



Western Regional Science Association 61st Annual Meeting

The Scott Resort & Spa | Scottsdale, Arizona Feb 17th–20th, 2022

Welcome to Scottsdale and our 61st Annual Meeting! Have we got fantastic few days in store for you!

Everything you need to know about the meeting is contained in the following pages. Before diving in, though, take a few moments to read the next few pages for an overview of the schedule and COVID safety guidelines. Please also do take some time to familiarize yourself with our session etiquette guidelines on page 3. The Program Participant Index on page 16 will help you locate your program assignments. As always, late program changes have occurred; be sure to double-check your assignments in case your original scheduling has shifted.

This year, our meeting gets going on Thursday afternoon in the Heritage 2 Ballroom with the 11th Annual Lay James Gibson Opening Plenary, featuring Arthur C. Nelson. Join us outside on the Laguna Lawn after the Opening Session for the Welcoming Reception and enjoy a beautiful Arizona sunset with your friends!!

On Friday night, please join us in the Heritage 2 Ballroom for the 9th Annual Getis-Ord Lecture in Spatial Analysis, where this year's speaker, Andrew Gelman from Columbia University, will be discussing "Understanding Spatial Models in Context." Peter Rogerson, from Arizona State University, will be the discussant. A reception for session attendees will follow the formal part of the session on the Laguna Lawn.

Saturday is a full day, not only with paper sessions but we also have our Annual Banquet Luncheon midday in the Heritage 2 Ballroom and the President's Reception in the evening that will be held at the La Boca Pool & Canal Club Bar Patio. At the Luncheon, this year's President, Terry Clower, will give his Presidential Address and the Tiebout and Springer Prize winners will be announced.

A final reminder: when you picked up your meeting packet at the registration desk, along with your program and name badge, you should have received three colored tickets. Guard these carefully! You will use the PURPLE ticket for the Welcoming Reception on Thursday evening. Your ORANGE ticket gives you entry to the Annual Banquet Luncheon on Saturday—no ticket, no lunch! You will use the YELLOW ticket for the Getis-Ord Lecture Reception. Finally, the GREEN ticket is good for your first drink at the President's Reception on Saturday evening.

A hearty thanks to all of you, WRSA meeting participants. Without you, the meeting wouldn't be what it is: *The Way Academic Life Should Be!*

Best wishes for a productive, memorable, and enjoyable meeting here in Scottsdale!



A Safe and Healthy Conference

WRSA is committed to making our 61st Annual Meeting a safe and healthy event for our attendees, exhibitors, volunteers, and team members. As the conference draws nearer, we have been working closely with our partners at the Scott Resort & Spa in Scottsdale, Arizona to discuss guidance and recommendations of the federal Centers for Disease Control and Prevention (CDC) and other public health authorities. It is important to note that large, in-person meetings are happening throughout the country, and they are happening safely. All conference attendees must agree to the Duty to Self-Monitor during the conference. Now, we would like to share information about the venue and our steps to address concerns.

- **Vaccination Rates:** In Maricopa County, AZ, almost 67% of adults 18 years and older have received at least 1 dose of COVID-19 vaccine. The Scott Resort & Spa requires all employees to wear a mask when on duty.
- **Masking:** For our safety and health, **all conference participants are required to wear masks in all indoor public spaces** and whenever you are unable to socially distance from those not in your immediate family. We'll have masks available at the registration desk. Staff and key volunteers will observe this rule.
- **Receptions & Coffee Breaks:** For the health and safety of our attendees, **all receptions and daily coffee breaks will be in outdoor spaces**. The only indoor reception will be for our annual award luncheon scheduled on Feb 19th, and we will follow safety and health protocol for this event.
- **Deep Sanitation:** The Scott Resort & Spa will sanitize all conference spaces before use and overnight throughout the conference to ensure we start each day with clean, hygienic spaces.
- **Personal Comfort Levels:** We recognize that our attendees will have a range of comfort levels. We encourage you to attend the conference and engage with other members as you feel is appropriate under the circumstances. We encourage you to congregate with people you know. The most important thing is that we respect each other's feelings and individual approach to this issue while we enjoy being together and sharing our research.

We continue to monitor the situation with our partners at The Scott Resort & Spa, and we are confident that these adaptations will allow us to have a safe, fun, edifying conference in Scottsdale.

IMPORTANT INFORMATION:

Considering the ongoing issue of COVID-19, individuals who fall within any of the categories below should not engage in any WRSA annual meeting activities, or, if registered and fall into one of those categories prior the conference, should request a refund. By attending the 61st Annual Meetings of Western Regional Science Association, you certify that you do not fall into any of the following categories and have complied with the following:

- Individuals who have tested positive for COVID-19 within the prior 5 days of the event or are currently showing COVID-19 symptoms.
- Individuals who within the prior five (5) days of the event have experienced any symptoms associated with COVID-19, which include fever, cough, and shortness of breath among others.
- Individuals who believe that they may have been exposed to a confirmed or suspected case of COVID-19 or have been diagnosed with COVID-19 and are not yet cleared as non-contagious by state or local public health authorities or the health care team responsible for their treatment.

DUTY TO SELF-MONITOR: Attendees to any activity connected with the 61st Annual Meeting of Western Regional Science Association agree to self-monitor during the event for signs and symptoms of COVID-19 (symptoms typically include fever, cough, and shortness of breath) and immediately contact the WRSA staff on-site should they test positive for COVID-19 or experiences symptoms of COVID-19.

LIABILITY WAIVER AND RELEASE OF CLAIMS: By attending the 61st Annual Meeting of Western Regional Science Association, you acknowledge that your decision to attend is personal and voluntary in nature, and in choosing to do so, recognize and assume all risks associated with attendance, including possible exposure to COVID-19.



February 17 (Thursday)

8:00 AM—12:00 PM

TRSA-ABC(I) TRSA - ABC Session (I)
(Heritage 1)

1:00 PM—6:00 PM

Registration (Canal Club Foyer)

12:30 PM—2:00 PM

TRSA-ABC(II) TRSA - ABC Session (II)
(Heritage 1)

3:30 PM—5:15 PM

LGOS The 11th Annual Lay J. Gibson
Opening Session (Heritage 2 Ballroom)

5:30 PM—7:00 PM

Welcome Reception (Laguna Lawn)



Notes on Session Format and Etiquette

- Per WRSA custom, each paper is allocated 45 minutes of Program time, inclusive of discussion.
- Authors should plan on presentations of approximately 25–30 minutes.
- Discussants should prepare about 5–10 minutes of remarks, allowing at least 10 minutes for questions from, and open discussion with, session attendees.
- Participants: Please arrive at your session 10 minutes early to make A/V preparations (i.e., load presentations onto a laptop).
- At least one of the participants needs to bring a laptop for use by presenters in the session.
- Chairs: Please do not change the order of presentations listed in the program, and please adhere to the scheduled times.
- As a courtesy to other presenters, all participants are asked to stay for the entire session.

Thanks!

Thursday, 8:00 AM—12:00 PM

TRSA-ABC ~ Heritage 1

The Regional Science Academy - ABC Session (I)
Happy and Healthy Cities

Zoom link:

<https://us02web.zoom.us/j/86410894512?pwd=Q0tttdm5CdHBMOS90Tmlyek90SU5JZz09>

Meeting ID: 864 1089 4512

Passcode: 175118

7:55—8:00

Opening by TRSA President

Peter BATEY (President of TRSA), Univ. Liverpool, UK

SESSION I on: HAPPY AND HEALTHY CITIES

Chair: Kingsley HAYNES (Vice President of TRSA)
George Mason Univ. Fairfax, USA

8:00—8:30

Next City: Learning from Cities during COVID-19 to Tackle Climate Change

Christina KAKDERI, Aristotle Univ. Thessaloniki (AUTH), Greece, Nicos KOMNINOS, Aristotle Univ. Thessaloniki (AUTH), Greece, Anastasia PANORI, Panteion Univ. Athens, Greece, Eleni OIKONOMAKI, Aristotle Univ. Thessaloniki (AUTH), Greece

8:30—9:00

The Ideal Neighbourhoods of Successful Ageing: A Machine Learning Approach

Pui-Hang WONG, Maastricht Univ., The Netherlands, Karima KOURTIT, Open Univ. The Netherlands, Peter NIJKAMP, Open Univ. The Netherlands

9:00—9:30

Health and Happiness in the New Urban Agenda: The Central Role of Public Space

Michael MEHAFFY, Structura Naturalis, Portland, USA

9:30—10:00

Using Individualized HDI Measures for Predicting Educational Performance of Young Students - A Swedish Case Study

Umut TÜRK, Abdullah Gül Univ., Turkey, John ÖSTH, Uppsala Univ., Sweden, Marina TOGER, Uppsala Univ., Sweden, Karima KOURTIT, Open Univ. The Netherlands

Coffee Break: 10:00—10:30

SESSION II on: HAPPY AND HEALTHY CITIES

Chair: Marina TOGER, Uppsala Univ., Sweden

10:30—11:00

Long-Term City Innovation Trajectories and Quality of Urban Life.

Alina Irina POPESCU, Bucharest Univ. Economic Studies, Romania

11:00—11:30

Is the Creative Class a Game Changer in Cities? A Socioeconomic Study on Romania

Alina Maria PAVELEA, Babeş-Bolyai Univ., Romania,
Bogdana NEAMȚU, Alexandru Ioan Cuza Univ. Iași,
Romania, Peter NIJKAMP, Open Univ. The Netherlands,
Karima KOURTIT, Open Univ. The Netherlands

11:30—12:00

Multidimensional Facets of Entrepreneurial Resilience during the COVID-19 Crisis through the Lens of the Wealthiest Romanian Counties

Raluca IGNAT, Bucharest Univ. Economic Studies,
Romania, Marius CONSTANTIN, Bucharest Univ.
Economic Studies, Romania

Thursday, 12:30 PM—2:00 PM

TRSA-ABC ~ Heritage 1

The Regional Science Academy - ABC Session (II)

SESSION III on: HAPPY AND HEALTHY CITIES

Chair: Peter NIJKAMP, Open Univ. The Netherlands

12:30—1:00

Mobility during the COVID-19 Pandemic: A Data-Driven Time-Geographic Analysis of Health-Induced Mobility Changes

Marina TOGER, Uppsala Univ., Sweden, Karima
KOURTIT, Open Univ. The Netherlands, Peter NIJKAMP,
Open Univ. The Netherlands, John ÖSTH, Uppsala Univ.,
Sweden

1:00—1:30

Planning and Markets at Work: Seattle Under Growth Management and Economic Pressure

John CARRUTHERS, Cornell Univ., Ithaca, USA, Hanxue
WEI, Cornell Univ., Ithaca, USA, Lucien
WOSTENHOLME, Cornell Univ., Ithaca, USA

1:30—2:00

Whose Happiness in Which Cities? A Quantile Approach

Philip MORRISON, Victoria Univ. Wellington, New
Zealand

2:00—2:10

Synthesis

Marina TOGER, Uppsala Univ., Sweden

Thursday, 3:30—5:15 PM

Heritage 2 Ballroom



The 11th Annual Lay James Gibson Opening Session

Chair:

Lay James GIBSON, Univ. Arizona, Tucson, USA
and 39th WRSA President (1998–1999)

Let's Get Real About Long-Term Regional Development Disparities

Presented by:

Arthur C. NELSON
Univ. Arizona, Tucson, USA

Discussants:

Joe McCLURE,
McClure Consulting, Phoenix, USA

Jennifer GRAVES
Office of Economic Development, Gilbert, USA

Thursday, 5:30—7:00 PM

Welcoming Reception

Laguna Lawn



For all participants and accompanying persons: Everyone welcome!



February 18 (Friday)

8:00 AM—6:00 PM

Registration (Canal Club Foyer)

8:00 AM—10:00 AM

WRSA-BM Board Meeting – by invitation only
(Orangedale E)

8:30 AM—12:00 PM

1A Disaster, Uncertainty, & COVID-19
(Orangedale A)

1B Spatial/Location Modeling & GIS (I)
(Orangedale B)

1C Location & Economic Development
(Orangedale C)

1D* The Keith Schwer Memorial Western State
Economic Outlook (I)
(Orangedale D)

Session 1D* starts at 10:30 AM

10:00 AM—10:30 AM

Coffee Break (Orangedale Patio)

1:30 PM—5:00 PM

2A Human Capital & Labor Market
(Orangedale A)

2B Economic Development, Finance, & Innovation
(Orangedale B)

2C Natural Resources & Regional Growth
(Orangedale C)

2D The Keith Schwer Memorial Western State
Economic Outlook (II)
(Orangedale D)

3:00 PM—3:30 PM

Coffee Break (Orangedale Patio)

5:15 PM—7:30 PM

GOSA The 9th Annual Getis-Ord Lecture
in Spatial Analysis
(Heritage 2 Ballroom)

7:30 PM—8:30 PM

Getis-Ord Lecture Reception (Laguna Lawn)

Monday, 8:30–10:00 AM
WRSA Board Meeting
(By invitation only)
Orangedale E



Convenor: Jaewon Lim,
Univ. Nevada, Las Vegas, Nevada, USA,
and WRSA Executive Director

Friday, 8:30 AM—12:00 PM

Paper Session 1A ~ Orangedale A
Disaster, Uncertainty, and COVID-19

Chair: Adam ROSE, Univ.

Southern California, Los Angeles, USA

8:30—9:15

Local Government public managers' perceptions of fiscal stress: Survey evidence from Covid-19

Seva RODNYANSKY, Occidental College, Los Angeles, USA, Manita RAO, University of Southern California, Los Angeles, USA, Andre COMANDON, University of Southern California, Los Angeles, USA, Bonnie WANG, University of Southern California, Los Angeles, USA, Marlon BOARNET, University of Southern California, Los Angeles, USA

Discussant: Zhenhua CHEN, Ohio State Univ, Columbus, USA

9:15—10:00

Sources of Uncertainty in Estimating Socio-Economic Damages from Coastal Flooding

Fernando DEPAOLIS, Middlebury Inst., Monterey, USA
Discussant: Dohyung KIM, California State Polytechnic Univ., Pomona, USA

Friday, 8:30 AM—12:00 PM

Paper Session 1B ~ Orangedale B
Spatial/Location Modeling & GIS (I)

Chair: Neil REID, Univ. Toledo, USA

8:30—9:15

A Spatial Analysis of Automation Vulnerability in Regional Labor Markets

Aaron COLLETTA, Univ. Nevada, Las Vegas, USA, Jaewon LIM, Univ. Nevada, Las Vegas, USA

Discussant: William HAUKE, Univ. South Carolina, Columbia, USA

9:15—10:00

The Distribution of the Local Geary Statistic

Peter ROGERSON, Arizona State University
Discussant: HIEU NGUYEN, Illinois Wesleyan Univ.

Coffee Break: 10:00—10:30

10:30—11:15

Does Transit-induced Agglomeration Improve Labor Market Equity? A Spatial Econometric Analysis on Low-skilled Jobs and Industry Sectors in Philadelphia, PA.

Seunghoon OH, Univ. Cincinnati, USA, Rainer VOM HOFE, University of Cincinnati, USA

Discussant: Yuri MANSURY, Illinois Inst., Chicago, IL

11:15—12:00

Observing the Evolution of Informal Sector from Space: A County Level Approach 2013-2020

Erick RANGEL-GONZALEZ, Bank of Mexico, Mexico, Irving LLAMOSAS-ROSAS, Bank of Mexico, Mexico

Discussant: Neil REID, Univ. Toledo, USA

Friday, 8:30 AM—12:00 PM
Paper Session 1C ~ Orangedale C
Location & Economic Development
 Chair: Peter BATEY
 Univ. Liverpool, UK

8:30—9:15

The Principal Components of Happiness: The Mexican Case

Flor-de-Maria MARTINEZ-SERMEÑO, CIMAT, Mexico,
 Powell SHEAGREN, Swarthmore College, Swarthmore,
 PA, Rafael GARDUÑO-RIVERA, Universidad
 Panamericana, Mexico

Discussant: Peter BATEY, Univ. Liverpool, UK

9:15—10:00

Nevada's Demographic and Economic Geography: The Three Nevadas

David DAMORE, Univ. Nevada, Las Vegas, USA, Jaewon
 LIM, Univ. Nevada, Las Vegas, USA, Arthur C. NELSON,
 Univ. Arizona, USA, Fatma NASOZ, Univ. Nevada, Las
 Vegas, USA, Magdalena MARTINEZ, Univ. Nevada, Las
 Vegas, USA

Discussant: Richard GEARHART, California State
 Univ., Bakersfield, USA

Coffee Break: 10:00—10:30

10:30—11:15

**A Text-Mining and Bibliographic Analysis of the Urban
 Economic Development Literature: 1959-2020**

Li FANG, Florida State Univ., Tallahassee, USA

Discussant: Abraham SONG, Pepperdine Univ., Malibu,
 USA

11:15—12:00

**Agglomeration, Diversity, and Tradition: An Analysis of
 Fractionalized Web of Science Publications in EU Regions**

David Emanuel ANDERSSON, National Sun Yat-sen Univ.,
 Taiwan, Thai Ha LE, Fulbright Univ. Vietnam, Vietnam

Discussant: Benjamin WHIPPLE, Idaho State Univ.,
 Pocatello, USA

Friday, 10:30 AM—12:00 PM
Paper Session 1D ~ Orangedale D

**The Keith Schwer Memorial Western State Economic
 Outlook (I)**

Chair: Richard WOBBEKIND
 Univ. Colorado, Boulder, USA

10:30—11:00

Arizona

George HAMMOND, Univ. Arizona, Tucson, USA

11:00—11:30

California

Raymond SFEIR, Chapman Univ., Orange, USA

11:30—12:00

Nevada

Andrew Woods, Univ. Nevada, Las Vegas, USA



Friday, 12:00—1:30 PM
Lunch Break (On your own this day)

Friday, 1:30 PM—5:00 PM
Paper Session 2A ~ Orangedale A
Human Capital & Labor Market
 Chair: Terry CLOWER
 George Mason Univ., Fairfax, USA

1:30—2:15

**COVID-19 and employment relief programs: A tale of
 spatially blind policies for a spatially driven pandemic**

Esteban LOPEZ OCHOA, UTSA, Juan EBERHARD, UAI,
 Patricio AROCA, UAI

Discussant: William CLARK, Univ. California Los
 Angeles, USA

2:15—3:00

**How Beliefs about a UI Benefits Extension, in a McCall
 Environment, Affect Labor Supply**

Richard RYAN, California State University, Bakersfield,
 USA

Discussant: Terry CLOWER, George Mason Univ.,
 Fairfax, USA

Coffee Break: 3:00—3:30

3:30—4:15

**The labor market effects of place-based policies: Evidence
 from England's Neighbourhood Renewal Fund**

Robert CALVERT JUMP, University of Greenwich, UK, Adam
 SCAVETTE, Federal Reserve Bank of Richmond, USA

Discussant: Michael BABB, Univ. Washington, Seattle,
 USA

Friday, 1:30 PM—5:00 PM
Paper Session 2B ~ Orangedale B
Economic Development, Finance, and Innovation

Chair: Eric J. HEIKKILA
 Univ. Southern California, Los Angeles, USA

1:30—2:15

**Patents, Technologies and Networks: Toward a method for
 using inventor networks to assess regional technological
 ecosystems**

TIMOTHY SLAPER, Indiana Univ., Bloomington, USA
 Discussant: Janet E. KOHLHASE, Univ. of Houston,
 USA

2:15—3:00

**The Paycheck Protection Program and Regional Banking
 Market Structure during the Covid-19 Pandemic**

Soomi LEE, University of La Verne, USA
 Discussant: Eric J. HEIKKILA, Univ. Southern
 California, Los Angeles, USA

Coffee Break: 3:00—3:30

Friday, 1:30 PM—5:00 PM

Paper Session 2C ~ Orangedale C

Natural Resources & Regional Growth

Chair: Sungyop KIM, Univ. Missouri, Kansas City, USA
1:30—2:15

Recessions and healthcare usage

Mouhcine GUETTABI, Univ. North Carolina Wilmington, USA, Allison WITMAN, University of North Carolina Wilmington, USA

Discussant: Keith WATERS, Arizona State Univ., Tempe, USA

2:15—3:00

Energy Transitions and Labor Market Patterns in the U.S. Coal Industry

Nyakundi MICHIEKA, California State Univ., Bakersfield, USA, Marcello GRAZIANO, Southern Connecticut State Univ., New Haven, USA, Marta MUSSO, KTH Royal Institute of Technology, Sweden, Roger FOUQUET, London School of Economics and Political Science, UK

Discussant: Sungyop KIM, Univ. Missouri, Kansas City, USA

Coffee Break: 3:00—3:30

Friday, 1:30 PM—5:00 PM

Paper Session 2D ~ Orangedale D

The Keith Schwer Memorial Western State Economic Outlook (II)

Chair: Richard WOBBEKIND
Univ. Colorado, Boulder, USA

1:30—2:00

Colorado

Richard WOBBEKIND, Univ. Colorado, Boulder, USA

2:00—2:30

Utah

Juliette TENNERT, Univ. Utah, Salt Lake City, USA

2:30—3:00

Washington

R. Pete PARCELLS, Whitman College, Walla Walla, USA

Coffee Break: 3:00—3:30

3:30—4:00

Idaho

Karl R GEISLER, Idaho State Univ., Pocatello, USA

4:00—4:30

Florida

Sean SNAITH, Univ. Central Florida, Orlando, USA

4:30—5:00

Western States Overview

Dennis HOFFMAN, Arizona State Univ. Tempe, USA, Lee McPHETERS, Arizona State Univ. Tempe, USA

Friday, 5:15—7:30 PM

Heritage 2 Ballroom



**The 9th Annual
Getis-Ord Lecture in Spatial Analysis**

Chair: Eric J. HEIKKILA
Univ. Southern California, Los Angeles, USA

Understanding Spatial Models in Context

Presented by:

Andrew GELMAN
Columbia Univ., New York, USA

Discussant:

Peter ROGERSON,
Arizona State University, Tempe, USA

A reception will follow the lecture

Friday, 7:30 PM—8:30 PM

**Getis-Ord Lecture Reception
Laguna Lawn**



For all participants and accompanying persons: Everyone welcome!



February 19 (Saturday)

8:00 AM—6:00 PM

Registration (Heritage Foyer)

8:30 AM—12:00 PM

3A TRSA SAS - Hard Facts & Fake News on COVID-19 (Orangedale A)

3B Local Public Finance (Orangedale B)

3C Urban Theory, Interaction, and Policy (Orangedale C)

3D Population, Migration, and Social Interaction (I) (Orangedale D)

10:00 AM—10:30 AM

Coffee Break (Orangedale Patio)

12:15 PM—2:15 PM

AABL Annual Award Luncheon (Heritage 2)

2:30 PM—6:00 PM

4A TRSA - SAS Session (2:30 PM—4:00 PM) (Orangedale A)

4B Disaster & Infrastructure (Orangedale B)

4C Housing & Real Estate (I) (Orangedale C)

4D Trade, Innovation, and Industrial Issues (Orangedale D)

4:30 PM—6:00 PM

IMPW IMPLAN Workshop (Orangedale A)

4:00 PM—4:30 PM

Coffee Break (Orangedale Patio)

6:15 PM—7:45 PM

President's Reception

(La Boca Pool & Canal Club Bar Patio)

Submitting Papers to:



The Annals of Regional Science

Annual Meeting participants are cordially invited to submit their papers to WRSA's official journal, *The Annals of Regional Science*.

The coeditors, Brian H.S. Kim and Janet Kohlhase, are here in Scottsdale and will be happy to discuss potential submissions.

Saturday, 8:30 AM—12:00 PM

Paper Session 3A ~ Orangedale A

The Regional Science Academy - SAS Session

**HARD FACTS AND FAKE NEWS ON COVID-19 –
The Emerging Role of Spatial Coronametrics**

**Session I: Modeling of Corona in Cities and Regions:
Spatial Coronametrics**

Chair: Neil REID (Executive Director of TRSA)
Univ. Toledo, USA

8:30 – 9:00

**Deconcentration of Tourism Concentrations: A Spatial
Galaxy Impact Model of the COVID-19 Crisis**

Jaewon LIM, Univ. Nevada, Las Vegas, USA, Karima KOURTIT, Open Univ. The Netherlands, Peter NIJKAMP, Open Univ. The Netherlands

9:00 – 9:30

TBA

Gabriela PASCARIU, Alexandru Ioan Cuza Univ. Iași, Romania

9:30 – 10:00

**Impacts of the COVID-19 Outbreak on Older-Age Cohorts
in European Labor Markets: A Machine Learning
Exploration of Vulnerable Groups**

Guney CELBIS, Yeditepe Univ., Turkey, Pui-Hang WONG, Maastricht Univ., The Netherlands, Karima KOURTIT, Open Univ. The Netherlands, Peter NIJKAMP, Open Univ. The Netherlands

Coffee Break: 10:00—10:30

**Session II: Modeling of Corona in Cities and Regions:
Spatial Coronametrics**

Chair: Kingsley HAYNES (Vice President of TRSA)
George Mason Univ. Fairfax, USA

10:30 – 11:00

**The Role of Subnational Autonomy in the COVID-19
Pandemic: Initial Evidence**

Chiara DEL BO, Univ. degli Studi di Milano, Italy

11:00 – 11:30

**Airbnb and Covid-19: Space-Time Vulnerability Effects in
World-Cities**

Umut TÜRK, Abdullah Gül Univ., Turkey, John ÖSTH, Uppsala Univ., Sweden, Karima KOURTIT, Open Univ. The Netherlands, Peter NIJKAMP, Open Univ. The Netherlands

11:30 – 12:00

**How COVID-19 Policy Restrictions Can Reduce the
Exposure to the Virus in Montreal, Canada**

Ouassim MANOUT, Polytechnique Montreal, Canada, Francesco CIARI, Polytechnique Montreal, Canada

Saturday, 8:30 AM—12:00 PM
Paper Session 3B ~ Orangedale B
Local Public Finance

Chair: Soomi LEE, Univ. La Verne, USA

8:30—9:15

Expenditure Smoothing Under Balanced Budget Rules: Rainy Day Funds or Saving for a Rainy Day?

Steven CRAIG, Univ. Houston, USA, Bent SORENSEN, Univ. Houston, USA, Xavier BAUTISTA, Singapore Management Univ., Priyam VERMA, Aix-Marseille Univ., Annie HSU, Univ. Houston, USA Vasundhara TANWAR, Univ. Houston, USA

Discussant: Soomi LEE, Univ. La Verne, USA

9:15—10:00

Rent Capture by Central Cities

Steven CRAIG, Univ. Houston, USA, Annie HSU, Univ. Houston, USA, Janet KOHLHASE, Univ. Houston, USA

Discussant: Julie WARTELL, Univ. California, San Diego, USA

Coffee Break: 10:00—10:30

10:30—11:15

Tax Revenue and Expenditure Nexus with Panel VAR Approach

Zuyi WANG, Utah State Univ., USA, Man-Keun KIM, Utah State Univ., USA

Discussant: Steven CRAIG, Univ. Houston, USA

11:15—12:00

Estimating the Ability to Pay for Domestic Water Service

Steven PIPER, Colorado School of Mines, Golden, USA

Discussant: Juan Carlos LOPEZ, Univ. Denver, USA

Saturday, 8:30 AM—12:00 PM
Paper Session 3C ~ Orangedale C
Urban Theory, Interaction, and Policy

Chair: Jae Hong KIM, Univ. California, Irvine, USA

8:30—9:15

Rediscovering Regional Science: A Bibliometric Analysis

Zhenhua CHEN, The Ohio State Univ., Columbus, OH, Laurie SCHINTLER, George Mason Univ., Fairfax, VA

Discussant: Geoffrey HEWINGS, Univ. Illinois Urbana-Champaign, IL

9:15—10:00

A Political-Economy Perspective on Mayoral Elections and Urban Crime

Amit BATABYAL, Rochester Inst. Technology, Rochester, NY, Hamid BELADI, Univ. Texas at San Antonio

Discussant: Jae Hong KIM, Univ. California, Irvine, CA

Coffee Break: 10:00—10:30

10:30—11:15

Counterurbanization in China? A case study of counties in Huang-Huai-Hai Area from the perspective of urban-rural relations

Mingyand CHENG, Zhengzhou Univ., China, Hans WESTLUND, KTH Royal Institute of Tech., Sweden

Discussant: Powell SHEAGREN, Swarthmore College, Swarthmore, PA

11:15—12:00

Pipeline and Property Values: A Nationwide Hedonic Analysis of Pipeline Accidents Over the Past Three Decades

Nieyan CHENG, Iowa State Univ., Ames, IA, Minghao LI, New Mexico State Univ., Las Cruces, NM, Pengfei LIU, Univ. Rhode Island, South Kingstown, RI, Qianfeng LUO, Chinese Academy of Social Sciences, China, Chuan TANG, Huazhong Agricultural Univ., China, Wendong ZHANG, Iowa State Univ., Ames, IA

Discussant: Amit BATABYAL, Rochester Inst. Technology, Rochester, NY

Saturday, 8:30 AM—12:00 PM

Paper Session 3D ~ Orangedale D

Population, Migration, and Social Interaction (I)

Chair: Peter ROGERSON

Arizona State University, Tempe, AZ

8:30—9:15

Rural-Urban Migration of Alaska Native Peoples: Changing Patterns and Causes

Matthew BERMAN, Univ. Alaska Anchorage, AK, Ruoqing WANG-CENDEJAS, Harvard Univ., Boston, MA

Discussant: Austin LANDINI, Colorado State Univ., Fort Collins, CO

9:15—10:00

Risk, Endowment and the Decision to Move

William CLARK, Univ. California Los Angeles, CA, Rachel ONG VIFORJ, Curtin University, Australia, Christopher PHELPS, Curtin University, Australia

Discussant: Aaron COLLETTA, Univ. Nevada, Las Vegas, NV

Coffee Break: 10:00—10:30

10:30—11:15

The Network Labeling Optimization for Hidden Population Size Estimation: A Case Solution for the Bangladesh Kidney Sellers Problem

Narae LEE, George Mason Univ., Fairfax, USA, Abu Bakkar SIDDIQUE, George Mason Univ., Fairfax, USA, Meng-hao LI, George Mason Univ., Fairfax, USA, Manzur AHMAD, EXIM Bank Agricultural Univ. Bangladesh, Hadi EL-AMINE, George Mason Univ., Fairfax, USA, Naoru KOIZUMI, George Mason Univ., Fairfax, USA

Discussant: Peter ROGERSON, Arizona State University, Tempe, USA

WRSA Meeting History

60 th	Virtual Meeting (2021)
59 th	Hilton Hawaiian Village, Waikiki, HI (2020)- Cancelled
58 th	Napa Marriott, Napa Valley, CA (2019)
57 th	Hilton Pasadena, Pasadena, CA (2018)
56 th	La Fonda on the Plaza, Santa Fe, NM (2017)
55 th	Hilton Waikoloa Village, Hawaii, HI (2016)
54 th	Loews Ventana Canyon Resort, Tucson, AZ (2015)
53 rd	Paradise Point Resort, San Diego, CA (2014)
52 nd	Fess Parker's Doubletree, Santa Barbara, CA (2013)
51 st	Sheraton Kauai, Poipu, HI (2012)
50 th	Monterey Plaza Hotel, Monterey, CA (2011)
49 th	Hilton Sedona, Sedona, AZ (2010)
48 th	Silverado Resort, Napa, CA (2009)
47 th	Hilton Waikoloa Village Resort, Hawaii, HI (2008)
46 th	Hyatt Regency, Newport Beach, CA (2007)
45 th	La Fonda, Santa Fe, NM (2006)
44 th	Hyatt Regency Islandia, San Diego, CA (2005)
43 rd	Marriott Wailea Resort, Maui, HI (2004)
42 nd	Rio Rico Resort, Rio Rico, AZ (2003)
41 st	Hyatt Regency Monterey, Monterey, CA (2002)
40 th	Riviera Resort & Racquet Club, Palm Springs, CA (2001)
39 th	Sheraton Kauai Resort, Poipu, HI (2000)
38 th	Ojai Valley Inn, Ojai, CA (1999)
37 th	Hyatt-Regency Monterey, Monterey, CA (1998)
36 th	The Royal Waikoloan Resort, Waikoloa, HI (1997)
35 th	Silverado Country Club and Resort, Napa, CA (1996)
34 th	San Diego Princess Resort, San Diego, CA (1995)
33 rd	Westward Look Resort, Tucson, AZ (1994)
32 nd	Maui Inter-Continental Resort, Wailea, Maui, HI (1993)
31 st	Caesar's Tahoe Resort, South Lake Tahoe, NV (1992)
30 th	Monterey Plaza Hotel, Monterey, CA (1991)
29 th	Kaluokoi Hotel, Molokai, HI (1990)
28 th	San Diego Princess Resort, San Diego, CA (1989)
27 th	Silverado Country Club, Napa, CA (1988)
26 th	Kona Surf Resort, Keauhou, Hawaii, HI (1987)
25 th	Surf and Sand Hotel, Laguna Beach, CA (1986)
24 th	Hotel Del Coronado, Coronado (San Diego), CA (1985)
23 rd	Casa Munras Hotel, Monterey, CA (1984)
22 nd	The Prince Kuhio Hotel, Honolulu, HI (1983)
21 st	Miramar Hotel, Santa Barbara, CA (1982)
20 th	Newporter Inn, Newport Beach, CA (1981)
19 th	Doubletree Inn, Monterey, CA (1980)
18 th	Vacation Village Hotel, San Diego, CA (1979)
17 th	Mansion Inn, Sacramento, CA (1978)
16 th	Doubletree Inn, Tucson, AZ (1977)
15 th	Vacation Village Hotel, San Diego, CA (1976)
14 th	The Riviera Hotel, Palm Springs, CA (1975)
13 th	Edgewater Hyatt House, Long Beach, CA (1974)
12 th	Del Monte Hyatt House, Monterey, CA (1973)
11 th	Vacation Village Hotel, San Diego, CA (1972)
10 th	Santa Barbara Biltmore Hotel, Santa Barbara, CA (1971)
9 th	Vacation Village Hotel, San Diego, CA (1970)
8 th	Newporter Inn, Newport Beach, CA (1969)
7 th	Vacation Village Hotel, San Diego, CA (1968)
6 th	(Meeting site unknown), Las Vegas, NV (1967)
5 th	Santa Barbara Inn, Santa Barbara, CA (1966)
4 th	Meeting site and dates unknown (1965)
3 rd	Student Union, Arizona State Univ., Tempe, AZ (1964)
2 nd	Student Union, Univ. Oregon, Eugene, OR (1963)
1 st	Univ. California, Berkeley, Berkeley, CA (1962)

The 61 WRSA Presidents

1 st	1960–1961	William Golder
2 nd	1961–1962	Morgan D. Thomas
3 rd	1962–1963	James N. Tattersall
4 th	1963–1964	William S. Peters
5 th	1964–1965	John W. Dyckman
6 th	1965–1966	Charles M. Tiebout
7 th	1966–1967	Fred E. Case
8 th	1967–1968	Paul F. Wendt
9 th	1968–1969	Harold L. Buma
10 th	1969–1970	Bernard Udis
11 th	1970–1971	Edward L. Ullman
12 th	1971–1972	Anthony H. Pascal
13 th	1972–1973	Donald A. Watson
14 th	1973–1974	Charles L. Leven
15 th	1974–1975	Shelly Mark
16 th	1975–1976	Frank G. Mittelbach
17 th	1976–1977	Martin Beckmann
18 th	1977–1978	Parzival Copes
19 th	1978–1979	David Seymour
20 th	1979–1980	Werner Hirsch
21 st	1980–1981	Lee Attaway
22 nd	1981–1982	Niles Hansen
23 rd	1982–1983	Sol Rabin
24 th	1983–1984	Robert Keyes
25 th	1984–1985	Nina Gruen
26 th	1985–1986	Jack Knetsch
27 th	1986–1987	Gunter Schramm
28 th	1987–1988	Bernard Malamud
29 th	1988–1989	Harry W. Richardson
30 th	1989–1990	Paul E. Polzin
31 st	1990–1991	Michael J. Greenwood
32 nd	1991–1992	Kingsley E. Haynes
33 rd	1992–1993	Theodore Lane
34 th	1993–1994	Richard L. Morrill
35 th	1994–1995	John E. Keith
36 th	1995–1996	Antoine S. Bailly
37 th	1996–1997	Jon R. Miller
38 th	1997–1998	Jack C. Stabler
39 th	1998–1999	Lay James Gibson
40 th	1999–2000	Arthur Getis
41 st	2000–2001	John M. Quigley
42 nd	2001–2002	Brenda Moscové
43 rd	2002–2003	Roger Stough
44 th	2003–2004	Koichi Mera
45 th	2004–2005	Juanita Liu
46 th	2005–2006	Lee Huskey
47 th	2006–2007	Jack W. Osman
48 th	2007–2008	Geoffrey J. D. Hewings
49 th	2008–2009	T. John Kim
50 th	2009–2010	David W. Holland
51 st	2010–2011	Robert J. Stimson
52 nd	2011–2012	Warren Gill
53 rd	2012–2013	Peter Gordon
54 th	2013–2014	Hans Westlund
55 th	2014–2015	Serge Rey
56 th	2015–2016	K. Bruce Newbold
57 th	2016–2017	David A. Plane
58 th	2017–2018	Alan Murray
59 th	2018–2019	Matthias Ruth
60 th	2019–2020	Genevieve Giuliano
61 st	2020–2021	Janet Kohlhasse
62 nd	2021–2022	Richard Church



Saturday, 12:15 PM–2:15 PM

Annual Banquet Luncheon

Heritage 2 Ballroom

Chair: Richard CHURCH
Univ. California, Santa Barbara, USA
and 62nd WRSA President (2021-2022)

Announcements:

Jaewon LIM, WRSA Executive Director

The 26th Springer-Verlag Prize:

Martin Andersson, Brian H.S. KIM and Janet KOHLHASE
Editors, *The Annals of Regional Science*

The 36th Charles M. Tiebout Prize:

Presented by: Genevieve GIULIANO
Chair 2021–2022 Reading Committee
60th WRSA President (2019-2020)

Presidential Address:

Location Theory and the Spatially Distributed Workforce
Terry CLOWER, 63rd WRSA President (2022-2023)

Discussant:

Janet Kohlhasse
Univ. Houston, USA

**Many Thanks to the 2021–2022
Program Committee!**

Mark Brown, Statistics Canada
John Carruthers, George Washington Univ.
Zhenhua Chen, Ohio State Univ.
Sandy Dall Erba, Univ. Illinois
Alessandra Faggian, Gran Sasso Science Inst.
Rachel S. Franklin, Newcastle Univ.
Karl Geisler, Idaho State Univ.
Randall Jackson, West Virginia Univ.
Euijune Kim, Seoul National Univ.
Jae Hong Kim, Univ. California, Irvine
Soomi Lee, Univ. La Verne
Yuri Mansury, Illinois Inst. Technology
Nyakundi Michieka, California State Univ., Bakersfield
Gordon Mulligan, Univ. Arizona
Alan Murray, Univ. California, Santa Barbara
Bruce Newbold, McMaster Univ.
Yasuhide Okuyama, Univ. Kitakushu
David Plain, Univ. Arizona
Greg Protasel, Univ. Alaska
Serge Rey, Univ. California, Riverside
Daoqin Tong, Arizona State Univ.
Hans Westlund, KTH Royal Inst. Technology
Richard Wobbekind, Univ. Colorado, Boulder

Co-Chairs:

Richard CHURCH, Univ. California, Santa Barbara
Terry CLOWER, George Mason Univ.

Chair:

Jaewon Lim, Univ. Nevada, Las Vegas



Western Regional Science Association

Officers for the 2021–2022 Year

President:

Richard Church, Univ. California, Santa Barbara

President-Elect:

Terry Clower, George Mason Univ.

Vice President:

Makena Coffman, Univ. Hawaii, Manoa

Immediate Past President:

Janet E. Kohlhasse, Univ. of Houston

Executive Director:

Jaewon Lim, Univ. Nevada, Las Vegas, USA

WRSA's PRSCO Councilors:

Terry Clower, Lay James Gibson, Jaewon Lim,
David Plane

WRSA's NARSC Councilor:

Jaewon Lim

Board of Directors

Martin Andersson, Lund Univ.*
Chang-Hee Christine Bae, Univ. Washington
Marlon Boarnet, Univ. Southern California
Mark Brown, Statistics Canada
John Carruthers, Cornell Univ.
Sandy Dall'Erba, Univ. Illinois, Urbana-Champaign
Michel Dimou, Université de Toulon
Alessandra Faggian, Gran Sasso Science Inst.
Henk Folmer, Univ. Groningen
Eric Heikkila, Univ. Southern California
Randall Jackson, West Virginia Univ.
Brian H.S. Kim, Seoul National Univ.*
Yuri Mansuri, Illinois Inst. Technology
Stein Østbye, UiT – The Arctic Univ.
R. Pete Parcells, Whitman College
Daoqin Tong, Arizona State Univ.
Jouke van Dijk, Univ. Groningen
Richard Wobbekind, Univ. Colorado, Boulder

Fellows

Rachel Franklin, New Castle University
Arthur Getis, San Diego State University
Lay James Gibson, University of Arizona
Michael Greenwood, University of Colorado
Kingsley Haynes, George Mason University
Geoffrey J.D. Hewings, University of Illinois
T. John Kim, University of Illinois
Theodore Lane, Thomas Lane & Associates
Richard Morrill, University of Washington
Gordon Mulligan, University of Arizona
Jack Osman, San Francisco State University
Jean Paelinck, Erasmus University
David Plane, University of Arizona
Harry Richardson, Autonomous Univ. State of Mexico
Hans Westlund, KTH Royal Inst. Technology

* *ex officio*, *Annals* editors

Saturday, 2:30 PM—4:00 PM
Paper Session 4A ~ Orangedale A

The Regional Science Academy - SAS Session

Chair: Karima KOURTIT, Open Univ., The Netherlands
 2:30—3:15

The scientific significance of Charles ReVelle

Rick CHURCH, Univ. California Santa Barbara, USA
 3:15—4:00

The scientific significance of Janice Madden

Janet E. KOHLHASE, Univ. of Houston, USA

Saturday, 4:30 PM—6:00 PM
IMPLAN Workshop
IMPW~ Orangedale A

Chair: Bjorn Markeson,
 IMPLAN, Huntersville, USA

4:30—5:15

**Measuring Environmental Impacts through Input-Output
 Net Analysis**

Brian BARLOW, IMPLAN, Huntersville, USA

Saturday, 2:30 PM—6:00 PM
Paper Session 4B ~ Orangedale B
Disaster & Infrastructure

Chair: Seva RODNYANSKY, Occidental College, USA
 2:30—3:15

**Socioeconomic Impacts of Resilience to Seaport and
 Highway Transportation Network Disruption**

Dan WEI, Univ. Southern California, Los Angeles, USA,
 Adam ROSE, Univ. Southern California, Los Angeles, USA,
 Eyup KOC, Univ. Southern California, Los Angeles, USA,
 Zhenhua CHEN, Ohio State Univ., Columbus, USA, Lucio
 SOIBELMAN, Univ. Southern California, Los Angeles,
 USA

Discussant: Seva RODNYANSKY, Occidental College,
 Los Angeles, USA

3:15—4:00

**Analyzing Paths of Destruction in A Disaster's Aftermath:
 A Tale of Two Hurricanes**

Yuri MANSURY, Illinois Inst. Technology, Chicago, USA
 Discussant: Fernando DEPAOLIS, Middlebury Inst.,
 Monterey, USA

Coffee Break: 4:00—4:30

4:30—5:15

**Estimation of Indirect Economic Losses from a Disrupted
 Highway Network: An Application to an Earthquake in
 Istanbul.**

Metin PISKIN, Istanbul Sabahattin Zaim Univ., Turkey,
 Geoffrey HEWINGS, Univ. Illinois Urbana-Champaign,
 USA

Discussant: Makena COFFMAN, Univ. Hawaii Manoa,
 USA

Saturday, 2:30 PM—6:00 PM
Paper Session 4C ~ Orangedale C
Housing & Real Estate (I)

Chair: Marlon BOARNET,
 Univ. Southern California, USA

2:30—3:15

**Life course heterogeneity & spatial segregation in older
 age**

Bo MALMBERG, Stockholm Univ, Sweden, Eva K
 ANDERSSON, Stockholm Univ, Sweden, Thomas
 WIMARK, Uppsala Univ., Sweden

Discussant: Richard RYAN, California State Univ.,
 Bakersfield, USA

3:15—4:00

Inter- and Intra-regional Inequality in a Spatial Economy

Tadashi MORITA, Kindai Univ., Japan, Juan Carlos
 LOPEZ, Univ. Denver, USA

Discussant: Gregory ALWARD, Univ. Idaho, Moscow,
 USA

Saturday, 2:30 PM—6:00 PM
Paper Session 4D ~ Orangedale D
Trade, Innovation, and Industrial Issues
 Chair: Esteban LOPEZ OCHOA
 Univ. Texas, San Antonio, USA

2:30—3:15

**Coal Trade Networks and Trading Communities: The case
 of Australia**

Keith WATERS, Arizona State Univ., Tempe, USA, Shade
 SHUTTERS, Arizona State Univ., Tempe, USA, Terry
 CLOWER, George Mason Univ., Fairfax, USA

Discussant: David Emanuel ANDERSSON, National
 Sun Yat-sen Univ., Taiwan

3:15—4:00

**Tax Policy and Interregional Competition for Mobile
 Venture Capital by the Creative Class**

Amit BATABYAL, Rochester Inst. Technology, Rochester,
 NY, Seung Jick YOO, Sookmyung Women's Univ., Korea
 Discussant: Esteban LOPEZ OCHOA, Univ. Texas, San
 Antonio, USA

Coffee Break: 4:00—4:30

4:30—5:15

**Does the Winning Region Take All? Entrepreneurial
 Ecosystems, Support Organizations, and Domain
 Knowledge**

Martin KENNEY, Univ. California Davis, USA, Donald
 PATTON, Univ. California Davis, USA, Abraham SONG,
 Pepperdine Univ., Malibu, USA

Discussant: Karl R GEISLER, Idaho State Univ.,
 Pocatello, USA

Saturday 6:15–7:45 PM
La Boca Pool & Canal Club Bar Patio

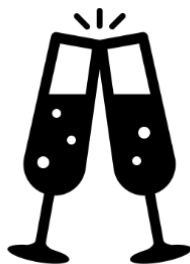
President's Reception

hosted by Terry Clower
the 63rd President of



For all participants and accompanying persons

With the generous support of
**Center for Regional Analysis &
Schar School of Policy and Government**
George Mason University
Fairfax, Virginia, USA



February 20 (Sunday)

8:00 AM—1:00 PM

Registration (Orangedale Foyer)

8:30 AM—12:00 PM

5A Urban Infrastructure & Transportation (I)
(Orangedale A)

5B Environmental Issues & Regions
(Orangedale B)

5C Housing & Real Estate (II)
(Orangedale C)

5D Spatial/Location Modeling & GIS (II)
(Orangedale D)

10:00 AM—10:30 AM

Coffee Break (Orangedale Patio)

1:30 PM—5:00 PM

6A Input-Output & Econometric Models
(Orangedale A)

6B Location & Economic Development
(Orangedale B)

6C Urban Infrastructure & Transportation (II)
(Orangedale C)

6D Population, Migration, and Social Interaction (II)
(Orangedale D)

3:00 PM—3:30 PM

Coffee Break (Orangedale Patio)

And What About Next Year, You Ask?

Already thinking about WRSA 2023?

For our 62nd Annual Meeting, WRSA goes to **Big Island, HI**. Next year's conference will be hosted at the Hilton Waikoloa Village in Big Island, HI.

Our meeting dates are Wednesday, **February 15th** to Saturday, the 18th. (Our room rate is \$239 plus applicable taxes and \$15 resort fee!!).

Full meeting details will be shared in the months to come. We look forward to seeing your full papers submitted by October 15, 2022 and we look forward to welcoming you to Big Island!



Sunday, 8:30 AM—12:00 PM
Paper Session 5A ~ Orangedale A
Urban Infrastructure & Transportation (I)

Chair: Nyakundi MICHIEKA

California State Univ., Bakersfield, USA

8:30—9:15

Analysis of Spatial Changes and Determining Factors of Public Bicycle Use: Focusing on Comparison Before and After COVID-19

Jinman KIM, Hanyang Univ., Korea, Sugie LEE, Hanyang Univ., Korea

Discussant: Zakhary MALLET, Univ. Southern California, Los Angeles, USA

9:15—10:00

Spatial Determinants of Dockless Scooter Use

Marlon BOARNET, Univ. Southern California, Los Angeles, USA, Zakhary MALLET, Univ. Southern California, Los Angeles, USA, Clemens PILGRAM, Univ. Southern California, Los Angeles, USA

Discussant: Nyakundi MICHIEKA, California State Univ., Bakersfield, USA

Coffee Break: 10:00—10:30

10:30—11:15

Is it really bridging the gap? Fiber internet's impact on housing values and homebuyer demographics

Nicholas IRWIN, Univ. Nevada, Las Vegas, USA, David WOLF, Kobe Univ., Japan

Discussant: Genevieve GIULIANO, Univ. Southern California, Los Angeles, USA

Sunday, 8:30 AM—12:00 PM
Paper Session 5B ~ Orangedale B
Environmental Issues & Regions

Chair: Juan Carlos LOPEZ, Univ. Denver, USA

8:30—9:15

Climate Change and Changing Spatial Dynamics of Vulnerable Populations

Sungyop KIM, Univ. Missouri, Kansas City, USA, Dohyung KIM, California State Polytechnic Univ., Pomona, USA

Discussant: Garth TAYLOR, Univ. Idaho, Moscow, USA

9:15—10:00

Regressive or Progressive? Comparing command-and-control and market-based climate policies

Paul BERNSTEIN, Univ. Hawaii Manoa, USA, Makena COFFMAN, Univ. Hawaii Manoa, USA, Maja SCHJERVHEIM, Univ. Hawaii Manoa, USA, Sherilyn HAYASHIDA, Univ. Hawaii Economic Research Org., USA

Discussant: Nieyan CHENG, Iowa State Univ., Ames, USA

Sunday, 8:30 AM—12:00 PM
Paper Session 5C ~ Orangedale C
Housing & Real Estate (II)

Chair: Li (Kerry) FANG

Florida State Univ., Tallahassee, USA

8:30—9:15

The Impact of Legalizing Accessory Dwelling Unit Rentals on Property Values: Evidence from Ogden, Utah

Jennifer GNAGEY, Weber State Univ., Ogden, USA, Chris YENCHIA, Bradley Univ., Peoria, USA, Matt GNAGEY Weber State Univ., Ogden, USA

Discussant: Euijune KIM, Seoul National Univ., Korea

A global perspective on land use regulations and housing outcomes

Cynthia GOYTIA, Universidad Torcuato Di Tella, Argentina, Eric HEIKKILA, Univ. Southern California, Los Angeles, USA

Discussant: Steven PIPER, Colorado School of Mines, Golden, USA

Coffee Break: 10:00—10:30

10:30—11:15

Understanding the geographic concentration and circulation of land use policies

Jae Hong KIM, Univ. California, Irvine, USA, Jongho WON, Brown Univ., Providence, USA

Discussant: Li (Kerry) FANG, Florida State Univ., Tallahassee, USA

Sunday, 8:30 AM—12:00 PM
Paper Session 5D ~ Orangedale D
Spatial/Location Modeling & GIS (II)

Chair: Alan MURRAY

Univ. California Santa Barbara, USA

8:30—9:15

Recent trends in Sweden's business formation and entrepreneurship: an empirical hot-spot examination of the spatial embeddedness hypothesis

Hieu NGUYEN, Illinois Wesleyan Univ., Bloomington, USA, Quang EVANSLUONG, Umea Univ., Sweden, Aliaksei KAZLOU, Linkoping Univ., Sweden

Discussant: Kingsley Haynes, George Mason Univ. Fairfax, USA

9:15—10:00

A Spatial Optimization Approach to Increase the Accuracy of Rooftop Solar Energy Assessments

Qing ZHONG, Nanjing Univ. Information Science and Technology, China, Daoqin TONG, Arizona State Univ., Tempe, USA, Jake NELSON, Auburn Univ., Auburn, USA, Tony GRUBESIC, The Univ. Texas at Austin, USA

Discussant: Seunghoon OH, Univ. Cincinnati, USA

Coffee Break: 10:00—10:30

10:30—11:15

Wildfire Mitigation Land Use Modeling

Alan MURRAY, Univ. California Santa Barbara, USA,
Richard CHURCH, Univ. California Santa Barbara, USA,
Amelia PLUDOW, Univ. California Santa Barbara, USA,
Peter STINE, USDA Forest Service, Davis, USA

Discussant: Irving LLAMOSAS-ROSAS, Bank of
Mexico, Mexico

11:15—12:00

Designing for Resilience and Protection

Rick CHURCH, Univ. California Santa Barbara, USA
Discussant: Brian H.S. KIM, Seoul National Univ.,
Korea



Sunday, 12:00—1:30 PM

Lunch Break (On your own this day)

Sunday, 1:30 PM—5:00 PM

**Paper Session 6A ~ Orangedale A
Input-Output & Econometric Models**

Chair: Geoffrey HEWINGS
Univ. Illinois Urbana-Champaign, USA

1:30—2:15

**CBD As a Cure-All? The Impacts of State-Level
Legalization of Prescription Cannabidiol (CBD) on Opioid
Prescriptions**

Richard GEARHART, California State Univ. Bakersfield,
USA, Tim BERSAK, Wofford Univ., Spartanburg, USA,
Nyakundi MICHIEKA, California State Univ. Bakersfield,
USA

Discussant: Peter NIJKAMP, Open Univ., The
Netherlands

2:15—3:00

**Industrial Restructuring, Regional Resilience, and
Economic Disparity: A Regional CGE Model Approach**

Jaewon LIM, Univ. Nevada, Las Vegas, USA, Euijune KIM,
Seoul National Univ., Korea, Aaron COLLETTA, Univ.
Nevada, Las Vegas, USA

Discussant: Geoffrey HEWINGS, Univ. Illinois Urbana-
Champaign, USA

Coffee Break: 3:00—3:30

3:30—4:15

**Contribution of Forage-Livestock Value Chains to the
Idaho Economy**

Gregory ALWARD, Univ. Idaho, Moscow, USA, Garth
TAYLOR, Univ. Idaho, Moscow, USA, Eric WINFORD,
Univ. Idaho, Moscow, USA

Discussant: Daoqin TONG, Arizona State Univ.,
Tempe, USA

Sunday, 1:30 PM—5:00 PM

**Paper Session 6B ~ Orangedale B
Location & Economic Development**

Chair: Timothy SLAPER
Indiana Univ., Bloomington, USA

1:30—2:15

Understanding Brewpub Production Volumes

Rebekka APARDIAN, Univ. Toledo, USA, Isabelle
NILSSON, Univ. North Carolina-Charlotte, USA, Neil
REID, Univ. Toledo, USA, Julie WARTELL, Univ.
California San Diego, USA

Discussant: Timothy SLAPER, Indiana Univ.,
Bloomington, USA

2:15—3:00

**The Impact of Speed Limits on Labor Sheds in the
Mountain West United States**

Benjamin WHIPPLE, Idaho State Univ., Pocatello, USA
Discussant: Man-Keun KIM, Utah State Univ., Logan,
USA

Coffee Break: 3:00—3:30

3:30—4:15

**Incentives and the Location of Greenfield Foreign Direct
Investment**

Douglas WOODWARD, Univ. South Carolina, Columbia,
USA, William HAUKE, Univ. South Carolina, Columbia,
USA, Alexandra TROIDL, Deloitte, Atlanta, USA

Discussant: Hans WESTLUND, KTH Royal Institute of
Tech., Sweden

Sunday, 1:30 PM—5:00 PM

**Paper Session 6C ~ Orangedale C
Urban Infrastructure & Transportation (II)**

Chair: Nicholas IRWIN
Univ. Nevada, Las Vegas, USA

1:30—2:15

**Inequitable Inefficiency: A Case Study of Rail Transit
Fare Policies**

Zakhary MALLETT, Univ. Southern California, Los
Angeles, USA

Discussant: Sugie LEE, Hanyang Univ., Korea

2:15—3:00

**Economic Impacts of Electrification of Cargo Handling
Equipment at POLA/POLB**

Dan WEI, Univ. Southern California, Los Angeles, USA,
Genevieve GIULIANO, Univ. Southern California, Los
Angeles, USA

Discussant: Nicholas IRWIN, Univ. Nevada, Las Vegas,
USA

Coffee Break: 3:00—3:30

3:30—4:15

**Environmental Characteristics of Senior and Child
Pedestrian-Vehicle Collision Vulnerable Areas: An
Exploratory Analysis Using Deep Learning**

Hee-Jung JUN, Sungkyunkwan Univ., Korea, Seungyeoup
KANG, Sungkyunkwan Univ., Korea, Suyoung JEONG

Sungkyunkwan Univ., Korea, Taewan KIM, Sungkyunkwan Univ., Korea, Cheol-Ho CHO, Sungkyunkwan Univ., Korea, Won Young JHOO, Sungkyunkwan Univ., Korea, Jae-Pil HEO, Sungkyunkwan Univ., Korea
 Discussant: Marlon BOARNET, Univ. Southern California, USA

Sunday, 1:30 PM—5:00 PM

Paper Session 6D ~ Orangedale D

Population, Migration, and Social Interaction (II)

Chair: David PLANE, Univ. Arizona, Tucson, USA

1:30—2:15

Depopulation and Regional Population Imbalance in Korea

Daeyoung KWON, Seoul National Univ., Korea, Sangwon CHOI, Seoul National Univ., Korea, Brian H.S. KIM, Seoul National Univ., Korea

Discussant: Adam SCAVETTE, Federal Reserve Bank of Richmond, USA

2:15—3:00

Enhancing IRS county-to-county household migration, 1990 - 2015

Michael BABB, Univ. Washington, Seattle, USA

Discussant: Matthew BERMAN, Univ. Alaska, Anchorage, USA

Coffee Break: 3:00—3:30

3:30—4:15

Geodemographics and urban planning analysis: an historical review

Peter BATEY, University of Liverpool, UK

Discussant: David PLANE, Univ. Arizona, Tucson, USA

4:15—5:00

Addressing Endogeneity in the Relationship Between Local Race Composition and Public Expenditure

Austin LANDINI, Colorado State Univ., Fort Collins, USA

Discussant: Narae LEE, George Mason Univ., Fairfax, USA

Conference Ends at 5pm



“The Way Academic Life Should Be”

Program Participant Locator

Session assignments are listed following each participant's name:

1A, 1B, 1C, 1D on Friday Morning
 2A, 2B, 2C, 2D on Friday Afternoon

3A, 3B, 3C, 3D on Saturday Morning
 4A, 4B, 4C, 4D on Saturday Afternoon

5A, 5B, 5C, 5D on Sunday Morning
 6A, 6B, 6C, 6D on Sunday Afternoon

TRSA-ABC = TRSA pre-WRSA ABC Session on Thursday

LGOS = Opening Session on Thursday Afternoon
 WRSA-BM = WRSA Board Meeting on Friday Morning
 GOSA = Getis-Ord Lecture in Spatial Analysis on Friday evening
 AABL = Annual Award Banquet Luncheon on Saturday afternoon
 IMPW = IMPLAN Workshop on Saturday afternoon

Roman typeface (regular font) indicates a paper author, panelist, or speaker; **Boldface** indicates a session chair; *Italics* indicate a paper discussant.

Participant Index

~A~

AHMAD, Manzur (manzur@eub.edu.bd): 3D
 ALWARD, Gregory (galward@uidaho.edu): 4C, 6A
 ANDERSSON, David Emanuel (davidemanuelandersson@cm.nsysu.edu.tw): 1C, 4D
 ANDERSSON, Eva K (eva.andersson@humangeo.su.se): 4C
 APARDIAN, Rebekka (rapardi@rockets.utoledo.edu): 6B
 AQZZOUZ, Asmae (aqzzouz.asmae@gmail.com): 4C
 AROCA, Patricio (patricio.aroca@uai.cl): 2A

~B~

BABB, Michael (babbm@uw.edu): 2A, 6D
 BARLOW, Brian (brian.barlow@implan.com): IMPW
 BATABYAL, Amit (aabgsh@rit.edu): 3C, 3C, 4D
 BATEY, Peter (pwjbatey@liverpool.ac.uk): **TRSA-ABC**, 1C, 1C, 6D
 BAUTISTA, Xavier (xmgbautista@gmail.com): 3B
 BELADI, Hamid (Hamid.Beladi@utsa.edu): 3C
 BERMAN, Matthew (matthew.berman@alaska.edu): 3D, 6D
 BERNSTEIN, Paul (paulbernstein2004@yahoo.com): 5B
 BERSAK, Tim (bersakta@wofford.edu): 6A
 BOARNET, Marlon (boarnet@usc.edu): WRSA-BM, 1A, **4C**, 5A, 6C

~C~

CALVERT JUMP, Robert (R.G.CalvertJump@greenwich.ac.uk): 2A
 CARRUTHERS, John (jc3474@cornell.edu): TRSA-ABC
 CELBIS, Guney (celbis@merit.unu.edu): 3A
 CHEN, Zhenhua (chen.7172@osu.edu): 1A, 3C, 4B
 CHENG, Mingyand (mingycheng@zzu.edu.cn): 3C

CHENG, Nieyan (nycheng@iastate.edu): 3C , 5B
 CHO, Cheol-Ho (gersys@skku.edu): 6C
 CHOI, Sangwon (cswhg1@snu.ac.kr): 6D
 CHURCH, Rick (rick.church@ucsb.edu): WRSA-BM , **AABL** , 4A , 5D
 CIARI, Francesco (francesco.ciari@polymtl.ca): 3A
 CLARK, William (wclark@geog.ucla.edu): 2A , 3D
 CLOWER, Terry (tclower@gmu.edu): WRSA-BM , **2A** , 2A , AABL , 4D
 COFFMAN, Makena (makenaka@hawaii.edu): WRSA-BM , 4B , 5B
 COLLETTA, Aaron (aaron.colletta@unlv.edu): 1B , 3D , 6A
 COMANDON, Andre (comandon@usc.edu): 1A
 CONSTANTIN, Marius (marius.constantin@eam.ase.ro): TRSA-ABC
 CRAIG, Steven (scraig@uh.edu): 3B , 3B

~D~

DAMORE, David (david.damore@unlv.edu): 1C
 DEL BO, Chiara (Chiara.DelBo@unimi.it): 3A
 DEPAOLIS, Fernando (fdepaolis@middlebury.edu): 1A , 4B

~E~

EBERHARD, Juan (juan.eberhard@uai.cl): 2A
 EL-AMINE, Hadi (helamine@gmu.edu): 3D
 EVANSLUONG, Quang (quang.evansluong@umu.se): 5D

~F~

FANG, Li (lfang3@fsu.edu): 1C , **5C** , 5C
 FOUQUET, Roger (r.fouquet@lse.ac.uk): 2C

~G~

GARDUÑO-RIVERA, Rafael (rgardunor@up.edu.mx): 1C
 GEARHART, Richard (rgearhart1@csub.edu): 1C , 6A
 GEISLER, Karl R (karlgeisler@isu.edu): 2D , 4D
 GELMAN, Andrew (gelman@stat.columbia.edu): GOSA
 GIBSON, Lay James (ljgibson@comcast.net): WRSA-BM , **LGOS**
 GIULIANO, Genevieve (giuliano@usc.edu): WRSA-BM , 5A , 6C
 GNAGEY, Matt (mattgnagey@weber.edu): 5C
 GNAGEY, Jennifer (jennifernagey@weber.edu): 5C
 GOYTIA, Cynthia (cgoytia@utdt.edu): 5C
 GRAVES, Jenniffer (Jenniffer.Graves@GilbertAZ.gov): **LGOS**
 GRAZIANO, Marcello (grazianom5@southernct.edu): 2C
 GRUBESIC, Tony (grubestic@austin.utexas.edu): 5D
 GUETTABI, Mouhcine (guettabim@uncw.edu): 2C

~H~

HAMMOND, George (ghammond@eller.arizona.edu): 1D
 HAUKE, William (hauk@moore.sc.edu): 1B , 6B
 HAYASHIDA, Sherilyn (sherilynh@hawaii.edu): 5B
 HAYNES, Kingsley (khaynes@gmu.edu): **TRSA-ABC** , WRSA-BM , **3A** , 5D
 HEIKKILA, Eric J. (heikkila@usc.edu): WRSA-BM , **2B** , 2B , **GOSA** , 5C
 HEO, Jae-Pil (jaepilheo@skku.edu): 6C
 HEWINGS, Geoffrey (hewings@illinois.edu): WRSA-BM , 3C , 4B , **6A** , 6A
 HOFFMAN, Dennis (dennis.hoffman@asu.edu): 2D

HSU, Annie (yuhsinhsuinuh@gmail.com): 3B

~I~

IGNAT, Raluca (raluca.ignat@ase.ro): TRSA-ABC
 IRWIN, Nicholas (nicholas.irwin@unlv.edu): 5A , **6C** , 6C

~J~

JEONG, Suyoung (syjung1228@skku.edu): 6C
 JHOO, Won Young (jhoowy@skku.edu): 6C
 JUN, Hee-Jung (hjun@skku.edu): 6C

~K~

KAKDERI, Christina (christina@urenio.org): TRSA-ABC
 KANG, Seungyeoup (kkangyoup@g.skku.edu): 6C
 KAZLOU, Aliaksei (aliaksei.kazlou@liu.se): 5D
 KENNEY, Martin (mfkenney@ucdavis.edu): 6B
 KIM, Brian H.S. (briankim66@snu.ac.kr): WRSA-BM , 5D , 6D
 KIM, Dohyung (dohyungkim@cpp.edu): 1A , 5B
 KIM, Euijune (euijune@snu.ac.kr): 5C , 6A
 KIM, Jae Hong (jaehk6@uci.edu): **3C** , 3C , 5C
 KIM, Jinman (jinmankim324@hanyang.ac.kr): 5A
 KIM, Man-Keun (mk.kim@usu.edu): 3B , 6B
 KIM, Sungyop (kims@umkc.edu): **2C** , 2C , 5B
 KIM, Taewan (taewankim1202@gmail.com): 6C
 KOC, Eyup (ekoc@usc.edu): 4B
 KOHLHASE, Janet (jkohlhase@uh.edu): WRSA-BM , 2B , 3B , AABL , 4A
 KOIZUMI, Naoru (nkoizumi@gmu.edu): 3D
 KOMNINOS, Nicos (komninos@urenio.org): TRSA-ABC
 KOURTIT, Karima (Karima.Kourtit@ou.nl): TRSA-ABC , 3A , **4A**
 KWON, Daeyoung (tonykwon@snu.ac.kr): 6D

~L~

LANDINI, Austin (alandini@colostate.edu): 3D , 6D
 LE, Thai Ha (ha.le@fulbright.edu.vn): 1C
 LEE, Narae (nlee25@gmu.edu): 3D , 6D
 LEE, Soomi (slee4@laverne.edu): 2B , **3B** , 3B
 LEE, Sugie (sugielee@hanyang.ac.kr): 5A , 6C
 LI, Meng-hao (mli11@gmu.edu): 3D
 LI, Minghao (minghao@nmsu.edu): 3C
 LIM, Jaewon (jaewon.lim@unlv.edu): **WRSA-BM** , 1B , 1C , 3A , 6A
 LIU, Pengfei (pengfei_liu@uri.edu): 3C
 LLAMOSAS-ROSAS, Irving (illamosasr@banxico.org.mx): 1B , 5D
 LOPEZ OCHOA, Esteban (esteban.lopezchoa@utsa.edu): 2A , **4D** , 4D
 LOPEZ, Juan Carlos (juancarlos.lopez@du.edu): 3B , 4C , **5B**
 LUO, Qianfeng (luoqf@cass.org.cn): 3C

~M~

MALLET, Zakhary (zmallett@usc.edu): 5A , 5A , 6C
 MALMBERG, Bo (Bo.Malmberg@humangeo.su.se): 4C
 MANOUT, Ouassim (ouassim.manout@polymtl.ca): 3A
 MANSURY, Yuri (ymansury@iit.edu): WRSA-BM , 1B , 4B
 MARKESON, Bjohn (bjorn.markeson@implan.com): **IMPW**
 MARTINEZ, Magdalena (magdalena.martinez@unlv.edu): 1C
 MARTINEZ-SERMEÑO, Flor-de-Maria (flower10@cimat.mx): 1C

MEHAFFY, Michael (michael.mehaffy@gmail.com): TRSA-ABC
 McCLURE, Joe (jmccclure@jemccclure.com): LGOS
 McPHERTERS, Lee (lee.mcpeters@asu.edu): 2D
 MICHIEKA, Nyakundi (nmichieka@csu.edu): 2C , 5A , 5A , 6A
 MORITA, Tadashi (t-morita@kindai.ac.jp): 4C
 MORRISON, Philip (philip.morrison@vuw.ac.nz): TRSA-ABC
 MURRAY, Alan (amurray@ucsb.edu): WRSa-BM , 5D , 5D
 MUSSO, Marta (mmusso@kth.se): 2C

~N~

NASOZ, Fatma (fatma.nasoz@unlv.edu): 1C
 NEAMTU, Bogdana (neamtu@fspac.ro): TRSA-ABC
 NELSON, Jake (jrn0037@auburn.edu): 5D
 NELSON, Arthur C. (acnelson@arthurnelson.com): LGOS , 1C
 NGUYEN, Hieu (hnguyen6@iwu.edu): 1B , 5D
 NIJKAMP, Peter (pnijkamp@econ.vu.nl): TRSA-ABC, **TRSA-ABC**, 3A , 6A
 NILSSON, Isabelle (inilss01@uncc.edu): 6B

~O~

OH, Seunghoon (ohs2@mail.uc.edu): 1B , 5D
 OIKONOMAKI, Eleni (eleni.oikonomaki@urenio.org): TRSA-ABC
 ONG VIFORJ, Rachel (rachel.viforj@curtin.edu.au): 3D
 OSTH, John (john.osth@kultgeog.uu.se): TRSA-ABC, 3A

~P~

PANORI, Anastasia (apanori@urenio.org): TRSA-ABC
 PARCELLS, R. Pete (parcells@whitman.edu): WRSa-BM , 2D
 PASCARIU, Gabriela (gcpas@uaic.ro): 3A
 PATTON, Donald (dfpatton@ucdavis.edu): 6B
 PAVELEA, Alina Maria (paveleaalina@fspac.ro): TRSA-ABC
 PHELPS, Christopher (christopher.phelps@curtin.edu.au): 3D
 PILGRAM, Clemens (pilgram@usc.edu): 5A
 PIPER, Steven (spiper@mines.edu): 3B , 5C
 PISKIN, Metin (metin.piskin@izu.edu.tr): 4B
 PLANE, David (plane@arizona.edu): WRSa-BM , **6D** , 6D
 PLUDOW, Amelia (bapludow@ucsb.edu): 5D
 POPESCU, Alina Irina (alina.popescu@rei.ase.ro): TRSA-ABC

~R~

RANGEL-GONZALEZ, Erick (erick.rangel@banxico.org.mx): 1B
 RAO, Manita (manitara@usc.edu): 1A
 REID, Neil (neil.reid@utoledo.edu): **1B** , 1B , **3A** , 6B
 RODNYANSKY, Seva (srodniansky@oxy.edu): 1A , **4B** , 4B
 ROGERSON, Peter (Peter.Rogerson@asu.edu): 1B , GOSA , **3D** , 3D
 ROSE, Adam (Adam.Rose@usc.edu): **1A** , 4B
 RYAN, Richard (rryan1@csu.edu): 2A , 4C

~S~

SCAVETTE, Adam (adamscavette@gmail.com): 2A , 6D
 SCHAFFAR, Alexandra (schaffar@univ-tln.fr): 4C
 SCHINTLER, Laurie (lschint@gmu.edu): 3C
 SCHJERVHEIM, Maja (majaps@hawaii.edu): 5B
 SFEIR, Raymond (sfeir@chapman.edu): 1D
 SHEAGREN, Powell (psheagr1@swarthmore.edu): 1C , 3C
 SHUTTERS, Shade (shade.shutters@asu.edu): 4D
 SIDDIQUE, Abu Bakkar (asiddi@gmu.edu): 3D

SLAPER, Timothy (tslaper@indiana.edu): 2B , **6B** , 6B
 SNAITH, Sean (Sean.Snaith@ucf.edu): 2D
 SOBELMAN, Lucio (soibelman@usc.edu): 4B
 SONG, Abraham (abraham.song@pepperdine.edu): 1C , 4D
 SORENSEN, Bent (bsorensen@central.uh.edu): 3B
 STINE, Peter (Peter.Stine@usda.gov): 5D

~T~

TANG, Chuan (chuantang@mail.hzau.edu.cn): 3C
 TANWAR, Vasundhara (vasundhara.tanwar18@gmail.com): 3B
 TAYLOR, Garth (gtaylor@uidaho.edu): 5B , 6A
 TENNERT, Juliette (juliette.tennert@utah.edu): 2D
 TOGER, Marina (marina.toger@kultgeog.uu.se): **TRSA-ABC** , TRSA-ABC
 TONG, Daoqin (daoqin.tong@asu.edu): WRSa-BM , 5D , 6A
 TROIDL, Alexandra (Alexandra.Troidl@grad.moore.sc.edu): 6B
 TÜRK, Umt (umut.turk@agu.edu.tr): TRSA-ABC , 3A

~V~

VERMA, Priyam (priyamverma.2992@gmail.com): 3B
 VOM HOFE, Rainer (vomhofr@ucmail.uc.edu): 1B

~W~

WANG, Bonnie (wangbonn@usc.edu): 1A
 WANG, Zuyi (zuyi.wang@usu.edu): 3B
 WANG-CENDEJAS, Ruoping (rwangcendejas@hsph.harvard.edu): 3D
 WARTELL, Julie (jwartell@ucsd.edu): 3B , 6B
 WATERS, Keith (keith.waters@asu.edu): 2C , 4D
 WEI, Hanxue (hw652@cornell.edu): TRSA-ABC
 WEI, Dan (danwei@usc.edu): 4B , 6C
 WESTLUND, Hans (hanswes@kth.se): WRSa-BM , 3C , 6B
 WHIPPLE, Benjamin (whipben2@isu.edu): 1C , 6B
 WIMARK, Thomas (Thomas.Wimark@kultgeo.uu.se): 4C
 WINFORD, Eric (ewinford@uidaho.edu): 6A
 WITMAN, Allison (witmana@uncw.edu): 2C
 WOBBEKIND, Richard (richard.wobbekind@colorado.edu): WRSa-BM , **1D** , **2D** , 2D
 WOLF, David (wolf@econ.kobe-u.ac.jp): 5A
 WON, Jongho (jongho_won@brown.edu): 5C
 WONG, Pui-Hang (wong@merit.unu.edu): TRSA-ABC , 3A
 WOODS, Andrew (andrew.woods@unlv.edu): 1D
 WOODWARD, Douglas (woodward@moore.sc.edu): 6B
 WOSTENHOLME, Lucien (lcw62@cornell.edu): TRSA-ABC

~Y~

YENCHIA, Chris (cyencha@fsmail.bradley.edu): 5C
 YOO, Seung Jick (sjyoo@sookmyung.ac.kr): 4D

~Z~

ZHANG, Wendong (wdz@iastate.edu): 3C
 ZHONG, Qing (qzhong2018@163.com): 5D

NARSC 2021 Platinum Sponsor

DO MORE THAN EVER BEFORE WITH IMPLAN

New offerings from IMPLAN broaden the horizons of your economic impact analyses. Introducing IMPLAN Occupation Data, Environmental Data, and Data Library.



Occupation Data

IMPLAN's Occupation Data shows estimates of occupation employment, wages, hours, and core competencies which include knowledge, skills, abilities, education, work experience, and on-the-job training levels for each of over 800 different occupations. Occupation data can be examined for each region and is tied to economic impact analyses.



Environmental Data

IMPLAN's Environmental Data consist of Industry-specific coefficients of physical emissions or resource use per dollar of Industry Output. Working with the U.S. Environmental Protection Agency (EPA), IMPLAN has bridged their emissions data to our Industries, giving you the ability to see the environmental impacts tied to your economic impacts.



Data Library

IMPLAN's Data Library, powered by Looker, is an improved option for comparing data across regions, industries, and time. Data Library allows you to produce data queries and reports on any region in the U.S. on commodities, core competencies, deflators, demographics, employment & wages, environmental, industry, occupation, tax, and trade flow data.

DIVE IN

WITH US AT OUR WORKSHOP!

We invite **IMPLAN** users to explore our new offerings in our **NARSC** workshop. This one-day interactive training course is designed to help you explore our new data offerings and learn to use them in conjunction with your economic impact analyses.

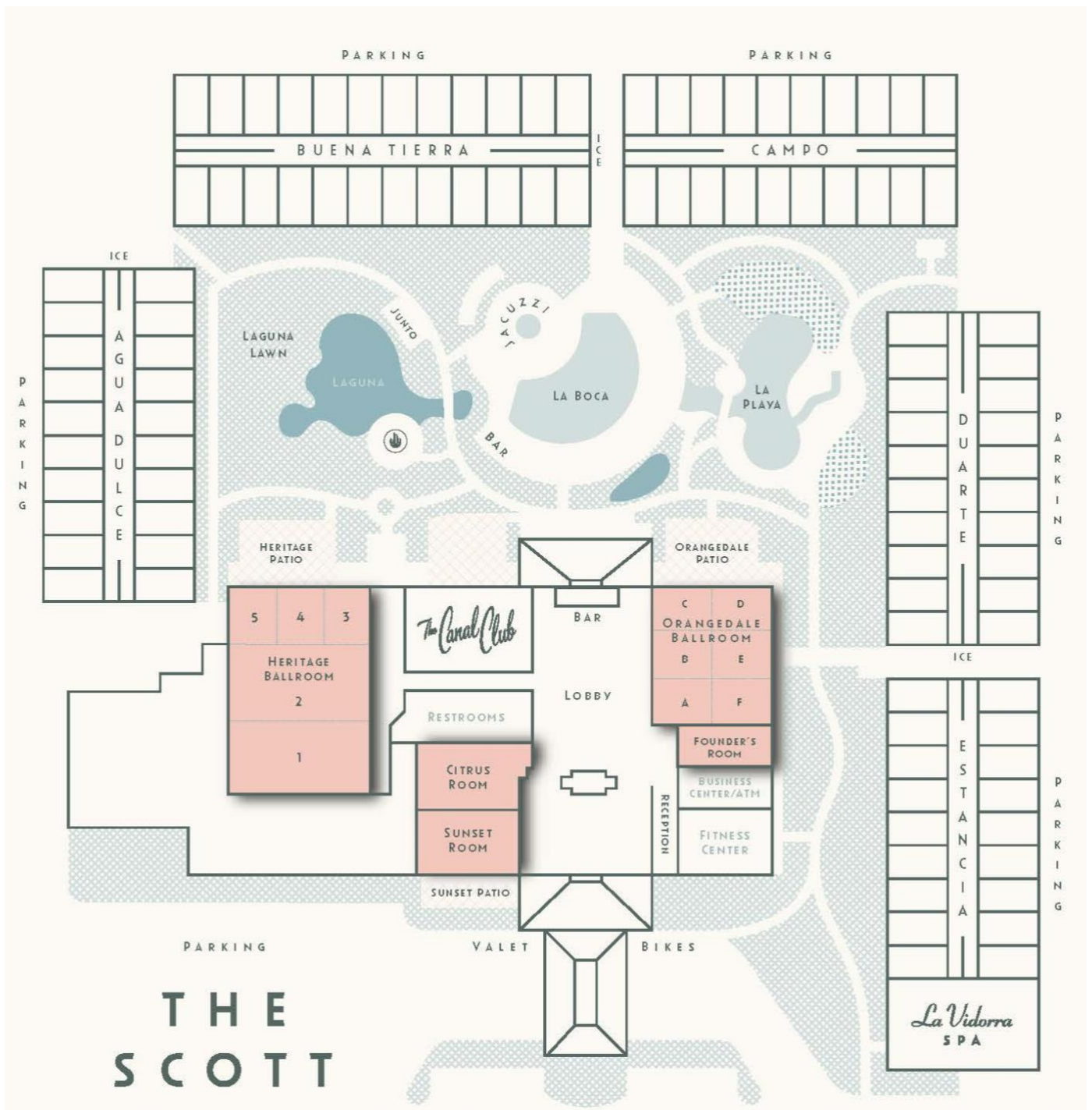
To sign up, register through the NARSC registration portal. The workshop costs \$99 for conference registrants and \$250 for those who are not registered for the conference. If you can't make it to the workshop, you can still connect with the IMPLAN team at NARSC.

For more information contact:

Bjorn Markeson, Academic Divisional Executive: bjorn.markeson@implan.com

IMPLAN

IMPLAN.COM



2022 WRSA Meeting Venue:

The Scott Resort & Spa
4925 N Scottsdale Rd.
Scottsdale, AZ 85251

Tel: 480-945-7666