



NARSC NEWS



Words from the Executive Director



Welcome to the June 2017 issue of NARSC News. I hope that everyone is having a productive summer. This November (8th-11th) the 64th Annual North American Meetings of the RSAI will take place in Vancouver, British Columbia. I hope that you will join us for what promises to be another enjoyable and stimulating meeting. This year's local organizer is John Leatherman of Kansas State University and the Program Chair is Hanna Maoh of the University of Windsor. The deadline for abstract submissions is

July 1. More information about the conference can be found at <http://www.narsc.org/newsite/conference/>. In closing I'd like to thank our newsletter editors Liz Mack and Ran Wei for putting together yet another informative newsletter. I look forward to seeing you in Vancouver.



Words from the Editors

This issue marks the start of the fourth year of the newsletter. Thanks to the great membership, it has been possible to feature important contents and updates in the field of regional science. Thank you to all that have contributed. If you have ideas please feel free to contact Ran Wei (ran.wei@utah.edu) or Liz Mack (emack@msu.edu).

This June 2017 edition of the newsletter contains thought pieces on methods in regional science from Richard Church at the University of California, Santa Barbara and Morton O'Kelly from the Ohio State University. We have a junior faculty profile of Ying Song from the University of Minnesota as well as recently funded research and published books of the membership.

We hope you all have a productive and relaxing summer and look forward to seeing you all at the NARSC meeting in Vancouver in November.

Elizabeth Mack and Ran Wei, Newsletter Co-Editors

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Would you like to contribute to the newsletter?

Contact editors Elizabeth Mack (emack@msu.edu) or Ran Wei (ran.wei@utah.edu)



Topics for Consideration in Location and Transport Research

by Morton O'Kelly

In many ways transport and location are two sides of the same coin. Materials at fixed locations require transport to move them, and the act of transportation can deliver substantial benefits to places that have fortuitous locations. Thus we have seen through the years many observations of the role of transshipment points, and the potential benefits of processing material as it is broken down from one mode to another. The classic example here would be milling or steel making on a lake shore. Transport geographers have had an ability to make sense of many real world locational patterns, largely but not exclusively on the basis of transport cost advantages. Of course since the time of Weber, we have also factored in added modifiers such as labor costs and agglomeration effects, both of which can overcome the apparent low cost advantage of a point of minimal transport costs.

In the coming years, work that has accumulated in transport and location theory, will perhaps take on a few added dimensions. For sure, the role of economies of scale in ever larger bulk freighters will alter the potential to make markets. Ideas that make perfect sense in theory (spatial price equilibration) will very likely be shown to have increased practical relevance as well. For example, shipping grain involves an interdependent calculation of the cost and freight from a variety of sources, and procurement in bulk by large importers of a commodity like wheat (e.g. Egypt) makes use of auctions to obtain the most favorable supply (say from France or the Ukraine). The providers of transport services (the shipper) must set these bid prices based on their internal cost calculations, as well as some idea of the potential for bids from other close competitors. Periodic glut or shortage of supplies, or of transport equipment can modify these norms considerably, and ultimately any spike in transport costs will be passed on the customer in terms of higher commodity prices. Big data provide an opportunity to mine for consistencies, and possible arbitrage opportunities in these patterns.

There is also a large and energetic assessment of the airline sector, spanning issues of hub-base location for the airlines, the provision of services between cities, and the price/performance aspects of these services as we have trended (in the US) to a set of four dominant carriers (United, Delta, American, and South West). Even so, airlines continuously experiment with their networks and alliances. Just recently Ryan Air announced its intention to reverse a long held adherence to point-to-point service and will facilitate the booking and coordination of connections at some of its busiest airports. There is widespread recognition that the hub and spoke model allows airlines to build volume in a way that sustains recurring, largely full, flights. Some argue that a point-to-point service has lower fuel costs and reduced chances of lost luggage and missed connections, but the fact of the matter is that many origin-destination pairs cannot sustain full flights (let alone multiple departures per day). It is also a somewhat overlooked fact that the current US hub and spoke system delivers very favorable connectivity options to many passengers, simply because the hubs are well connected and are themselves the destinations to which a big fraction of the public is traveling – the bottom line for many passengers for example is a direct flight to Chicago, Atlanta, Dallas, or New York. The resulting locational advantages to a city of being denoted as a hub are

unmistakable – larger conference bookings, more rental car activity, and benefits for fly-in business meetings. And the role of the hub entity itself as an employer cannot be underestimated (e.g. FedEx in Memphis, or UPS in Louisville). In other words, transport service provision itself becomes a contributor to the economic base.

Three recent papers listed below highlight some spatially competitive aspects of these important processes.

Further Reading

2017. Yongha Park and M.E. O’Kelly. Origin-Destination Synthesis for Aviation Network Data: Examination of hub operations in the US domestic and international markets. Forthcoming, Journal of Advanced Transportation. DOI: 10.1002/atr.1459

2017. Yongha Park and M.E. O’Kelly. Examination of optimal aircraft fleets using empirical operation data in US aviation markets. Forthcoming, Journal of Air Transport Management, NECTAR special issue. <http://doi.org/10.1016/j.jairtraman.2017.02.002>

2017. Yongha Park and M.E. O’Kelly, Exploring accessibility from spatial interaction data: An evaluation of the Essential Air Service (EAS) program in the contiguous US air transport system. Forthcoming, Environment and Planning A. DOI: 10.1177/0308518X16680816

Morton O’Kelly is Professor and Chair in the Department of Geography at Ohio State University.



The Future of Location Modeling by Rick Church

Location science is an inextricable component of the growing field of spatial optimization. Historically, it has included, such problems as corridor and pathway location, production and service center location, break-of-bulk and consolidation facility location, districting and turfing, retail site selection, as well as many others. In the past decade or two, there has been considerable interest in how to expand systems like cellular telephone systems to serve regions, sensor networks to better monitor traffic, and now even urban-based bike-sharing systems. Along with this ever expanding set of problems, models and solution techniques have been enhanced as well. Our capabilities today are significantly better than what we imagined only a decade or two ago.

But, what about the future, what comes next? First, there are many existing problems that have yet to be addressed in a manner that they can be easily applied by others. There is indeed a gap in many of our modeling approaches between what we can do in a research setting and what is needed for seamless application in the field. For example, functionality is missing or downright difficult to integrate into existing Geographical Information Systems that might be used to support the design of logistics systems and service systems, such as a geographical space covering model. The future looks very bright when it involves matching the needs with suitable design and operational support systems. There will also be a greater emphasis to enhance sustainability and resilience.

Some say that the new era will be propelled by emerging technologies such as artificial intelligence and 3-D printing, along with social/economic changes like a shared economy of cars and a greater emphasis on an e-commerce market. Malls are closing in unprecedented numbers, retail chains such as Macy's are contracting, while Amazon becomes one of the largest e-retailers of the world. Within the bricks and mortar format there is a greater emphasis today towards maximizing revenue in existing stores as compared to building revenue by opening new stores. Thus, the focus is on the optimal arrangement of goods within a store, another important location problem. In 2014, Uber's service in San Francisco was three times larger than the taxi market in SF. Researchers are now beginning to focus on just where to stage these vehicles so that their trips are as efficient as possible. Other disruptions like 3-D printing will also leave their mark within the context of location system design. For example, Caterpillar Tractor wants to move to local 3-D printing of parts so that they can contract their world-wide system of parts warehouses to the bare minimum. All of these trends come with problems that involve the issue location/placement.

Our current emphasis on structured models will need to make room for unstructured machine-learning approaches that involve big messy data. I use the term "messy" because the new sources of data are far from being clean or even designed towards measuring the specific elements of a system that may be of interest. Finally, even old approaches for solving classic problems, like the p-median location problem, may be replaced by machine learning methods when involving extremely large problems.

Rick Church is a Professor in the Department of Geography at the University of California, Santa Barbara.

Member Profile:

Ying Song, University of Minnesota



Dr. Ying Song is currently an Assistant Professor in the Department of Geography, Environment and Society at the University of Minnesota, Twin Cities. Ying earned her PhD degree in the Department of Geography at The Ohio State University in 2015. Ying also received her M.S. degree in geography from University of Utah in 2010 and her B.S. degree in geographic information science (GIScience) from Wuhan University, China in 2007.

Ying's general research interest is GIScience, focusing on the development and application of spatial analytical methods to visualize, explore and investigate movement and change in geographic space with respect to time. Her empirical focus is human mobility and accessibility within transportation networks at various spatial scales, particularly at urban and regional levels. Ying has been inspired by the individualistic perspective of Hägerstrand's time geography to understand how people trade time for moving in urban space and participating in various daily activities. She is motivated by the ever-increasing availability of movement data, which can provide novel insights into the theory of time geography in particular and the spatio-temporal analytical methods in general.

Ying's dissertation, "Green Accessibility: Measuring the Environmental Costs of Space-time Prisms in Sustainable Transportation Planning", is part of a multi-disciplinary project funded by the NSF. Her dissertation research investigates individuals' movements given their activity schedules, and estimates the potential costs of such movements such as energy consumption and greenhouse gas emissions. The research has won her three awards from the Association of American Geographers (AAG): the 2016 William L. Garrison Award for Best Dissertation in Computational Geography, the 2016 Outstanding Dissertation Award from transportation geography special group, and the 2014 John Odland Award from spatial analysis and modeling special group.

Ying's current research focuses on improving the analytical and computational methods developed in her dissertation and extending their applications to other realms such as animal ecology and transit operation. Ying continues to explore the possibilities to adopt methods from other disciplines to the study of movements in space over time, such as communication networks in electrical engineering. She is also interested in developing open-source scripts and tools for visualizing, analyzing and/or simulating the movement data.

NARSC Members' Recent Grant Awards

**Place-based Innovation: An Integrated Look at Agritourism in the Western U.S.
Funded by USDA in the amount of \$500,000**

Investigators:

Dawn Thilmany, Shermain Hardesty, Becky Hill, Sarah Low, Martha Sullins, Diane Gaede, Anders Van Sandt, and Penny Leff

Project Summary:

The USDA provided support for our project team to explore what factors influence the growth of agritourism activity in the Western US, including:

- Explore the behavior and preferences of agritourism travelers in the Western US, with comparisons to a broader set of US tourists
- A spatial analysis across Western state analyzing what factors may influence agritourism activity because of differences in place-based factors (natural amenities, proximity to urban areas, byways and interstates)
- Develop case studies of agritourism operations to help better understand how innovations by operators encourages first-time, local and destination agritourists
- Building on identified opportunities to cultivate profitable agritourism enterprises

IBSS-L: Understanding social and geographical disparities in disaster resilience through the use of social media

Funded by NSF in the amount of \$834,585

Investigators:

Lam NSN, Meyer M, Park SJ, Reams M, Yang SW, Lee KS

Project Summary:

This interdisciplinary research project will examine whether social and geographical disparities exist during the four phases of emergency management (mitigation, preparedness, response, and recovery). The investigators will use multiple perspectives and scales to address the research questions, including analysis at the community, individual, and organizational scales. Findings from this project will provide valuable insights into the interplay among regional disparities, individual social networks and behavior, and governmental/organizational policies. This project will expand knowledge of whether social media use may serve to overcome or further deepen the social and geographical disparities in each phase of emergency management. The project will enhance understanding of how to conduct efficient mining of social media data in order to produce useful and valid scientific information, thereby advancing both social science and information science research by developing and testing algorithms that can be used to mine noisy and imperfect data from sources like Twitter. The knowledge gained from this project will help develop strategies to reduce disparities, create effective social media campaigns and emergency management outreach, and promote resilience to disasters. The methods used in this project will be applicable to study other disasters in other regions.

An online modeling tool to assist with identifying potential economic development opportunities in rural communities

Funded by USDA in the amount of \$500,000

Investigators:

Craig Wesley Carpenter), Rebekka Dudensing, Scott Loveridge, Linda Niehm

Project Summary:

The project uses confidential restricted-access government databases to identify the potential for future economic development in rural areas. Publicly available datasets for rural areas present data suppression issues that limit the ability to identify economic opportunities. This project adapts the classic demand threshold concept to identify the types of businesses that have a high probability of success in a given county based on the characteristics of that county and characteristics of counties where that type of business is frequently found.

Craig Carpenter, the project PI, will leverage his experience at Federal Statistical Research Data Centers to access the Longitudinal Business Database (over 8M observations annually), the Integrated Longitudinal Business Database (over 20M observations annually), and county-level estimates derived from the Annual Retail Trade Survey (about 35,000 observations annually) and the Annual Survey of Manufacturers (about 70,000 observations annually). These databases provide employment and payroll of both employer and nonemployer businesses at the six-digit NAICS level. Data will be aggregated to the county level and merged with public data on other community characteristics. Demand and supply thresholds associated with the presence of a rural manufacturing, retail, tourism, or service businesses will be identified econometrically.

**Center for Community Vitality: Expanding 'brain gain' research
Funded by USDA in the amount of \$500,000****Investigators:**

University of Minnesota Extension Center for Community Vitality

Project Summary:

The grant allows Center researchers to widen "brain gain" research, which has found adults 30 to 49 years old disproportionately move into rural areas. The focus on newcomers and their integration into rural communities also will consider the experience of minority and immigrant residents in those areas.

"As baby boomers retire from the workforce, replacement workers are needed. Employers and communities are very concerned about that workforce, and many Minnesota communities are genuinely interested in learning how they can attract residents," said Kent Olson, Associate Dean of the Center for Community Vitality. "This project will allow us to better understand why people move to rural areas and what makes communities successful in keeping them. As initiatives sprout up around Minnesota, we want to know what works."

The research will use surveys, focus groups and demographic analysis to gather information from community initiatives, newcomers and long-time residents. Researchers will explore three basic questions:

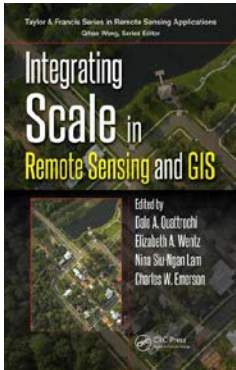
- What are the characteristics of newcomers in rural areas?
- How well do different categories of newcomers integrate differently into rural communities?
- What private strategies and public policies are communities trying to attract and retain newcomers and what is working?

Findings will inform Extension educational programs resulting in new community education that informs local policy-making and initiative planning.

NARSC Members' Recent Books

Title: *Integrating Scale in Remote Sensing and GIS*

Editors: Dale A. Quattrochi, Elizabeth Wentz, Nina Siu-Ngan Lam, and Charles W. Emerson

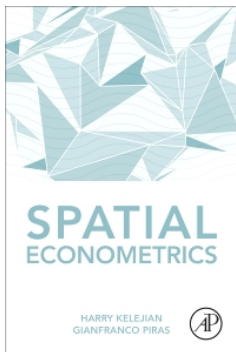


Description: “This book serves as the most comprehensive documentation of the scientific and methodological advances that have taken place in integrating scale and remote sensing data. This work addresses the invariants of scale, the ability to change scale, measures of the impact of scale, scale as a parameter in process models, and the implementation of multiscale approaches as methods and techniques for integrating multiple kinds of remote sensing data collected at varying spatial, temporal, and radiometric scales. Researchers, instructors, and students alike will benefit from a guide that has been pragmatically divided into four thematic groups: scale issues and multiple scaling; physical scale as applied to natural resources; urban scale; and human health/social scale. Teeming with insights that elucidate the

significance of scale as a foundation for geographic analysis, this book is a vital resource to those seriously involved in the field of GIScience.” --- CRC press

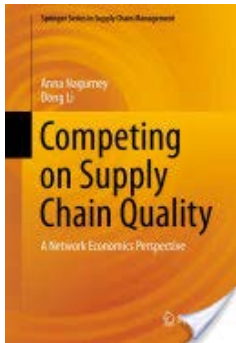
Title: *Spatial Econometrics*

Authors: Harry Kelejian and Gianfranco Piras



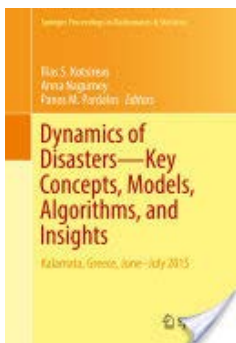
Description: “Spatial Econometrics provides a modern, powerful and flexible skillset to early career researchers interested in entering this rapidly expanding discipline. It articulates the principles and current practice of modern spatial econometrics and spatial statistics, combining rigorous depth of presentation with unusual depth of coverage. Introducing and formalizing the principles of, and ‘need’ for, models which define spatial interactions, the book provides a comprehensive framework for almost every major facet of modern science. Subjects covered at length include spatial regression models, weighting matrices, estimation procedures and the complications associated with their use. The work particularly focuses on

models of uncertainty and estimation under various complications relating to model specifications, data problems, tests of hypotheses, along with systems and panel data extensions which are covered in exhaustive detail. Extensions discussing pre-test procedures and Bayesian methodologies are provided at length. Throughout, direct applications of spatial models are described in detail, with copious illustrative empirical examples demonstrating how readers might implement spatial analysis in research projects. Designed as a textbook and reference companion, every chapter concludes with a set of questions for formal or self-study. Finally, the book includes extensive supplementing information in a large sample theory in the R programming language that supports early career econometricians interested in the implementation of statistical procedures covered.” --- Academic press

Title: *Competing on Supply Chain Quality: A Network Economics Perspective***Authors:** Anna Nagurney and Dong Li

Description: “This book lays the foundations for quality modeling and analysis in the context of supply chains through a synthesis of the economics, operations management, as well as operations research/management science literature on quality. The reality of today's supply chain networks, given their global reach from sourcing locations to points of demand, is further challenged by such issues as the growth in outsourcing as well as the information asymmetry associated with what producers know about the quality of their products and what consumers know. Although much of the related literature has focused on the micro aspects of supply chain networks, considering two or three decision-makers, it is essential to capture

the scale of supply chain networks in a holistic manner that occurs in practice in order to be able to evaluate and analyze the competition and the impacts on supply chain quality in a quantifiable manner. This volume provides an overview of the fundamental methodologies utilized in this book, including optimization theory, game theory, variational inequality theory, and projected dynamical systems theory. It then focuses on major issues in today's supply chains with respect to quality, beginning with information asymmetry, followed by product differentiation and branding, the outsourcing of production, from components to final products, to quality in freight service provision.” --- Springer

Title: *Dynamics of Disasters: Key Concepts, Models, Algorithms, and Insights***Editors:** Ilias S. Kotsireas, Anna Nagurney, and Panos M. Pardalos

Description: “This volume results from the “Second International Conference on Dynamics of Disasters” held in Kalamata, Greece, June 29-July 2, 2015. The conference covered particular topics involved in natural and man-made disasters such as war, chemical spills, and wildfires. Papers in this volume examine the finer points of disasters through: Critical infrastructure protection, Resiliency, Humanitarian logistic, Relief supply chains, Cooperative game theory, Dynamical systems, Decision making under risk and uncertainty, Spread of diseases, Contagion, Funding for disaster relief, Tools for emergency preparedness, Response, and risk mitigation. Multi-disciplinary theories, tools, techniques and

methodologies are linked with disasters from mitigation and preparedness to response and recovery. The interdisciplinary approach to problems in economics, optimization, government, management, business, humanities, engineering, medicine, mathematics, computer science, behavioral studies, emergency services, and environmental studies will engage readers from a wide variety of fields and backgrounds.” --- Springer

Call for Applications: Benjamin H. Stevens Graduate Fellowship

Graduate students enrolled in Ph.D. programs in North America are encouraged to apply for the Eighteenth Benjamin H. Stevens Graduate Fellowship in Regional Science, administered by the North American Regional Science Council of the Regional Science Association International (NARSC-RSAI). This Fellowship, in support of dissertation research in Regional Science, is awarded annually in memory of Dr. Benjamin H. Stevens, an intellectual leader whose selfless devotion to graduate students as teacher, advisor, mentor, and friend had a profound impact on the field. Regional Science is a multidisciplinary field concerned with the theory and method of urban and regional phenomena. Regional Scientists apply theoretical and empirical frameworks and methods of the social and other sciences, as well as develop new ones specifically for regional analysis and policy.

Eligible students should have completed all degree requirements except for their dissertation by the time the Fellowship commences. A requirement of the Fellowship is that the recipient has no duties other than dissertation research during the Fellowship, although the recipient may hold other fellowships concurrently. Applications from students working in any area or any Ph.D. program are welcome as long as their dissertation research addresses a research question in Regional Science.

The Fellowship consists of a stipend in the amount of \$30,000 (U.S.), paid over a twelve-month period. Applications for the 2018–2019 Fellowship should be sent electronically by the applicant to the Selection Committee Chair, Professor Mario Polèse, mario.polese@ucs.inrs.ca by the deadline of February 15, 2018.

An application consists of the following materials:

1. A curriculum vita of no more than two (2) pages in length.
2. A statement in ten (10) pages or less explaining the questions and issues to be addressed, the approach to be used, and the product expected from the dissertation research, preceded by a summary (1-page maximum) describing the intellectual merit of the proposed research, and the broader impacts that may result. The 10-page limit is inclusive of references, but exclusive of tables and figures. This text should be in 12-point or larger font, double-spaced, with one-inch margins; references may be single-spaced.
3. Copies of the candidate's transcripts for all graduate study. Unofficial copies are acceptable.

In addition, the dissertation supervisor shall provide a confidential letter sent separately as an attachment from her/his email account with the student's name in the subject line to Professor Mario Polèse. In the letter the supervisor should assess the quality and significance of the proposed dissertation research, specify the current state of progress toward the candidate's degree and provide a commitment by the dissertation supervisor to obtain a tuition waiver for the candidate for the year of the Fellowship. A condition of the Fellowship is the granting of a tuition waiver for the year of the Fellowship by the university, or equivalent payment of the student's tuition.

Applications should be emailed to Professor Mario Polèse at mario.polese@ucs.inrs.ca. Questions may also be sent to him at mario.polese@ucs.inrs.ca. For information about the North American Regional Science Council (NARSC), go to www.narsc.org. For information about the Regional Science Association International (RSAI), go to www.regionalscience.org.

Lindsay E. Relihan wins the 2017-2018 Benjamin H. Stevens Graduate Fellowship

Lindsay E. Relihan, a Ph.D. candidate in applied economics in the Wharton School at the University of Pennsylvania was selected as the winner of the Seventeenth Annual Benjamin H. Stevens Graduate Fellowship in Regional Science. The Fellowship will provide a 2017–2018 Academic Year stipend of \$30,000 to support Ms. Relihan in her dissertation research entitled, 'Is Amazon Killing Starbucks? How Online Retail Affects Local Economies.'

The research will investigate how the purchase of a product online may shift the entire set of goods purchased by a consumer, impacting both retailers who directly compete with online platforms and retailers that benefit from consumer interaction with online establishments. She will use a new dataset containing the purchases of millions of anonymized households to make a more detailed study of the effects of online retail on offline economies than has yet been possible. These results will impact any entity affected by the rise of online retail, including policy makers and urban planners who need to prepare for structural changes in local economies and firms whose success depends on their ability to compete in a world with online retail. The research is supervised by Professor Gilles Duranton, Chair of the Real Estate Department at the University of Pennsylvania.

Chair of the Selection Committee, Professor Elena Irwin of The Ohio State University, summarizes the reasons Ms. Relihan's proposal stood out among an extremely strong field of entries for the 2017-18 competition:

"Lindsay's proposal topic is central to local economies and regional economics: the effects of on-line retail on offline bricks-and-mortar stores. Lindsay's question is novel and important: she focuses not on direct competition between on and offline shopping, a well-studied topic, but rather asks what are the effects of online shopping on services that are complementary to offline shopping, e.g., going to a restaurant.

The most impressive aspects of this work are the data and empirical approach: to identify the patterns of complementarities and substitution between on and offline shopping, one needs highly detailed data. Through her confidential access to such data through a major financial institution, Lindsay has assembled daily data at an individual consumer level on different card purchases, representing millions of observations on hundreds of transactions by each individual.

Another very impressive aspect of the proposed work is her careful attention to establishing causality. She proposes to make use of the expansion of multiple online grocery platforms (including those like Amazon Fresh, Peapod, Fresh Direct, etc.), and takes the short-term location decisions of offline retailers (as with coffee shops like Starbucks) as fixed to identify how online product availability and store accessibility alter individuals' shopping patterns. Her approach underscores the central role of space in studying these retail consumption patterns.

This work will contribute a new understanding of the substitution and complementarities between on and offline retailing. In addition to being an important and novel scholarly contribution, the research is expected to generate new insights that will be of keen interest to local and state policy makers and development professionals."

The Fellowship is awarded in memory of Dr. Benjamin H. Stevens, an intellectual leader whose selfless devotion to graduate students as teacher, advisor, mentor, and friend continues to have a profound impact on the field of regional science. Fundraising efforts to increase the Fellowship's endowment are ongoing. Donations should be sent to: The Stevens Fellowship Fund, First Financial Bank, 1205 S. Neil Street, Champaign, IL 61820 USA. Checks should be drawn to The Stevens Fellowship Fund. Donations may also be made by credit card through the NARSC website at www.narsc.org/newsite/donations2.php.

This most recent Stevens Fellowship competition was judged by a Selection Committee composed of: Laurie Schintler, Public Policy, George Mason University; Elena Irwin, Agricultural, Environmental, and Development Economics, The Ohio State University, Chair; Mario Polèse, Urban and Regional Economics, Université du Québec; Amanda Weinstein, Economics, The University of Akron; and Elizabeth Mack, Geography, Michigan State University. The Stevens Fellowship Committee administrates the Stevens Fellowship Fund on behalf of the North American Regional Science Council; its members are: Tony Smith, Chair; David Plane, Secretary; Michael Lahr, Treasurer; Janet Kohlhasse; and Neil Reid, Executive Director of NARSC.

The Committee thanks the 29 students who entered the competition in 2017, as well as their dissertation supervisors. Faculty at all North American Ph.D. programs related to the interdisciplinary field of Regional Science are urged to encourage their best students to apply for the Eighteenth Annual Stevens Graduate Regional Science Fellowship. The winning student's dissertation research in the field of Regional Science will be supported during the 2018–2019 year with a one-year stipend of \$30,000. The application deadline is February 15, 2018. Full submission guidelines will be posted at www.narsc.org/newsite/awards-prizes/stevens-graduate-fellowship/.