? Observations of a Former Swiss Diplomat. Arizona State

Resources

The Regional Research Institute operates on a combination of state and external funds. Our staff this year included the Director plus 1.5 FTE core research faculty, two office staff, and eight graduate students.
Publications, Presentations and Workshops

Publications

2017


AB Ferreira Neto. Looking behind the scenes: an assessment of the interdependence of Brazilian cultural industries. (Forthcoming) 2017.


2016


RRI Working Papers

2017


2016


Technical Documents

2017


Sayago-Gómez JT. Using R and Google-API tools to estimate geographic features. Technical Document 2017-01. Regional Research Institute, WVU.

Resource Documents

2017


Presentations


Workshops


